

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922) 49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Ижевск (3412)26-03-58
Иваново (4932)77-34-06
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Ноябрьск (3496)41-32-12
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37

Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сыктывкар (8212)25-95-17
Сургут (3462)77-98-35
Тамбов (4752)50-40-97

Тверь (4822)63-31-35
Тольяти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Улан-Удэ (3012)59-97-51
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47

Россия (495)268-04-70

Казахстан (772)734-952-31

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Каталог WFA: анализ воды, окружающей среды, продуктов питания и напитков



Готовые к использованию тест-наборы, инструменты и аксессуары

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Visual & Instrumental Testing Portfolio Overview

Lower

Mobility

Higher



Spectroquant® Prove & Test Kits

Accurate and durable spectrophotometers with over 200 ready-to-use test kits for precise analysis of wastewater, drinking water, or process water
 > Page 38

0.00025 mg/L – 90,000 mg/L



Spectroquant® Move & Test Kits

Small, portable colorimeters for fast, precise on-site analysis of every important parameter for wastewater, drinking water, or disinfection control
 > Page 44

0.004 mg/L – 90,000 mg/L



Reflectoquant® System

Comprehensive system with easy-to-use reflectometer, test kits, and strips for high-quality, quantitative, and cost-effective on-site analysis of a broad range of parameters
 > Page 130

0.2 mg/L – 2,500 mg/L



MQuant® Liquid Tests

Chemical testing systems for quick, precise, and portable water testing for high to low parameter concentration ranges using direct readout of color cards, disks, or vessels
 > Page 138

0.002 mg/L – 1,500 mg/L



MQuant® Test Strips & Digital Reader

Test strips for reliable semi-quantitative determination of ions and other compounds with visual or digital readout
 > Page 152

0.005 mg/L – 3,000 mg/L



MQuant® pH Test Strips and Papers

Rapid pH measurement with accurate color scales for clear, reliable results suitable for all media including liquids with high turbidity
 > Page 162

0 – 14 pH



Concentration

Visual & Instrumental Testing Portfolio Overview



Parameters A

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|----------|--|---|--------------|------------------------------|------------------------|---------------------|----------------------|
| A | Absorbance | -0.300-3.000 A | | | Physical method | Spectroquant® | 62 |
| | Acid Capacity Cell Test to pH 4.3 (total alkalinity) | 0.40-8.00 mmol/L 20-400 mg/L CaCO ₃ | 120 | 1.01758.0001 | Cell test Application | Spectroquant® | 62, 89, 120 |
| | ADMI Color measurement | | | | | Spectroquant® | 48, 62 |
| | Alkalinity (total) | see also Acid capacity to pH 4.3 | | | Cell test | Spectroquant® | 62 |
| | Alkalinity Test | 0.1-10 mmol/L | 200 | 1.11109.0001 | Titration with pipette | MQuant® Liquid | 144 |
| | Aluminium Cell Test | 0.02-0.50 mg/L Al | 25 | 1.00594.0001 | Cell test | Spectroquant® | 62, 89, 97, 113, 120 |
| | Aluminium Test | 0.020-1.20 mg/L Al | 350 | 1.14825.0001 | Reagent test | Spectroquant® | 62, 89, 97, 113, 120 |
| | Aluminium Test | 0.07-0.8 mg/L Al | 185 | 1.14413.0001 | Color-card comparator | MQuant® Liquid | 144 |
| | Aluminium Test | 0.1-6 mg/L Al | 150 | 1.18386.0001 | Disk comparator | MQuant® Liquid | 144 |
| | Aluminium Test | 10-250 mg/L Al | 100 | 1.10015.0001 | Test strip | MQuant® Test Strips | 158 |
| | Ammonia, free | 0.000-3.0 mg/L NH ₃ -N 0.000-3.65 mg/L NH ₃ | | | Application | Spectroquant® | 62 |
| | Ammonium Cell Test | 0.010-2.000 mg/L NH ₄ -N 0.01-2.58 mg/L NH ₄ | 25 | 1.14739.0001 | Cell test | Spectroquant® | 62, 89, 97, 111, 120 |
| | Ammonium Test | 0.010-3.00 mg/L NH ₄ -N 0.013-3.86 mg/L NH ₄ | 250 500 | 1.14752.0002 1.14752.0001 | Reagent test | Spectroquant® | 62, 89, 97 |
| | Ammonium Test | 0.025-0.4 mg/L NH ₄ | 70 | 1.14428.0002 | Color-card comparator | MQuant® Liquid | 144 |
| | Ammonium Test | 0.05-0.8 mg/L NH ₄ | 100 | 1.14400.0001 | Color-card comparator | MQuant® Liquid | 144 |
| | Ammonium Test | 0.2-5 mg/L NH ₄ | 50 | 1.08024.0001 | Sliding comparator | MQuant® Liquid | 144 |
| | Ammonium Test | 0.2-7 mg/L NH ₄ | 50 | 1.16892.0001 | Test strip | Reflectoquant® | 136 |
| | Ammonium Test | 0.2-8 mg/L NH ₄ | 200 | 1.14423.0002 | Color-card comparator | MQuant® Liquid | 144 |
| | Ammonium Test | 0.2-8 mg/L NH ₄ | 200 | 1.14750.0002 | Disk comparator | MQuant® Liquid | 144 |
| | Ammonium Cell Test | 0.20-8.00 mg/L NH ₄ -N 0.26-10.30 mg/L NH ₄ | 25 | 1.14558.0001 | Cell test | Spectroquant® | 62, 110, 120 |
| | Ammonium Test | 0.5-10 mg/L NH ₄ | 150 | 1.11117.0001 | Color card | MQuant® Liquid | 144 |
| | Ammonium Test in freshwater and seawater | 0.5-10 mg/L NH ₄ | 50 | 1.14657.0001 | Color card | MQuant® Liquid | 144 |
| | Ammonium Cell Test | 0.5-16.0 mg/L NH ₄ -N 0.6-20.6 mg/L NH ₄ | 25 | 1.14544.0001 | Cell test | Spectroquant® | 62, 89, 111, 120 |
| | Ammonium Test | 2.0-150 mg/L NH ₄ -N 2.6-193 mg/L NH ₄ | 100 | 1.00683.0001 | Reagent test | Spectroquant® | 62, 89, 112, 120 |
| | Ammonium Cell Test | 4.0-80.0 mg/L NH ₄ -N 5.2-103.0 mg/L NH ₄ | 25 | 1.14559.0001 | Cell test | Spectroquant® | 62, 89, 112, 120 |
| | Ammonium Test | 5.0-20.0 mg/L NH ₄ | 50 | 1.16899.0001 | Test strip | Reflectoquant® | 136 |
| | Ammonium Test | 10-400 mg/L NH ₄ | 100 | 1.10024.0001 | Test strip | MQuant® Test Strips | 158 |
| | Ammonium Test | 20-180 mg/L NH ₄ | 50 | 1.16977.0001 | Test strip | Reflectoquant® | 136 |
| | Antimony | 0.10-8.00 mg/L Sb | | | Application | Spectroquant® | 62 |
| | AOX Cell Test | 0.05-2.50 mg/L AOX | 25 | 1.00675.0001 | Cell test | Spectroquant® | 62, 89, 105, 120 |
| | Arsenic Test | 0.001-0.100 mg/L As | 30 | 1.01747.0001 | Reagent test | Spectroquant® | 64, 89, 97, 120 |
| | Arsenic Test | 0.005-0.5 mg/L As | 100 | 1.17927.0001 | Test strip | MQuant® Test Strips | 158 |

Visual & Instrumental Testing

Portfolio Overview

Parameters A-C

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|--|--------------------|--|----------------------|------------------------------|--------------------------------|---------------------|----------------------|
| A | Arsenic Test | 0.02-3 mg/L As | 100 | 1.17917.0001 | Test strip | MQuant® Test Strips | 158 |
| | Ascorbic Acid Test | 25-450 mg/L Ascorbic Acid | 50 | 1.16981.0001 | Test strip | Reflectoquant® | 136 |
| | Ascorbic Acid Test | 50-2,000 mg/L Ascorbic Acid | 100 | 1.10023.0001 | Test strip | MQuant® Test Strips | 158 |
| B | Blank strip | | 100 | 1.11860.0001 | Test strip | Reflectoquant® | 158 |
| | Blank strip | | 50 | 1.16730.0001 | Test strip | Reflectoquant® | 136 |
| | BOD Cell Test | 0.5-3,000 mg/L BOD | 50 | 1.00687.0001 | Cell test | Spectroquant® | 64, 89, 120 |
| | Boron Test | 0.050-0.800 mg/L B | 60 | 1.14839.0001 | Reagent test | Spectroquant® | 64, 89, 97, 120 |
| | Boron Cell Test | 0.05-2.00 mg/L B | 25 | 1.00826.0001 | Cell test | Spectroquant® | 64, 89, 97, 120 |
| | Bromine Test | 0.020-10.00 mg/L Br ₂ | 200 | 1.00605.0001 | | Spectroquant® | 64, 89, 120 |
| | C | Cadmium Test | 0.0020-0.500 mg/L Cd | 55 | 1.01745.0001 | Reagent test | Spectroquant® |
| Cadmium Cell Test | | 0.025-1.000 mg/L Cd | 25 | 1.14834.0001 | Cell test | Spectroquant® | 64, 89, 97, 113, 120 |
| Calcium Test | | 0.20-4.00 mg/L Ca | 100 | 1.00049.0001 | Reagent test | Spectroquant® | 64, 89, 121 |
| Calcium Test | | 2-200 mg/L Ca | 200 | 1.11110.0001 | Titration with pipette | MQuant® Liquid | 144 |
| Calcium Test for RQflex® 10 / 10 plus | | 2.5-45.0 mg/L Ca | 50 | 1.16993.0001 | Test strip | Reflectoquant® | 136 |
| Calcium Test | | 5-125 mg/L Ca | 50 | 1.16125.0001 | Test strip | Reflectoquant® | 136 |
| Calcium Test | | 5-160 mg/L Ca 7-224 mg/L CaO 12-400 mg/L CaCO ₃ 1.0-15.0 mg/L Ca 1.4-21.0 mg/L CaO 2.5-37.5 mg/L CaCO ₃ | 100 | 1.14815.0001 | Reagent test | Spectroquant® | 64, 89, 121 |
| Calcium Test | | 10-100 mg/L Ca | 60 | 1.10083.0001 | Test strip | MQuant® Test Strips | 158 |
| Calcium Cell Test | | 10-250 mg/L Ca 14-350 mg/L CaO 25-624 mg/L CaCO ₃ | 25 | 1.00858.0001 | Cell test Reagent test | Spectroquant® | 64, 90, 120 |
| Carbohydrazide | | see Oxygen Scavengers Test | | | | Spectroquant® | 64 |
| Carbonate Hardness Test/Acid capacity to pH 4.3 (SBV, ANC) | | 0.25-25 °e (ANC 0.1-7.2 mmol/L) | 300 | 1.08048.0001 | Titration with pipette | MQuant® Liquid | 144 |
| Carbonate Hardness Test in freshwater and seawater | | 1 drop corresponds to 1.25 °e | 50 | 1.14653.0001 | Titration with dropping bottle | MQuant® Liquid | 144 |
| Carbonate Hardness Test | | 5-30 °e | 100 | 1.10648.0001 | Test strip | MQuant® Test Strips | 158 |
| Carbon Dioxide Test | | 1.25-120 mg/L CO ₂ | 100 | 1.17179.0001 | Titration with dropping bottle | MQuant® Liquid | 144 |
| Chloride Test | | 0.10-5.00 mg/L Cl | 100 | 1.01807.0001 | Reagent test | Spectroquant® | 64, 89, 121 |
| Chloride Cell Test | | 0.5-15.0 mg/L Cl | 25 | 1.01804.0001 | Cell test | Spectroquant® | 66, 89, 97, 121 |
| Chloride Test | | 2-200 mg/L Cl | 200 | 1.11106.0001 | Titration with pipette | MQuant® Liquid | 144 |
| Chloride Test | | 2.5-250 mg/L Cl | 100 175 | 1.14897.0001 1.14897.0002 | Reagent test | Spectroquant® | 66, 89, 97, 121 |

Parameters C

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|---|--|------------------------------------|-------------------|------------------------------|--------------------------------|---------------------|---------------------------|
| C | Chloride Test | 3-300 mg/L Cl | 200 | 1.14753.0001 | Disk comparator | MQuant® Liquid | 144 |
| | Chloride Cell Test | 5-125 mg/L Cl | 25 | 1.14730.0001 | Cell test | Spectroquant® | 66, 89, 97, 110, 111, 121 |
| | Chloride Test | 5-300 mg/L Cl | 400 | 1.14401.0001 | Color-card comparator | MQuant® Liquid | 144 |
| | Chloride Test | 1 drop corresponds to 25 mg/L Cl | 100 | 1.11132.0001 | Titration with dropping bottle | MQuant® Liquid | 144 |
| | Chloride Test | 500-3,000 mg/L Cl | 100 | 1.10079.0001 | Test strip | MQuant® Test Strips | 158 |
| | Chlorine Test (free chlorine) | 0.01-0.3 mg/L Cl ₂ | 400 | 1.14434.0001 | Color-card comparator | MQuant® Liquid | 144 |
| | Chlorine Test (free chlorine) | 0.010-6.00 mg/L Cl ₂ | 200 1,200 | 1.00598.0002 1.00598.0001 | Reagent test | Spectroquant® | 45, 66, 89, 99, 121 |
| | Chlorine Cell Test (free chlorine) | 0.03-6.00 mg/L Cl ₂ | 200 | 1.00595.0001 | Cell test | Spectroquant® | 66, 89, 99, 121 |
| | Chlorine Test (free chlorine) in freshwater and seawater | 0.1-2 mg/L Cl ₂ | 100 | 1.14670.0001 | Color card | MQuant® Liquid | 144 |
| | Chlorine Test (free chlorine) (liquid) | 0.1-2 mg/L Cl ₂ | 600 | 1.14978.0001 | Disk comparator | MQuant® Liquid | 144 |
| | Chlorine Test (free chlorine) | 0.25-15 mg/L Cl ₂ | 1000 | 1.14976.0001 | Disk comparator | MQuant® Liquid | 146 |
| | Chlorine Test (free chlorine) | 0.5-10.0 mg/L Cl ₂ | 50 | 1.16896.0001 | Test strip | Reflectoquant® | 136 |
| | Chlorine Test (free chlorine) | 0.5-20 mg/L Cl ₂ | 75 | 1.17925.0001 | Test strip | MQuant® Test Strips | 158 |
| | Chlorine Test (free chlorine) | 25-500 mg/L Cl ₂ | 100 | 1.17924.0001 | Test strip | MQuant® Test Strips | 158 |
| | Chlorine Test (total chlorine) | 0.010-6.00 mg/L Cl ₂ | 200 1200 | 1.00602.0001 1.00602.0002 | Reagent test | Spectroquant® | 45, 66, 89, 99, 121 |
| | Chlorine Test (free and total chlorine) | 0.010-6.00 mg/L Cl ₂ | 200 (100 each) | 1.00599.0001 | Reagent test | Spectroquant® | 45, 66, 89, 121 |
| | Chlorine Cell Test (free and total chlorine) | 0.03-6.00 mg/L Cl ₂ | 200 (100 each) | 1.00597.0001 | Cell test | Spectroquant® | 66, 89, 99, 121 |
| | Chlorine Test (liquid) (free and total chlorine) | 0.1-2 mg/L Cl ₂ | 800 (400 each) | 1.14801.0001 | Disk comparator | MQuant® Liquid | 146 |
| | Chlorine Test (free and total chlorine) | 0.25-15 mg/L Cl ₂ | 800 (400 each) | 1.14826.0001 | Disk comparator | MQuant® Liquid | 146 |
| | Chlorine Reagent Cl ₂ -1 (liquid) | 0.010-6.00 mg/L Cl ₂ | 200 | 1.00086.0001 | Reagent test | Spectroquant® | 45, 66, 89 |
| | Chlorine Reagent Cl ₂ -2 (liquid) | 0.010-6.00 mg/L Cl ₂ | 400 | 1.00087.0001 | Reagent test | Spectroquant® | 45, 66, 89 |
| Chlorine Reagent Cl ₂ -3 (liquid) | 0.010-6.00 mg/L Cl ₂ | 600 | 1.00088.0001 | Reagent test | Spectroquant® | 45, 66, 89 | |
| Chlorine- and pH Test (free chlorine) | 0.1-1.5 mg/L Cl ₂ pH 6.5-7.9 | 150 (Cl ₂) 150 (pH) | 1.11160.0001 | Sliding comparator | MQuant® Liquid | 146 | |
| Chlorine- and pH Test (free and total chlorine) | 0.1-1.5 mg/L Cl ₂ pH 6.8-7.8 | 200 (Cl ₂) 200 (pH) | 1.11174.0001 | Color-matching vessel | MQuant® Liquid | 146 | |
| Chlorine Dioxide Test | 0.020-0.55 mg/L ClO ₂ | 300 | 1.18754.0001 | Color-card comparator | MQuant® Liquid | 146 | |

Visual & Instrumental Testing Portfolio Overview

Parameters C

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|----------|--|---|--------------|--------------|--------------------------|---------------------|---------------------|
| C | Chlorine Dioxide Test | 0.020–10.00 mg/L ClO ₂ | 200 | 1.00608.0001 | Reagent test | Spectroquant® | 45, 66, 90, 99, 121 |
| | Chlorophyll-a and phaeophytin-a | | | | Application | Spectroquant® | 66 |
| | Chlorophyll-a, -b, -c | | | | Application Reagent test | Spectroquant® | 66 |
| | Chromate Test for the determination of chromium (VI) | 0.010–3.00 mg/L Cr 0.02–6.69 mg/L CrO ₄ | 250 | 1.14758.0001 | | Spectroquant® | 66, 90, 99, 121 |
| | Chromate Cell Test for the determination of chromium (VI) and chromium (total) | 0.05–2.00 mg/L Cr 0.11–4.46 mg/L CrO ₄ | 25 | 1.14552.0001 | Cell test | Spectroquant® | 68, 90, 99, 121 |
| | Chromate Test | 0.01–0.22 mg/L CrO ₄ | 150 | 1.14402.0001 | Color-card comparator | MQuant® Liquid | 146 |
| | Chromate Test | 0.2–3.6 mg/L CrO ₄ | 300 | 1.14441.0001 | Color-card comparator | MQuant® Liquid | 146 |
| | Chromate Test | 0.2–22 mg/L CrO ₄ | 300 | 1.14756.0001 | Disk comparator | MQuant® Liquid | 146 |
| | Chromate Test | 3–100 mg/L CrO ₄ | 100 | 1.10012.0001 | Test strip | MQuant® Test Strips | 158 |
| | Chromium in electroplating baths | 4–400 g/L CrO ₃ | | | Application | Spectroquant® | 68 |
| | Cobalt Cell Test | 0.05–2.00 mg/L Co | 25 | 1.17244.0001 | Cell Test | Spectroquant® | 68, 90, 121 |
| | Cobalt Test | 10–1,000 mg/L Co | 100 | 1.10002.0001 | Test strip | MQuant® Test Strips | 158 |
| | COD Cell Test | 4.0–40.0 mg/L COD | 25 | 1.14560.0001 | Cell test | Spectroquant® | 68, 90, 111, 121 |
| | COD Cell Test | 5.0–80.0 mg/L COD | | 1.01796.0001 | | Spectroquant® | 68, 90, 111, 121 |
| | COD Cell Test | 10–150 mg/L COD | 25 | 1.14540.0001 | Cell test | Spectroquant® | 68, 90, 110, 121 |
| | COD Cell Test | 15–300 mg/L COD | 25 | 1.14895.0001 | Cell test | Spectroquant® | 68, 90, 112, 121 |
| | COD Cell Test | 25–1,500 mg/L COD | 25 | 1.14541.0001 | Cell test | Spectroquant® | 68, 90, 111, 121 |
| | COD Cell Test | 50–500 mg/L COD | 25 | 1.14690.0001 | Cell test | Spectroquant® | 68, 90, 112, 120 |
| | COD Cell Test | 300–3,500 mg/L COD | 25 | 1.14691.0001 | Cell test | Spectroquant® | 68, 90, 112, 121 |
| | COD Cell Test | 500–10,000 mg/L COD | 25 | 1.14555.0001 | Cell test | Spectroquant® | 68, 90, 112, 121 |
| | COD Cell Test | 5000–90,000 mg/L COD | 25 | 1.01797.0001 | Cell test | Spectroquant® | 68, 90, 122 |
| | COD Cell Test for seawater / high chloride contents | 5.0–60.0 mg/L COD | 25 | 1.17058.0001 | Cell test | Spectroquant® | 68, 90, 122 |
| | COD Cell Test for seawater / high chloride contents | 50–3,000 mg/L COD | 25 | 1.17059.0001 | Cell test | Spectroquant® | 70, 90, 122 |
| | COD Cell Test (Hg free) | 10–150 mg/L COD | 25 | 1.09772.0001 | Cell test | Spectroquant® | 70, 90, 122 |
| | COD Cell Test (Hg free) | 100–1,500 mg/L COD | 25 | 1.09773.0001 | Cell test | Spectroquant® | 70, 90, 122 |
| | Color, ADMI | | | | Physical method | Spectroquant® | 70 |
| | Color, Hazen | | | | Physical method | Spectroquant® | 70, 72 |
| | Color, Spectral Absorption Coefficient | | | | Physical method | Spectroquant® | 72 |

Parameters C–G

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|----------|---|--|--------------|------------------------------|-----------------------|---------------------|-----------------------|
| C | Color, true color | | | | Physical method | Spectroquant® | 72 |
| | Congo red paper | pH <3 blue-violet / >5 red-orange | 3 x 4.8 m | 1.09514.0003 | pH test paper | MQuant® pH | 167 |
| | Copper Test | 0.02–6.00 mg/L Cu | 250 | 1.14767.0001 | Reagent test | Spectroquant® | 72, 90, 101, 113, 122 |
| | Copper Test | 0.05–0.5 mg/L Cu | 125 | 1.14414.0001 | Color-card comparator | MQuant® Liquid | 146 |
| | Copper Cell Test | 0.05–8.00 mg/L Cu | 25 | 1.14553.0001 | Cell test | Spectroquant® | 72, 101, 113, 122 |
| | Copper Test in freshwater and seawater | 0.15–1.6 mg/L Cu | 50 | 1.14651.0001 | Color card | MQuant® Liquid | 146 |
| | Copper Test | 0.3–5 mg/L Cu | 125 | 1.14418.0001 | Color-card comparator | MQuant® Liquid | 146 |
| | Copper Test | 0.3–10 mg/L Cu | 125 | 1.14765.0001 | Disk comparator | MQuant® Liquid | 146 |
| | Copper Test | 10–300 mg/L Cu | 100 | 1.10003.0001 | Test strip | MQuant® Test Strips | 158 |
| | Copper in electroplating baths | 2.0–80.0 g/L Cu | | | Application | Spectroquant® | 72 |
| | Cyanide Test | 0.002–0.03 mg/L CN | 65 | 1.14417.0001 | Color-card comparator | MQuant® Liquid | 146 |
| | Cyanide Test for the determination of free and readily liberated cyanide | 0.0020–0.500 mg/L CN | 100 | 1.09701.0001 | Reagent test | Spectroquant® | 72, 90, 101, 122 |
| | Cyanide Cell Test for the determination of free and readily liberated cyanide | 0.010–0.500 mg/L CN | 25 | 1.14561.0001 | Cell test | Spectroquant® | 72, 90, 101, 122 |
| | Cyanide Test | 0.03–0.7 mg/L CN | 200 | 1.14429.0001 | Color-card comparator | MQuant® Liquid | 146 |
| | Cyanide Test | 0.03–5 mg/L CN | 200 | 1.14798.0001 | Disk comparator | MQuant® Liquid | 146 |
| | Cyanide Test | 1–30 mg/L CN | 100 | 1.10044.0001 | Test strip | MQuant® Test Strips | 158 |
| | Cyanuric acid Test | 2–160 mg/L Cyanuric acid | 100 | 1.19253.0001 | Reagent test | Spectroquant® | 45, 72, 90, 122 |
| D | DEHA (Diethylhydroxylamine) | see Oxygen Scavengers Test | | | Reagent test | Spectroquant® | 72 |
| | Detergents | see Surfactants | | | Cell test | Spectroquant® | 72 |
| F | Fluoride Test | 0.02–2.00 mg/L F | 250 mL | 1.00822.0250 | Reagent test | Spectroquant® | 72, 91, 122 |
| | Fluoride Cell Test | 0.10–1.80 mg/L F 0.025–0.500 mg/L F | 25 | 1.00809.0001 | Cell test | Spectroquant® | 72, 91, 101, 122 |
| | Fluoride Test | 0.10–20.0 mg/L F | 100 250 | 1.14598.0001 1.14598.0002 | Reagent test | Spectroquant® | 72, 91, 101, 122 |
| | Fluoride Test | 0.15–0.8 mg/L F | 100 | 1.18771.0001 | Color card | MQuant® Liquid | 146 |
| | Formaldehyde Test | 0.02–8.00 mg/L HCHO | 100 | 1.14678.0001 | Reagent test | Spectroquant® | 72, 91, 122 |
| | Formaldehyde Test | 0.1–1.5 mg/L HCHO | 100 | 1.08028.0001 | Sliding comparator | MQuant® Liquid | 146 |
| | Formaldehyde Cell Test | 0.10–8.00 mg/L HCHO | 25 | 1.14500.0001 | Cell test | Spectroquant® | 72, 91, 122 |
| | Formaldehyde Test | 1.0–45.0 mg/L HCHO | 50 | 1.16989.0001 | Test strip | Reflectoquant® | 136 |
| | Formaldehyde Test | 10–100 mg/L HCHO | 100 | 1.10036.0001 | Test strip | MQuant® Test Strips | 158 |
| | Free Fatty Acids | 0.5–3.0 mg/g KOH | 100 | 1.17046.0001 | Test strip | MQuant® Test Strips | 158 |
| G | Glucose Test | 1–100 mg/L Glucose | 50 | 1.16720.0001 | Test strip | Reflectoquant® | 136 |
| | Glucose Test | 10–500 mg/L Glucose | 50 | 1.17866.0001 | Test strip | MQuant® Test Strips | 158 |
| | Gold Test | 0.5–12.0 mg/L Au | 75 | 1.14821.0002 | Reagent test | Spectroquant® | 72, 91, 122 |

Visual & Instrumental Testing

Portfolio Overview

Parameters H–M

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. | |
|--------------------------------------|---|---|-------------------------|--------------|------------------------------|---------------------|-----------------------|-----------------------|
| H | Hardness | see Carbonate Hardness, Residual Hardness or Total Hardness | | | | | 72 | |
| | Hazen Color Number (Pt/Co, APHA, Hazen) | | | | Physical method | Spectroquant® | 72 | |
| | Hydrazine Test | 0.005–2.00 mg/L N ₂ H ₄ | 100 | 1.09711.0001 | Reagent test | Spectroquant® | 72, 91, 122 | |
| | Hydrazine Test | 0.1–1 mg/L N ₂ H ₄ | 100 | 1.08017.0001 | Color-matching vessel | MQuant® Liquid | 146 | |
| | Hydrogen Peroxide | see also Peroxide | | | Test strip | Reflectoquant® | 136 | |
| | Hydrogen Peroxide | see also Peroxide | | | Test strip | MQuant® Test Strips | 160 | |
| | Hydrogen Peroxide Test | 0.015–6.00 mg/L H ₂ O ₂ | 100 | 1.18789.0001 | Reagent test | Spectroquant® | 74, 91, 122 | |
| | Hydrogen Peroxide Cell Test | 2.0–20.0 mg/L H ₂ O ₂ 0.25–5.00 mg/L H ₂ O ₂ | 25 | 1.14731.0001 | Cell test | Spectroquant® | 74, 91, 122 | |
| | Hydrogen sulfide | see Sulfide | | | Reagent test | Spectroquant® | 74 | |
| | Hydroquinone | see Oxygen Scavengers Test | | | Reagent test | Spectroquant® | 74 | |
| | Hydroxymethylfurfural Test | 1.0–60.0 mg/L HMF | 50 | 1.17952.0001 | Test strip | Reflectoquant® | 136 | |
| | I | Iodine Color Number | 0.010–50.0 IFZ | | | Physical method | Spectroquant® | 74 |
| | | Iron Test | 0.0025–5.00 mg/L Fe | 250 1,000 | 1.14761.0002 1.14761.0001 | Reagent test | Spectroquant® | 74, 91, 101, 113 |
| Iron Test | | 0.01–0.2 mg/L Fe | 300 | 1.14403.0001 | Color-card comparator | MQuant® Liquid | 148 | |
| Iron Test | | 0.010–5.00 mg/L Fe | 150 | 1.00796.0001 | Reagent test | Spectroquant® | 74, 91, 101, 113, 122 | |
| Iron Test in freshwater and seawater | | 0.05–1 mg/L Fe | 50 | 1.14660.0001 | Color card | MQuant® Liquid | 148 | |
| Iron Cell Test | | 0.05–4.00 mg/L Fe | 25 | 1.14549.0001 | Cell test | Spectroquant® | 74, 91, 101, 113, 122 | |
| Iron Test | | 0.1–5 mg/L Fe | 500 | 1.14759.0001 | Disk comparator | MQuant® Liquid | 148 | |
| Iron Test | | 0.1–50 mg/L Fe | 200 | 1.11136.0001 | Color-matching vessel | MQuant® Liquid | 148 | |
| Iron Test | | 0.2–2.5 mg/L Fe | 500 | 1.14438.0001 | Color-card comparator | MQuant® Liquid | 148 | |
| Iron Test | | 0.25–15 mg/L Fe | 300 | 1.14404.0001 | Color-card comparator | MQuant® Liquid | 148 | |
| Iron Test | | 0.5–20.0 mg/L Fe(II) | 50 | 1.16982.0001 | Test strip | Reflectoquant® | 136 | |
| Iron Cell Test | | 1.0–50.0 mg/L Fe | 25 | 1.14896.0001 | Cell test | Spectroquant® | 74, 91, 122 | |
| Iron Test | | 3–500 mg/L Fe(II) | 100 | 1.10004.0001 | Test strip | MQuant® Test Strips | 158 | |
| Isoascorbic acid (Erythorbic acid) | | see Oxygen Scavengers Test | | | | Spectroquant® | 74 | |
| L | | Lactic Acid Test | 3–60.0 mg/L Lactic acid | 50 | 1.16127.0001 | Test strip | Reflectoquant® | 136 |
| | | Lead Test | 0.010–5.00 mg/L Pb | 50 | 1.09717.0001 | Reagent test | Spectroquant® | 74, 91, 101, 113, 122 |
| | | Lead Cell Test | 0.10–5.00 mg/L Pb | 25 | 1.14833.0001 | Cell test | Spectroquant® | 74, 91, 113, 122 |
| | | Lead Test | 20–500 mg/L Pb | 100 | 1.10077.0001 | Test strip | MQuant® Test Strips | 158 |
| | | Lead(II) acetat paper | Sulfide from 10 mg/L | 3 x 4.8 m | 1.09511.0003 | Reagent paper | MQuant® Test Strips | 161 |
| | | Litmus paper, blue | pH <7 red / >7 blue | 3 x 4.8 m | 1.09486.0003 | pH test paper | MQuant® pH | 167 |
| | Litmus paper, red | pH <7 red / >7 blue | 3 x 4.8 m | 1.09489.0003 | pH test paper | MQuant® pH | 167 | |
| | M | Magnesium Cell Test | 5.0–75.0 mg/L Mg | 25 | 1.00815.0001 | Cell test | Spectroquant® | 74, 91, 123 |
| | | Magnesium Test | 5–100 mg/L Mg | 50 | 1.16124.0001 | Test strip | Reflectoquant® | 136 |

Parameters M–N

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. | |
|--------------------------------|---------------------------------------|---|-------------------|------------------------------|--------------------------|-----------------------|----------------------------|-----------------------|
| M | Magnesium Test | 100–1,500 mg/L Mg | 50 | 1.11131.0001 | Color card | MQuant® Liquid | 148 | |
| | Malic Acid Test | 5.0–60.0 mg/L Malic acid | 50 | 1.16128.0001 | Test strip | Reflectoquant® | 136 | |
| | Manganese Test | 0.005–2.00 mg/L Mn | 250 | 1.01846.0001 | Reagent test | Spectroquant® | 74, 91, 103, 113, 123 | |
| | Manganese Test | 0.010–10.0 mg/L Mn | 250 500 | 1.14770.0002 1.14770.0001 | Reagent test | Spectroquant® | 74, 91, 103, 112 | |
| | Manganese Test | 0.03–0.5 mg/L Mn | 120 | 1.14406.0001 | Color-card comparator | MQuant® Liquid | 148 | |
| | Manganese Cell Test | 0.10–5.00 mg/L Mn | 25 | 1.00816.0001 | Cell test | Spectroquant® | 74, 91, 113, 123 | |
| | Manganese Test | 0.3–10 mg/L Mn | 120 | 1.14768.0001 | Disk comparator | MQuant® Liquid | 148 | |
| | Manganese Test | 2–100 mg/L Mn | 100 | 1.10080.0001 | Test strip | MQuant® Test Strips | 158 | |
| | Mercury | 0.025–1.000 Hg | | | Application Reagent test | Spectroquant® | 74 | |
| | Methylethylketoxime (2-Butanoneoxime) | see Oxygen Scavengers Test | | | | Spectroquant® | 74 | |
| | Molybdenum Cell Test | 0.02–1.00 mg/L Mo 0.03–1.67 mg/L MoO ₄ ²⁺ 0.04–2.15 mg/L Na ₂ MoO ₄ | 25 | 1.00860.0001 | Cell test | Spectroquant® | 74, 91, 103, 123 | |
| | Molybdenum Test | 5–250 mg/L Mo | 100 | 1.10049.0001 | Test strip | MQuant® Test Strips | 158 | |
| | Monochloramine Test | 0.050–10.00 mg/L Cl ₂ 0.036–7.26 mg/L NH ₂ Cl 0.010–1.98 mg/L NH ₂ Cl-N | 150 | 1.01632.0001 | Reagent test | Spectroquant® | 76, 91, 103, 123 | |
| | N | Nickel Test | 0.02–0.5 mg/L Ni | 125 | 1.14420.0001 | Color-card comparator | MQuant® Liquid | 148 |
| | | Nickel Test | 0.02–5.00 mg/L Ni | 250 | 1.14785.0001 | Reagent test | Spectroquant® | 76, 91, 103, 113, 123 |
| | | Nickel Cell Test | 0.10–6.00 mg/L Ni | 25 | 1.14554.0001 | Cell test | Spectroquant® | 76, 91, 113, 123 |
| | | Nickel Test | 0.5–10 mg/L Ni | 500 | 1.14783.0001 | Disk comparator | MQuant® Liquid | 148 |
| Nickel Test | | 10–500 mg/L Ni | 100 | 1.10006.0001 | Test strip | MQuant® Test Strips | 158 | |
| Nickel in electroplating baths | | 2.0–120 g/L Ni | | | Application | Spectroquant® | 76 | |
| Nitrate (UV) | | 0.0–7.0 mg/L | | | Application Reagent test | Spectroquant® | 76 | |
| Nitrate Test | | 0.10–25.0 mg/L NO ₃ -N 0.4–110.7 mg/L NO ₃ | 100 250 | 1.09713.0001 1.09713.0002 | Application Reagent test | Spectroquant® | 76, 92, 103, 123 | |
| Nitrate Test | | 0.2–20.0 mg/L NO ₃ -N 0.9–88.5 mg/L NO ₃ | 100 | 1.14773.0001 | Reagent test | Spectroquant® | 76, 91, 103, 110, 111, 123 | |
| Nitrate Test | | 0.3–30.0 mg/L 1.3–132.8 mg/L | 100 | 1.01842.0001 | Reagent test | Spectroquant® | 76, 91, 103, 123 | |
| Nitrate Cell Test | | 0.5–18.0 mg/L NO ₃ -N 2.2–79.7 mg/L NO ₃ | 25 | 1.14542.0001 | Cell test | Spectroquant® | 76, 91, 103, 111, 123 | |
| Nitrate Cell Test | | 0.5–25.0 mg/L NO ₃ -N 2.2–110.7 mg/L NO ₃ | 25 | 1.14563.0001 | Cell test | Spectroquant® | 76, 91, 103, 111, 123 | |
| Nitrate Test | | 3–90 mg/L NO ₃ | 50 | 1.16995.0001 | Test strip | Reflectoquant® | 136 | |
| Nitrate Cell Test | | 1.0–50.0 mg/L NO ₃ -N 4–221 mg/L NO ₃ | 25 | 1.14764.0001 | Cell test | Spectroquant® | 76, 91, 103, 112, 123 | |
| Nitrate Test | 5–90 mg/L NO ₃ | 90 | 1.18387.0001 | Disk comparator | MQuant® Liquid | 148 | | |
| Nitrate Test | 5–225 mg/L NO ₃ | 50 | 1.16971.0001 | Test strip | Reflectoquant® | 136 | | |

Visual & Instrumental Testing Portfolio Overview

Parameters N–O

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. | |
|--|---|---|----------------------------|------------------------------|-----------------------|------------------------|-----------------------|-------------|
| N | Nitrate Test RQeasy® | 5–250 mg/L NO ₃ | 50 | 1.17961.0001 | Test strip | Reflectoquant® | 136 | |
| | Nitrate Test | 10–150 mg/L NO ₃ | 200 | 1.11170.0001 | Sliding comparator | MQuant® Liquid | 148 | |
| | Nitrate Test | 10–500 mg/L NO ₃ | 25 100 | 1.10020.0002 1.10020.0001 | Test strip | MQuant® Test Strips | 158 | |
| | Nitrate Test | 10–500 mg/L NO ₃ | 1,000 | 1.10092.0021 | Individually sealed | MQuant® Test Strips | 158 | |
| | Nitrate Cell Test | 23–225 mg/L NO ₃ -N 102–996 mg/L NO ₃ | 25 | 1.00614.0001 | Cell test | Spectroquant® | 76, 91, 123 | |
| | Nitrate Cell Test in seawater | 0.10–3.00 mg/L NO ₃ -N 0.4–13.3 mg/L NO ₃ | 25 | 1.14556.0001 | Cell test | Spectroquant® | 76, 92, 110, 123 | |
| | Nitrate Test in seawater | 0.2–17.0 mg/L NO ₃ -N 0.9–75.3 mg/L NO ₃ | 50 | 1.14942.0001 | Reagent test | Spectroquant® | 76, 92, 111, 123 | |
| | Nitrate Test in freshwater | 10–150 mg/L NO ₃ | 100 | 1.11169.0001 | Color card | MQuant® Liquid | 148 | |
| | Nitrite Test | 0.005–0.1 mg/L NO ₂ | 110 | 1.14408.0001 | Color-card comparator | MQuant® Liquid | 148 | |
| | Nitrite Test | 0.002–1.00 mg/L NO ₂ -N 0.007–3.28 mg/L NO ₂ | 335 1,000 | 1.14776.0002 1.14776.0001 | Reagent test | Spectroquant® | 76, 92, 105, 123 | |
| | Nitrite Test | 0.025–0.5 mg/L NO ₂ | 200 | 1.08025.0001 | Sliding comparator | MQuant® Liquid | 148 | |
| | Nitrite Cell Test | 0.010–0.700 mg/L NO ₂ -N 0.03–2.30 mg/L NO ₂ | 25 | 1.14547.0001 | Cell test | Spectroquant® | 76, 92, 105, 123 | |
| | Nitrite Test | 0.1–2 mg/L NO ₂ | 400 | 1.14424.0001 | Color-card comparator | MQuant® Liquid | 148 | |
| | Nitrite Test | 0.1–10 mg/L NO ₂ | 400 | 1.14774.0001 | Disk comparator | MQuant® Liquid | 148 | |
| | Nitrite Test | 0.5–10 mg/L NO ₂ | 75 | 1.10057.0001 | Test strip | MQuant® Test Strips | 158 | |
| | Nitrite Test | 0.5–25.0 mg/L NO ₂ | 50 | 1.16973.0001 | Test strip | Reflectoquant® | 136 | |
| | Nitrite Test | 2–80 mg/L NO ₂ | 25 100 | 1.10007.0002 1.10007.0001 | Test strip | MQuant® Test Strips | 158 | |
| | Nitrite Test in freshwater and seawater | 0.05–1.0 mg/L NO ₂ | 100 | 1.14658.0001 | Color card | MQuant® Liquid | 148 | |
| | Nitrite Cell Test | 1.0–90.0 mg/L NO ₂ -N 3.3–295.2 mg/L NO ₂ | 25 | 1.00609.0001 | Cell test | Spectroquant® | 78, 92, 123 | |
| | Nitrite Test | 0.03–1.00 g/L NO ₂ | 50 | 1.16732.0001 | Test strip | Reflectoquant® | 136 | |
| | Nitrite Test | 0.1–3 g/L NO ₂ | 100 | 1.10022.0001 | Test strip | MQuant® Test Strips | 158 | |
| | Nitrogen (total) Cell Test | 0.5–15.0 mg/L N | 25 | 1.00613.0001 | Cell test | Spectroquant® | 78, 92, 111, 123, 125 | |
| | Nitrogen (total) Cell Test | 0.5–15.0 mg/L N | 25 | 1.14537.0001 | Cell test | Spectroquant® | 78, 92, 111, 123, 125 | |
| | Nitrogen (total) Cell Test | 10–150 mg/L N | 25 | 1.14763.0001 | Cell test | Spectroquant® | 78, 92, 112, 123, 125 | |
| | O | Organic Carbon, Total | see TOC | | | Cell test | Spectroquant® | 78 |
| | | Oxygen Test | 0.1–10 mg/L O ₂ | 100 | 1.11107.0001 | Titration with pipette | MQuant® Liquid | 148 |
| | | Oxygen Cell Test | 0.5–12 mg/L O ₂ | 25 | 1.14694.0001 | Cell test | Spectroquant® | 78, 92, 124 |
| Oxygen Test in freshwater and seawater | | 1–12 mg/L O ₂ | 50 | 1.14662.0001 | Color card | MQuant® Liquid | 148 | |
| Oxygen demand, biochemical | | see BOD | | | Cell test | Spectroquant® | 78 | |
| Oxygen demand, chemical | | see COD | | | Cell test | Spectroquant® | 78 | |

Parameters O–P

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. | |
|---------------------------------|---|--|-------------------|------------------------------|-----------------------|---------------------|----------------------|-----|
| O | Oxygen Scavengers Test | 0.020–0.500 mg/L DEHA 0.027–0.666 mg/L Carbohy 0.05–1.32 mg/L Hydro 0.08–1.95 mg/L ISA 0.09–2.17 mg/L MEKO | 200 | 1.19251.0001 | Reagent test | Spectroquant® | 78, 92, 124 | |
| | Ozone Test | 0.007–0.20 mg/L O ₃ | 300 | 1.18755.0001 | Color-card comparator | MQuant® Liquid | 148 | |
| | Ozone Test | 0.010–4.00 mg/L O ₃ | 200 1,200 | 1.00607.0001 1.00607.0002 | Reagent test | Spectroquant® | 45, 78, 92, 124 | |
| | Ozone Test | 0.15–10 mg/L O ₃ | 300 | 1.18758.0001 | Disk comparator | MQuant® Liquid | 148 | |
| | P | Palladium | 0.05–1.25 mg/L Pd | | | Application | Spectroquant® | 78 |
| Peracetic Acid Test | | 1.0–22.5 mg/L Peracetic acid | 50 | 1.16975.0001 | Test strip | Reflectoquant® | 136 | |
| Peracetic Acid Test | | 5–50 mg/L Peracetic acid | 100 | 1.10084.0001 | Test strip | MQuant® Test Strips | 160 | |
| Peracetic Acid Test | | 20–100 mg/L Peracetic acid | 50 | 1.17956.0001 | Test strip | Reflectoquant® | 136 | |
| Peracetic Acid Test | | 75–400 mg/L Peracetic acid | 50 | 1.16976.0001 | Test strip | Reflectoquant® | 136 | |
| Peracetic Acid Test | | 100–500 mg/L Peracetic acid | 100 | 1.10001.0001 | Test strip | MQuant® Test Strips | 160 | |
| Peracetic Acid Test | | 500–2,000 mg/L Peracetic acid | 100 | 1.17922.0001 | Test strip | MQuant® Test Strips | 160 | |
| Peracetic Acid Test | | 20–40–80–120–160 mg/L Peracetic acid | 100 | 1.17976.0001 | Test strip | MQuant® Test Strips | 160 | |
| Peroxidase Test | | yes/no result | 100 | 1.17828.0001 | Test strip | MQuant® Test Strips | 160 | |
| Peroxide | | see also Hydrogen peroxide | | | Reagent test | Spectroquant® | 78 | |
| Peroxide Test | | 0.2–20.0 mg/L H ₂ O ₂ | 50 | 1.16974.0001 | Test strip | Reflectoquant® | 136 | |
| Peroxide Test | | 0.5–25 mg/L H ₂ O ₂ | 25 100 | 1.10011.0002 1.10011.0001 | Test strip | MQuant® Test Strips | 160 | |
| Peroxide Test | | 1–100 mg/L H ₂ O ₂ | 100 | 1.10081.0001 | Test strip | MQuant® Test Strips | 160 | |
| Peroxide Test | | 20.0–100 mg/L H ₂ O ₂ | 50 | 1.17968.0001 | Test strip | Reflectoquant® | 136 | |
| Peroxide Test | | 100–1,000 mg/L H ₂ O ₂ | 50 | 1.16731.0001 | Test strip | Reflectoquant® | 136 | |
| Peroxide Test | | 100–1,000 mg/L H ₂ O ₂ | 100 | 1.10337.0001 | Test strip | MQuant® Test Strips | 160 | |
| pH indicator papers | | see separate list of pH indicator papers | 3 x 4.8 m | | | pH test paper | MQuant® pH | 167 |
| pH indicator strips | | see separate list of pH indicator strips | 100 | | | pH test strips | MQuant® pH | 166 |
| pH Test | | pH 4.0–9.0 | 50 | 1.16996.0001 | Test strip | Reflectoquant® | 136 | |
| pH Test | | pH 4.5–9 | 400 | 1.08027.0001 | Sliding comparator | MQuant® Liquid | 150 | |
| pH Cell Test | | pH 6.4–8.8 | 280 | 1.01744.0001 | Cell test | Spectroquant® | 45, 78, 92, 105, 124 | |
| pH Test for Cooling Lubricants | pH 7.0–10.0 | 50 | 1.16898.0001 | Test strip | Reflectoquant® | 136 | | |
| Phaeophytin-a and Chlorophyll-a | | | | Application | Spectroquant® | 78 | | |
| Phenol Test | 0.002–0.100 mg/L Phenol 0.025–5.00 mg/L Phenol | 50–250 | 1.00856.0001 | Reagent test | Spectroquant® | 78, 92, 124 | | |
| Phenol Cell Test | 0.10–2.50 mg/L Phenol | 25 | 1.14551.0001 | Cell test | Spectroquant® | 78, 92, 124 | | |

Visual & Instrumental Testing

Portfolio Overview

Parameters P

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|----------|--|---|--------------|------------------------------|-----------------------|---------------------|-----------------------|
| P | Phenolphthalein paper | pH <8.5 colorless / >8.5 red | 3 x 4.8 m | 1.09521.0003 | pH test paper | MQuant® pH | 167 |
| | Phosphate Test (ortho-phosphate) | 0.0025–5.00 mg/L PO ₄ -P 0.0077–15.30 mg/L PO ₄ 0.0057–11.46 mg/L P ₂ O ₅ | 220 420 | 1.14848.0002 1.14848.0001 | Reagent test | Spectroquant® | 78, 92, 110 |
| | Phosphate Test | 0.046–0.43 mg/L PO ₄ | 200 | 1.18394.0001 | Color-card comparator | MQuant® Liquid | 150 |
| | Phosphate Test RQflex® plus | 0.1–5.0 mg/L PO ₄ | 100 | 1.17942.0001 | Reagent test | Reflectoquant® | 136 |
| | Phosphate Cell Test (ortho-phosphate) | 0.05–5.0 mg/L PO ₄ -P 0.2–15.3 mg/L PO ₄ 0.11–11.46 mg/L P ₂ O ₅ | 25 | 1.00474.0001 | Cell test | Spectroquant® | 78, 110, 124 |
| | Phosphate Cell Test (ortho-phosphate and total phosphorus) | 0.05–5.00 mg/L PO ₄ -P 0.2–15.3 mg/L PO ₄ 0.11–11.46 mg/L P ₂ O ₅ | 25 | 1.14543.0001 | Cell test | Spectroquant® | 78, 92, 110, 124 |
| | Phosphate Test in freshwater and seawater | 0.25–3 mg/L PO ₄ | 100 | 1.14661.0001 | Color card | MQuant® Liquid | 150 |
| | Phosphate Test | 0.6–9.2 mg/L PO ₄ | 200 | 1.14846.0001 | Disk comparator | MQuant® Liquid | 150 |
| | Phosphate Test | 1.3–13.4 mg/L PO ₄ | 200 | 1.11138.0001 | Color-matching vessel | MQuant® Liquid | 150 |
| | Phosphate Cell Test (ortho-phosphate and total phosphorus) | 0.5–25.0 mg/L PO ₄ -P 1.5–76.7 mg/L PO ₄ 1.1–57.3 mg/L P ₂ O ₅ | 25 | 1.14729.0001 | Cell test | Spectroquant® | 80, 92, 111, 112, 124 |
| | Phosphate Cell Test (ortho-phosphate) | 0.5–25.0 mg/L PO ₄ -P 1.5–76.7 mg/L PO ₄ 1.1–57.3 mg/L P ₂ O ₅ | 25 | 1.14546.0001 | Cell test | Spectroquant® | 80, 93, 124 |
| | Phosphate Test (ortho-phosphate) | 0.5–30.0 mg/L PO ₄ -P 1.5–92.0 mg/L PO ₄ 1.1–68.7 mg/L P ₂ O ₅ | 400 | 1.14842.0001 | Reagent test | Spectroquant® | 80, 93, 124 |
| | Phosphate Test | 3.1–123 mg/L PO ₄ | 190 | 1.14449.0001 | Color-card comparator | MQuant® Liquid | 150 |
| | Phosphate Test (ortho-phosphate) | 1.0–100.0 mg/L PO ₄ -P 3–307 mg/L PO ₄ 2–229 mg/L P ₂ O ₅ | 100 | 1.00798.0001 | Reagent test | Spectroquant® | 80, 93, 124 |
| | Phosphate Test | 4.6–307 mg/L PO ₄ | 300 | 1.18388.0001 | Disk comparator | MQuant® Liquid | 150 |
| | Phosphate Test | 5–120 mg/L PO ₄ | 50 | 1.16978.0001 | Test strip | Reflectoquant® | 136 |
| | Phosphate Cell Test (ortho-phosphate) | 3.0–100.0 mg/L PO ₄ -P 9–307 mg/L PO ₄ 7–229 mg/L P ₂ O ₅ | 25 | 1.00616.0001 | Cell test | Spectroquant® | 80, 92, 124 |
| | Phosphate Cell Test (ortho-phosphate and total phosphorus) | 3.0–100 mg/L PO ₄ -P 9–307 mg/L PO ₄ 7–229 mg/L P ₂ O ₅ | 25 | 1.00673.0001 | Cell test | Spectroquant® | 80, 92, 124 |
| | Phosphate Test | 10–500 mg/L PO ₄ | 100 | 1.10428.0001 | Test strip | MQuant® Test Strips | 160 |
| | Platinum | 0.10–1.25 mg/L Pt | | | Application | Spectroquant® | 80 |
| | Potassium Test RQflex® plus | 1.0–25.0 mg/L K | 100 | 1.17945.0001 | Reagent test | Reflectoquant® | 136 |
| | Potassium Cell Test | 5.0–50.0 mg/L K | 25 | 1.14562.0001 | Cell test | Spectroquant® | 80, 93, 124 |
| | Potassium Cell Test | 30–300 mg/L K | 25 | 1.00615.0001 | Cell test | Spectroquant® | 80, 93, 124 |
| | Potassium Test | 0.25–1.20 g/L K | 50 | 1.16992.0001 | Test strip | Reflectoquant® | 136 |
| | Potassium Test | 250–1,500 mg/L K | 100 | 1.17985.0001 | Test strip | MQuant® Test Strips | 160 |
| | Potassium iodide-starch paperOxidizing agents | | 3 x 4.8 m | 1.09512.0003 | Reagent paper | MQuant® Test Strips | 161 |

Parameters P–S

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|----------|---|--|--------------|--------------|------------------------|---------------------|-----------------------|
| P | Protein-Test | 0.01–1.4 g/L Protein | 200 | 1.10306.0500 | Reagent test | Spectroquant® | 80 |
| | Protein-Test | 0.5–10 g/L Protein | 250 | 1.10307.0500 | Reagent test | Spectroquant® | 80 |
| Q | Quaternary Ammonium Compounds | 10–500 mg/L Benzalkonium chloride | 100 | 1.17920.0001 | Test strip | MQuant® Test Strips | 160 |
| R | Residual Hardness Test | 0.05–0.19 °e 0.7–2.7 mg/L CaCO ₃ | 400 | 1.11142.0001 | Color card | MQuant® Liquid | 150 |
| | Residual Hardness Cell Test | 0.50–5.00 mg/L Ca 0.070–0.700 °d 0.087–0.874 °e 0.12–1.25 °f 0.70–7.00 mg/L CaO 1.2–12.5 mg/L CaCO ₃ | 25 | 1.14683.0001 | Cell test | Spectroquant® | 80, 93, 124 |
| S | SAC (Spectral absorption coefficient) | 0.5–50.0 m ⁻¹ | | | Physical method | Spectroquant® | 80 |
| | Silicate (Silicic Acid) Test | 0.0005–0.5000 mg/L SiO ₂ 0.00012–0.2337 mg/L Si | 100 | 1.01813.0001 | Reagent test | Spectroquant® | 80, 93, 124 |
| | Silicate (Silicic Acid) Test | 0.011–10.70 mg/L SiO ₂ 0.005–5.00 mg/L Si | 300 | 1.14794.0001 | Reagent test | Spectroquant® | 80, 93, 124 |
| | Silicate (Silicic Acid) Test | 0.01–0.25 mg/L Si 0.02–0.53 mg/L SiO ₂ | 150 | 1.14410.0001 | Color-card comparator | MQuant® Liquid | 150 |
| | Silicate (Silicic Acid)Test | 0.3–10 mg/L Si 0.6–21 mg/L SiO ₂ | 150 | 1.14792.0001 | Disk comparator | MQuant® Liquid | 150 |
| | Silicate (Silicic Acid) Test | 1.1–1,070 mg/L SiO ₂ 0.5–500 mg/L Si | 100 | 1.00857.0001 | Reagent test | Spectroquant® | 82, 93, 124 |
| | Sodium Cell Test in nutrient solution for fertilization | 10–300 mg/L Na | 25 | 1.00885.0001 | Cell test | Spectroquant® | 82, 93, 124 |
| | Spectral Absorption Coefficient, Color | 0.5–250 m ⁻¹ | | | Application | Spectroquant® | 82 |
| | Spectral Attenuation Coefficient | 0.5–250 m ⁻¹ | | | Application | Spectroquant® | 82 |
| | Sucrose Test | 0.25–2.5 g/L | 50 | 1.16141.0001 | Test strip | Reflectoquant® | 136 |
| | Sulfate Test | 0.50–50.0 mg/L SO ₄ | 100 | 1.01812.0001 | Reagent test | Spectroquant® | 82, 93, 105, 125 |
| | Sulfate Cell Test | 5–250 mg/L SO ₄ | 25 | 1.14548.0001 | Cell test | Spectroquant® | 82, 93, 105, 110, 124 |
| | Sulfate Test | 5–300 SO ₄ | 100 | 1.02537.0001 | Reagent test | Spectroquant® | 82, 93, 105, 110, 124 |
| | Sulfate Test | 25–300 mg/L SO ₄ | 75 | 1.18389.0001 | Disk comparator | MQuant® Liquid | 150 |
| | Sulfate Test | 25–300 mg/L SO ₄ | 90 | 1.14411.0001 | Color-card comparator | MQuant® Liquid | 150 |
| | Sulfate Cell Test | 50–500 mg/L SO ₄ | 25 | 1.00617.0001 | Cell test | Spectroquant® | 82, 93, 105, 110, 124 |
| | Sulfate Cell Test | 100–1,000 mg/L SO ₄ | 25 | 1.14564.0001 | Cell test | Spectroquant® | 82, 93, 111, 124 |
| | Sulfate Test | 200–1,600 mg/L SO ₄ | 100 | 1.10019.0001 | Test strip | MQuant® Test Strips | 160 |
| | Sulfide Test | 0.02–0.25 mg/L S ²⁻ | 100 | 1.14416.0001 | Color-card comparator | MQuant® Liquid | 150 |
| | Sulfide Test | 0.020–1.50 mg/L S ²⁻ | 220 | 1.14779.0001 | Reagent test | Spectroquant® | 82, 93, 125 |
| | Sulfide Test | 0.1–5 mg/L S ²⁻ | 200 | 1.14777.0001 | Disk comparator | MQuant® Liquid | 150 |
| | Sulfite Test | 0.5–50 mg/L Na ₂ SO ₃ (0.3–32 mg/L SO ₃) | 200 | 1.11148.0001 | Titration with pipette | MQuant® Liquid | 150 |

Visual & Instrumental Testing Portfolio Overview

Parameters S–U

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|---|----------------------------------|---|------------------------------|--------------|--------------------------------|---------------------|-----------------|
| S | Sulfite Cell Test | 1.0–20.0 mg/L SO ₃ 0.05–3.00 mg/L SO ₃ | 25 | 1.14394.0001 | Cell test | Spectroquant® | 82, 93, 125 |
| | Sulfite Test | 1.0–60.0 mg/L SO ₃ 0.8–48.0 mg/L SO ₂ | 150 | 1.01746.0001 | Reagent test | Spectroquant® | 82, 93, 125 |
| | Sulfite Test | 10–200 mg/L SO ₃ | 50 | 1.16987.0001 | Test strip | Reflectoquant® | 136 |
| | Sulfite Test | 10–400 mg/L SO ₃ | 100 | 1.10013.0001 | Test strip | MQuant® Test Strips | 160 |
| | Surfactants (anionic) Cell Test | 0.05–2.00 mg/L MBAS | 25 | 1.02552.0001 | Cell test | Spectroquant® | 51, 82, 93, 125 |
| | Surfactants (cationic) Cell Test | 0.05–1.50 mg/L CTAB | 25 | 1.01764.0001 | Cell test | Spectroquant® | 51, 82, 93, 125 |
| | Surfactants (nonionic) Cell Test | 0.10–7.50 mg/L Triton® X-100 | 25 | 1.01787.0001 | Cell test | Spectroquant® | 51, 82, 93, 125 |
| | Suspended Solids | 25–750 mg/L suspended solids | | | Physical method | Spectroquant® | 82 |
| | T | Tin Cell Test | 0.10 - 2.50 mg/L Sn | 25 | 1.17265.0001 | Cell test | Spectroquant® |
| Tin Test | | 10–200 mg/L Sn | 50 | 1.10028.0001 | Test strip | MQuant® Test Strips | 160 |
| TOC Cell Test | | 5.0–80.0 mg/L TOC | 25 | 1.14878.0001 | Cell test | Spectroquant® | 82, 93, 125 |
| TOC Cell Test | | 50–800 mg/L TOC | 25 | 1.14879.0001 | Cell test | Spectroquant® | 82, 93, 125 |
| Total Alkalinity | | see Acid capacity to pH 4.3 or Alkalinity | | | Cell test | Spectroquant® | 84 |
| Total Hardness Test | | 0.13–7 °e (1–100 mg/L CaCO ₃) | 300 | 1.08047.0001 | Titration with pipette | MQuant® Liquid | 150 |
| Total Hardness Test | | 0.1–30.0 °d | 50 | 1.16997.0001 | Test strip | Reflectoquant® | 136 |
| Total Hardness Test | | 0.25–25 °e (0.1–3.6 mmol/L) | 300 | 1.08039.0001 | Titration with pipette | MQuant® Liquid | 150 |
| Total Hardness Cell Test | | 5–215 mg/L Ca 0.7–30.1 °d 0.9–37.6 °e 1.2–53.7 °f 7–301 mg/L CaO 12–537 mg/L CaCO ₃ | 25 | 1.00961.0001 | Cell test | Spectroquant® | 84, 93, 125 |
| Total Hardness Test | | 1 drop corresponds to 1.25 °e | 100 | 1.11104.0001 | Titration with dropping bottle | MQuant® Liquid | 150 |
| Total Hardness Test | | 1 drop corresponds to 20 mg/L CaCO ₃ | 200 | 1.08312.0001 | Titration with dropping bottle | MQuant® Liquid | 150 |
| Total Hardness Test in freshwater | | 1 drop corresponds to 1.25 °e | 50 | 1.14652.0001 | Titration with dropping bottle | MQuant® Liquid | 150 |
| Total Hardness Test | | 4–26 °e | 100 | 1.10025.0001 | Test strip | MQuant® Test Strips | 160 |
| Total Hardness Test | | 4–26 °e | 1,000 | 1.10032.0001 | Individually sealed | MQuant® Test Strips | 160 |
| Total Hardness Test | | 6–31 °e | 100 | 1.10046.0001 | Test strip | MQuant® Test Strips | 160 |
| Total Hardness Test | | 6–31 °e | 25,000 | 1.10047.0013 | Individually sealed | MQuant® Test Strips | 160 |
| Total Nitrogen | | see Nitrogen (total) | | | Cell test | Spectroquant® | 84 |
| Total Sugar Test (glucose and fructose) | | 65–650 mg/L total sugar | 50 | 1.16136.0001 | Test strip | Reflectoquant® | 136 |
| Transmission | | 0.0–100.0 % T | | | Physical method | Spectroquant® | 84 |
| Turbidity | | 1–100 FAU | | | Physical method | Spectroquant® | 84 |
| U | | Urea Test in Milk Application | 0.2–7.0 mg/L NH ₄ | 50 | 1.16892.0001 | Test strip | Reflectoquant® |

Parameters V–Z

Visual and instrumental test kits

| | Parameter | Measuring range | No. of tests | Cat. No. | System / Type | Trade name | Page No. |
|----------|----------------------------------|--|--------------|--------------|-----------------------|---------------------|-----------------------|
| V | Various | various parameter combined in a Compact Laboratory for water testing | | 1.11151.0001 | Compact lab | MQuant® Liquid | 142 |
| | Volatile Organic Acids Cell Test | 50–3,000 mg/L acetic acid | 25 | 1.01749.0001 | Cell test | Spectroquant® | 84, 93, 125 |
| | Volatile Organic Acids Test | 50–3,000 mg/L acetic acid | 100 | 1.01809.0001 | Reagent test | Spectroquant® | 84, 93, 125 |
| W | Water Hardness | see Carbonate Hardness, Residual Hardness, or Total Hardness | | | | | 84 |
| Z | Zinc Cell Test | 0.025–1.000 mg/L Zn | 25 | 1.00861.0001 | Cell test | Spectroquant® | 84, 93, 105, 113, 125 |
| | Zinc Test | 0.05–2.50 mg/L Zn | 100 | 1.14832.0001 | Reagent test | Spectroquant® | 84, 93, 105, 113, 125 |
| | Zinc Test | 0.1–5 mg/L Zn | 120 | 1.14780.0001 | Disk comparator | MQuant® Liquid | 150 |
| | Zinc Test | 0.1–5 mg/L Zn | 120 | 1.14412.0001 | Color-card comparator | MQuant® Liquid | 150 |
| | Zinc Cell Test | 0.20–5.00 mg/L Zn | 25 | 1.14566.0001 | Cell test | Spectroquant® | 84, 93, 105, 125 |
| | Zinc Test | 4–50 mg/L Zn | 100 | 1.17953.0001 | Test strip | MQuant® Test Strips | 160 |



Cooling & Boiler Water Workflow

Analyzing cooling and boiler water is essential for power plants and industrial producers such as chemical, pharmaceutical, technical, or food and beverage companies. Silicate, calcium, and magnesium are particularly important as elevated levels can cause deposit formation and scaling, leading to increased maintenance costs and downtimes. Find a selection of products that support your workflow to measure low and ultra-low concentrations of various parameters. In particular, using the Spectroquant® Prove 600 spectrophotometer with a 100-mm cuvette allows ultra-sensitive measurements of silicate, chloride, and iron to protect your system.



Instruments & Test Kits

Spectroquant® Photometers

- Prove 300/600 **page 38**
- Move 100 and Move DC **page 44**

Spectroquant® Photometric Test Kits

- Chloride Test Cat. No. **1.01807.0001**
- Silicate Test Cat. No. **1.01813.0001**
- Phosphate Test Cat. No. **1.14848.0001**
- More test kits see **page 62**

Rapid Chemical Testing with Reflectoquant® or MQuant® Systems

- Reflectometric tests
 - Calcium Test Cat. No. **1.16125.0001**
 - Total Hardness Test Cat. No. **1.16997.0001**
 - Nitrite Test Cat. No. **1.16973.0001**
 - More reflectometric test kits see **page 136**
- Visual tests
 - pH-indicator strips pH 0-14 Cat. No. **1.09535.0001**
 - Chlorine Test strips Cat. No. **1.17925.0001**
 - Phosphate Test Color card comparator Cat. No. **1.18394.0001**

Reference Materials

- Ready-to-use reference materials for photometric test kits **page 114**
- CombiCheck **page 110**
- Certipur® standards **page 118**

Complementary Testing

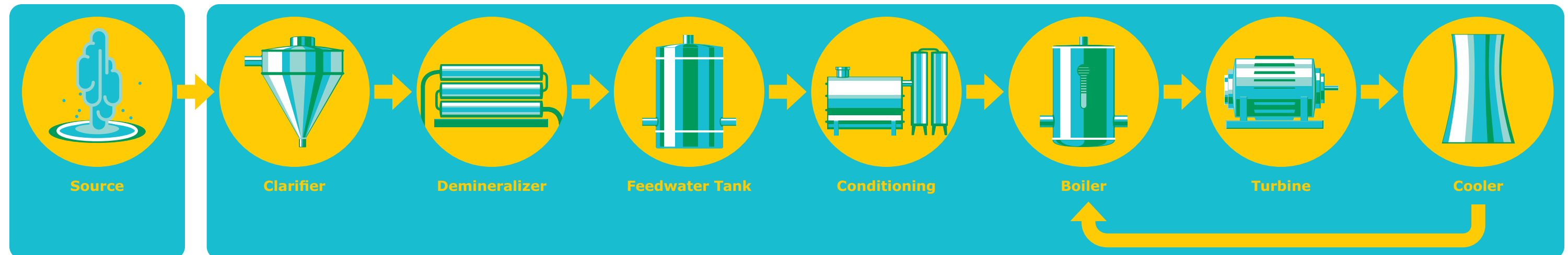
- Microbial filtration testing, e.g. EZ family **page 170**
- Water purification testing, e.g. Milli-Q® system **page 177**

Protocols & Resources

- Application Notes
 - Ultrasensitive determination of silicate in process and boiler water
 - Calcium in water
- Silicate Testing **page 19**
- Chloride Testing **page 10**
- Phosphonate Testing **page 18**
- Wastewater & Process Water Testing Webpage

Input

In-Process



Wastewater Workflow

To protect the environment and communities, almost all governments require treatment and testing of both municipal wastewater from households and industrial wastewater from chemical, pharmaceutical, food, beverage, and other production facilities. The workflow diagram shows the products you need to analyze essential chemical parameters such as COD, BOD, TOC, ammonium, nitrate, nitrite, total phosphorus, and total nitrogen, as well as other important parameters like chromium, heavy metals, and volatile organic acids (VOA).



Instruments & Test Kits

Spectroquant® Photometers

- Prove 100/300 page 38
- Move 100 and Move DC page 44

Spectroquant® Photometric Test Kits

- COD test kits
Cat. No. 1.14560.0001 | 1.01796.0001
- Nitrate test kits
Cat. No. 1.09713.0001 | 1.14773.0001
- Ammonium test kits
Cat. No. 1.14739.0001 | 1.14752.0001
- Phosphate test kits
Cat. No. 1.14543.0001 | 1.14729.0001
- Nitrogen test kits
Cat. No. 1.00613.0001 | 1.14537.0001
- Chloride test kits
Cat. No. 1.01807.0001 | 1.01804.0001
- More test kits see page 62

Rapid Chemical Testing with Reflectoquant® or MQuant® Systems

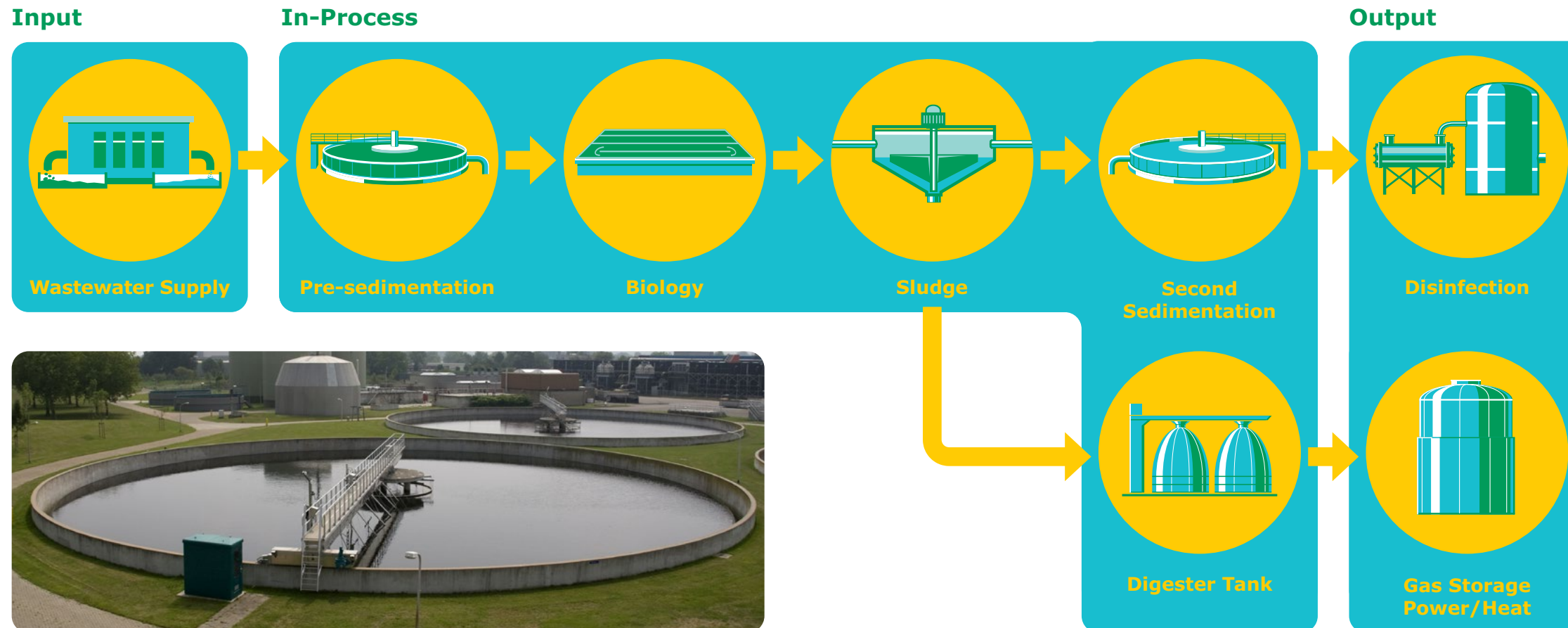
- Reflectometric tests
 - Nitrite Test Cat. No. 1.16732.0001
 - Ammonium Test Cat. No. 1.16892.0001
 - Nitrate Test Cat. No. 1.16971.0001
 - More reflectometric test kits see page 136
- Visual tests
 - Chloride Test Disc comparator
Cat. No. 1.14753.0001
 - Chloride Test strips Cat. No. 1.10079.0001
 - pH-indicator strips pH 0-14
Cat. No. 1.09535.0001

Reference Materials

- Ready-to-use reference materials for photometric test kits page 114
- CombiCheck page 110
- Certipur® standards page 118

Protocols & Resources

- Application Notes
 - Ammonium in effluents with high cod value
 - Chloride determination for cod cell test for seawater
 - Ammonium in sewage sludge
 - Ammonium in effluents
 - Nitrate in effluents
 - Phosphate in effluents
 - Phosphorus (total) in effluents
 - Nitrogen (total) in effluents
 - Nitrite in wastewater
 - Ammonium in wastewater
 - Nitrate in wastewater
- Wastewater & Process Water Testing Webpage
- Measuring Chemical Oxygen Demand in Water Treatment Facilities



Any industry that produces, uses, or processes drinking water must comply with national regulations and perform regular tests to ensure that drinking water is free of chemical and microbiological contamination. The workflow diagram shows a selection of products you need to test microbiological contamination and important chemical parameters such as aluminum, ammonium, bromate, iron, manganese, chloride, nitrate, nitrite, sulfate, chromium and other metals.



Instruments & Test Kits

Spectroquant® Photometers

- Prove 300/600 **page 38**
- Move 100 and Move DC **page 44**

Spectroquant® Photometric Test Kits

- Iron Test Cat. No. **1.14761.0001**
- Manganese Test Cat. No. **1.01846.0001**
- Nitrite Test Cat. No. **1.14776.0001**
- More test kits see **page 62**

Rapid Chemical Testing with Reflectoquant® or MQuant® Systems

- Reflectometric tests
 - Iron Test Cat. No. **1.16982.0001**
 - Calcium Test Cat. No. **1.16125.0001**
 - Nitrate Test Cat. No. **1.16995.0001**
 - Hardness Test Cat. No. **1.16997.0001**
 - Magnesium Test Cat. No. **1.16124.0001**
 - More reflectometric test kits see **page 136**
- Visual tests
 - pH-indicator strips pH 0-14 Cat. No. **1.09535.0001**
 - Peracetic Acid Test strips Cat. No. **1.10084.0001**

Reference Materials

- Ready-to-use reference materials for photometric test kits **page 114**
- Certipur® standards **page 118**
- Standards for pesticides **page 174**

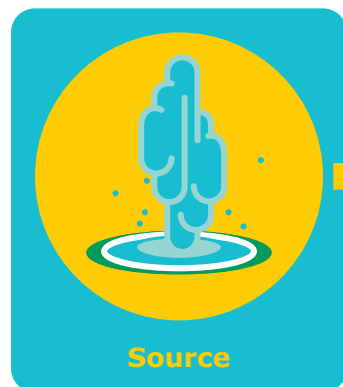
Complementary Testing

- Chromatography, e.g. HPLC, GC, TLC **page 172**
- Microbial filtration testing, e.g. EZ family **page 170**
- Water purification testing, e.g. Milli-Q® system **page 177**

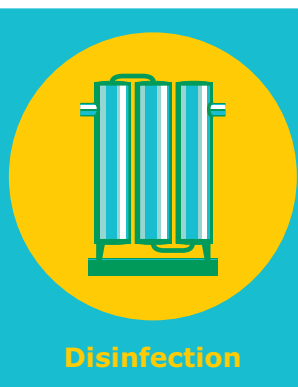
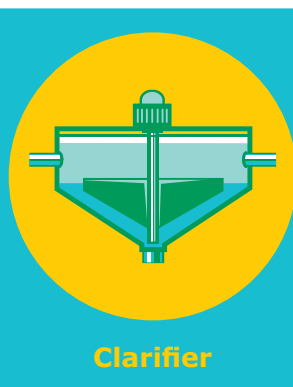
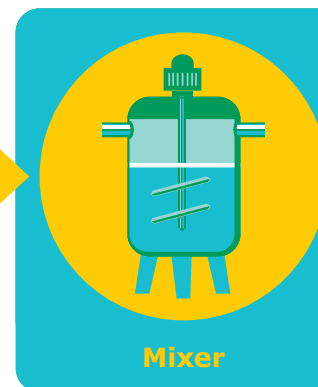
Protocols & Resources

- Application Notes
 - Selenium in water
 - Iron (total) in mineral water
 - Manganese (total) in mineral water
 - Nitrite in mineral water
 - Calcium in drinking water
 - Total hardness in drinking water
 - Magnesium in drinking water
- Testing methods of WHO, US EPA, EU for Drinking water **page 95**
- Drinking Water Testing Webpage

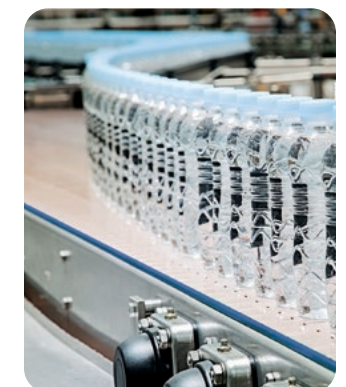
Input



In-Process



Output



Breweries need to carefully monitor all stages of production from analyzing raw materials and drinking water, to in-process and disinfection controls, to testing the finished product and wastewater (see “wastewater workflow” on pages 24 & 25). Beer quality and consistency are judged through parameters such as bitterness, flavonoids, free amino nitrogen, color, calcium content, zinc content, and microbiological contamination. The workflow diagram shows a selection of products you need for reliable beer analysis. In particular, Spectroquant® Prove spectrophotometers feature pre-programmed methods according to international standards to help you quickly and accurately monitor beer quality and maturity.



Instruments & Test Kits

Spectroquant® Photometers

- Prove 300 **page 38**
- Move 100 and Move DC **page 44**

Spectroquant® Photometric Test Kits

- Calcium Test Cat. test kit No. **1.00049.0001**
- Sulfite Test Cat. No. **1.01746.0001**
- Zinc Cell Test Cat. No. **1.00861.0001**
- Nitrate Test Cat. No. **1.09713.0001**
- More test kits see **page 62**
- Test kits acc. to international standards **page 48**

Rapid Chemical Testing with Reflectoquant® or MQuant® Systems

- Reflectometric tests
 - Hardness Test Cat. No. **1.16997.0001**
 - Calcium Test Cat. No. **1.16125.0001**
 - Glucose Test Cat. No. **1.16720.0001**
 - Nitrate Test Cat. No. **1.16995.0001**
 - More reflectometric test kits see **page 136**
- Visual tests
 - pH-indicator strips pH 0-14
Cat. No. **1.09535.0001**
 - Glucose Test strips
Cat. No. **1.17866.0001**

Reference Materials

- Ready-to-use reference materials for photometric test kits **page 114**
- Certipur® standards **page 118**
- Standards for pesticides **page 174**

Ingredient and Nutritional Testing

- Flavors and fragrances **page 175**
- Karl Fischer – reagents **page 176**

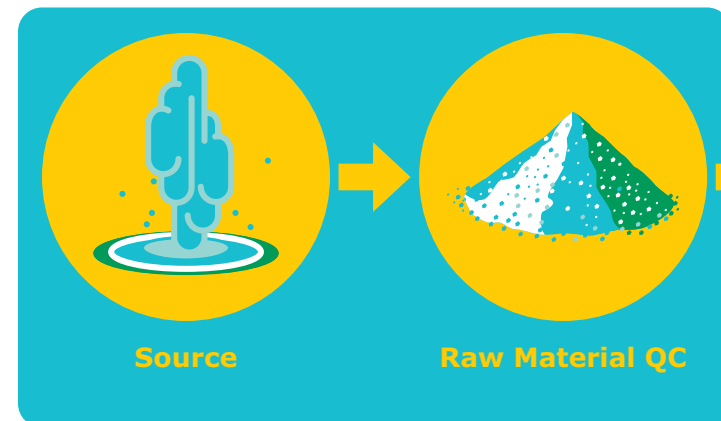
Complementary Testing

- Chromatography, e.g. HPLC, GC, TLC **page 172**
- Microbial filtration testing, e.g. EZ family **page 170**
- Water purification testing, e.g. Milli-Q® system **page 177**

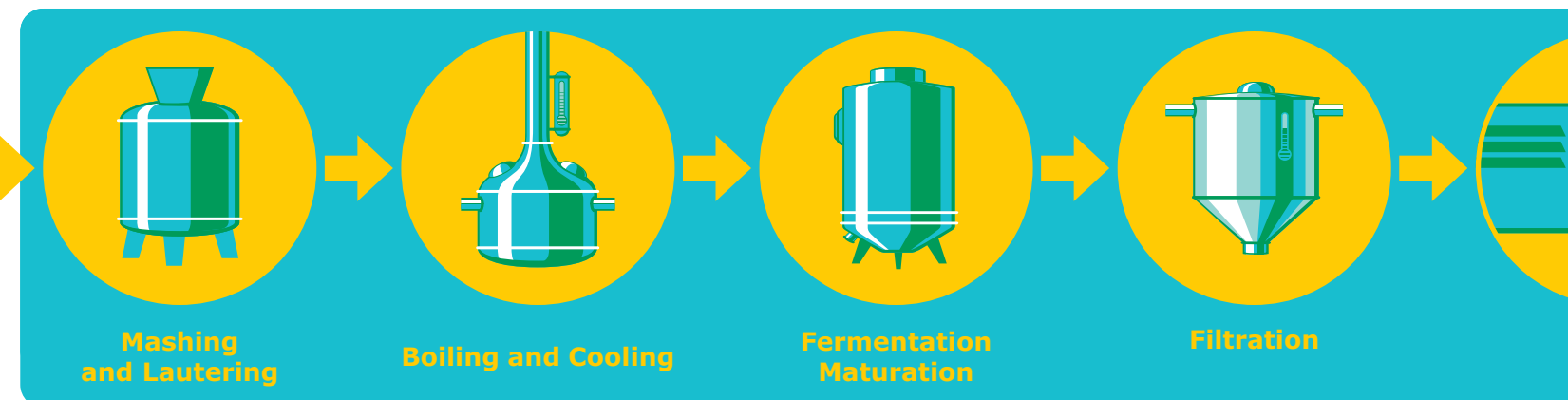
Protocols & Resources

- Application Notes
 - Calcium in beer
 - Sulfur dioxide in beer
 - Zinc (total) in beer worts
 - Nitrate in hops (photometry)
 - Total hardness in drinking water
 - Calcium in beer (reflectometry)
 - Glucose in fermentation solutions
 - Nitrate in hops (reflectometry)
- Brewery Methods of MEBK, ECB and ASBC

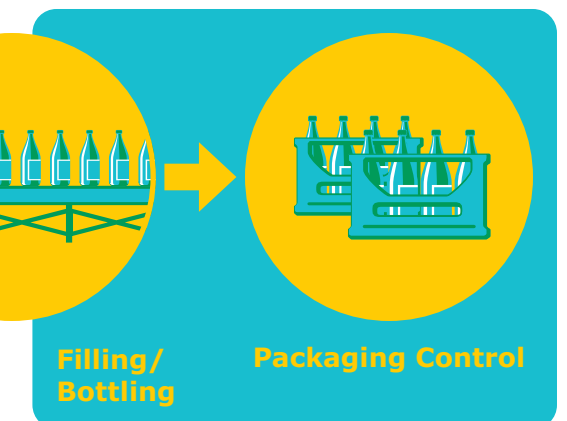
Input



In-Process



Output

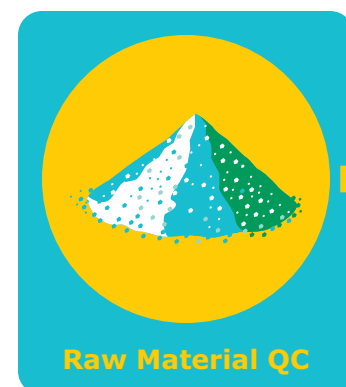


FOOD & BEVERAGE WORKFLOW

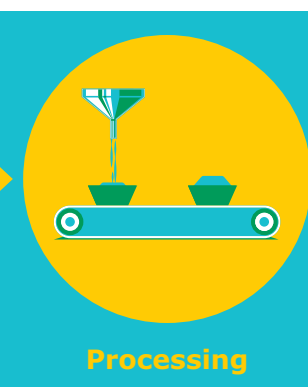
Food and beverage producers face increasing safety regulations requiring detailed analyses of raw materials, in-process controls, quality tests, and hygiene monitoring. Because all of these analyses take time, our rapid and on-the-spot tests for chemical and microbiological contamination are designed to help get your product ready for purchase faster. The workflow diagram shows a selection of products you need to accurately analyze microbiological contamination and important chemical parameters in food and beverages such as ascorbic acid, glucose, and fructose.



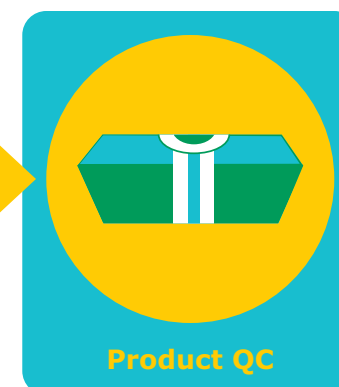
Input



In-Process



Output



Instruments & Test Kits

Spectroquant® Photometers

- Prove 600 **page 38**
- Move 100 and Move DC **page 44**

Spectroquant® Photometric Test Kits

- Chromium Test Cat. No. **1.14758.0001**
- Nickel Test Cat. No. **1.14785.0001**
- Nitrogen Cell Test Cat. No. **1.00613.0001**
- Phosphate Cell Test Cat. No. **1.14543.0001**
- More test kits see **page 62**

Rapid Chemical Testing with Reflectoquant® or MQuant® Systems

- Reflectometric tests
 - Ascorbic Acid Test Cat. No. **1.16981.0001**
 - Sucrose Test Cat. No. **1.16141.0001**
 - Glucose Test Cat. No. **1.16720.0001**
 - Nitrate Test Cat. No. **1.16971.0001**
 - Urea (Ammonium) Test Cat. No. **1.16892.0001**
 - More reflectometric test kits see **page 136**
- Visual tests
 - pH-indicator strips pH 0-14 Cat. No. **1.09535.0001**
 - Free Fatty Acids Test strips Cat. No. **1.17046.0001**

Reference Materials

- Ready-to-use reference materials for photometric test kits **page 114**
- Certipur® standards **page 118**
- Standards for pesticides **page 174**

Ingredient and Nutritional Testing

- Kjeldahl, total dietary fiber **page 175**
- Flavors and fragrances **page 175**
- Karl Fischer – reagents **page 176**

Complementary Testing

- Chromatography, e.g. HPLC, GC, TLC **page 172**
- Microbial filtration testing, e.g. EZ family **page 170**
- Water purification testing, e.g. Milli-Q® system **page 177**

Protocols & Resources

- Application Notes
 - Chromium (total) in dairy products
 - Nickel (total) in dairy products
 - Nitrogen (total) in dairy products
 - Phosphorus (total) in dairy products
 - Urea in milk
 - Hydroxymethylfurfural (hmf) in honey
 - Ascorbic acid in juices
 - Sucrose (saccharose) in soft drinks
 - Glucose in red and white wine
- Nitrate in Vegetables
- Nitrate in Milk Powder
- Nitrate in Vegetables **page 132**
- How Fresh is Your Honey **page 130**
- Total Sugar Testing in Diet Soft Drinks **page 135**
- Glucose Content Testing **page 154**
- Ascorbic Acid in Food **page 133**
- Monitor Acrylamide **page 133**
- Quality of Frying Oil **page 155**
- Milk Quality Testing **page 153**

Disinfection Control in Your Workflow

Tasks requiring disinfection control

Water Bottling Packaging Control



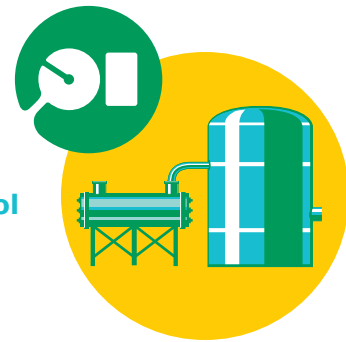
Brewery Filling/Bottling



Food Processing Product QC



Wastewater Output Control



Facilities that are not disinfected effectively have more potential safety risks. Disinfection control remains critical in ensuring the safety of your product. However, the determination of chemical cleanliness requires instruments and means and not just the human eye. Ensure the safety of your production line after disinfection.

- dairy or infant formula
- vegetarian dishes
- meat products
- products with allergen free claims
- other food and beverage industries

Thorough disinfection control testing of filling and processing equipment must be conducted to ensure that no disinfectant residues remain and subsequently contaminate the final food or beverage products.



Instruments & Test Kits

Rapid Chemical Testing with Reflectoquant® or MQuant® Systems

- Reflectometric tests
 - Chlorine Test Cat. No. **1.16896.0001**
 - Peroxide Test Cat. No. **1.16731.0001**
 - Peracetic Acid Test Cat. No. **1.16976.0001**
 - pH Test Cat. No. **1.16996.0001**
 - More reflectometric test kits see **page 136**
- Visual tests
 - pH-indicator strips pH 0-14 Cat. No. **1.09535.0001**
 - Peroxide Test strips Cat. No. **1.10011.0001**

Spectroquant® Instruments

- Reflectometer: RQflex® 20 Cat. No. **1.17246.0001**
- Colorimeter: Move DC Cat. No. **1.73635.0001**

Spectroquant® Photometric Test Kits

- Ozone Test Cat. No. **1.00607.0001**
- Surfactants (nonionic) Cell Test Cat. No. **1.01787.0001**
- Hydrogen Peroxide Test Cat. No. **1.18789.0001**
- Formaldehyde Test Cat. No. **1.14678.0001**
- More test kits see **page 62**

Complementary Testing

- Hygiene monitoring see **page 171**

Protocols & Resources

- Application Notes
 - Perchlorate in wastewater
 - Surfactants (nonionic) in Extran® rinse solutions
 - Glutardialdehyde in aqueous solutions



Accurate quantitative results

A solution for every step of wastewater analysis

The Application

Wastewater analysis is a critical in ensuring that wastewater treatment is being performed to the appropriate standard. Testing a range of parameters such as chemical oxygen demand (COD), ammonium, phosphate, and nitrate is necessary to prevent pollution of lakes, rivers, and groundwater and meets environmental regulation standards. This requires instrumentation capable of measuring with high sensitivity and accuracy.

Our Solution: Spectroquant® Prove photometers

The Spectroquant® Prove instruments offer a photometric method for wastewater parameters, allowing you to easily and accurately detect very low levels of pollutants. It is compatible with 100-mm cells to maximize sensitivity and you can also assign individualized measuring ranges for parameters in order to check whether their concentrations fall within required limits. It also automatically recognizes Spectroquant® test kits so that the correct analysis method is always selected and the right results displayed.

Benefits

- High sensitivity to detect very low levels of pollutants
- Seamless and automatic function with Spectroquant® test kits
- Customizable measuring ranges for individual parameters



Spectroquant® Photometry

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Spectroquant® Photometry

General Information

Test assured

Analytical quality assurance (AQA) proves the validity and reproducibility of your results and is an absolute requirement to have confidence in your analysis. With the **Spectroquant® system**, you can focus on your daily work without worrying about results quality. Our convenient, consolidated workflow solution includes everything you need for secure analysis: reliable instruments, high-quality test kits, customized applications, and start-to-finish AQA. All components work together seamlessly to make a sophisticated analysis simple.

See how our products support your workflow on pages 22–33.



Sample preparation

Simple and effective preparation with Crack Sets and thermoreactors

- Spectroquant® Crack Set
- Spectroquant® Thermoreactors TR 320 / 420 / 620



Sample treatment

More than 200 Spectroquant® test kits offer efficient and effective solutions for the widest range of applications

- Reagent Tests
- Cell Tests
- Test kits for samples with salt content
- Test kits for other photometer brands



Analysis

Spectroquant® colorimeters and photometers combine high measurement quality with simple handling for benchtop or portable analysis

Spectroquant® Instruments

| Instruments | Barcode reading | No of Test Kits | Mode of Operation | Page |
|--|-----------------|--------------------|----------------------|------|
| Spectroquant® Move – Reliable, waterproof colorimeters for rapid, on-site results | | 5 to more than 100 | Portable | 44 |
| Spectroquant® NOVA – Compact, convenient filter photometers for reliable measurements | x | >180 | Bench top / portable | 43 |
| Spectroquant® Prove – Sophisticated touchscreen photometers for sensitive, secure analysis | x | >200 | Bench top | 38 |



Validation & data transfer:

Perfect Analytical Quality Assurance (AQA) with certified standards and GLP-compliant documentation. See page 106 for more

Laboratory Information Management System (LIMS) connections for enhanced quality assurance
Learn more on page 41



Just prove it.

Our goal was to build the perfect tool for water analysis, combining the simplicity you want, the security you need, and the durability you expect into the **Spectroquant® Prove spectrophotometers**. It also offers intuitive controls and is pre-programmed for over 200 Spectroquant® test kits and methods to make analysis smoother than ever.

Spectroquant® Prove

Durable, long-lasting lamp and reference beam technology

Innovative ambient light measurement technology, patent pending

Smart touchscreen for simple navigation in 28 languages

Customizable settings: set turbidity correction, add dilution factors, or simultaneously display adsorption and concentration

Assign individualized measuring ranges to see if results are within limits

Fast data transfer made easy with USB or Ethernet ports to connect to your printer or LIMS

Commercially-available USB hubs, handheld USB barcode scanners, and PC keyboards can be connected via the USB port

Designed with materials that are resistant to most lab chemicals and built to last

A small beauty in your lab: 42 cm x 28 cm x 24 cm

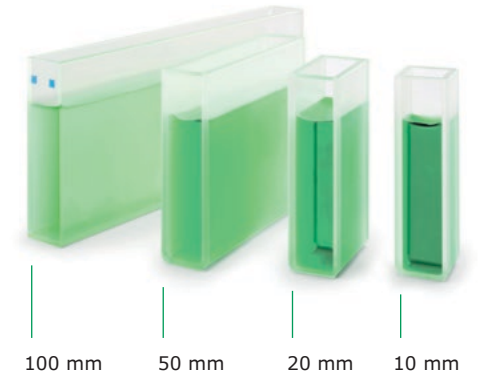


Live ID bar codes on cell and reagent tests automatically transfer important data to the spectrophotometer:

- Method recognition
- Lot number
- Expiry date
- Calibration update

Reagent tests include an AutoSelector for automatic test detection and result calculation

Cells in Cell Tests contain virtually all reagents necessary for analysis



All Prove models detect 10-, 20-, and 50-mm cells



For even greater sensitivity, Prove 600 is also compatible with 100-mm cells



Cell Test port allows direct insertion of round cells



Removable cell holder for easy cleaning in case of spills

More information about Accessories find page 47
Analytical Quality Assurance (AQA) find page 106

Pick your test

Choose our convenient cell tests or economical reagent tests

> Learn more on page 62

Spectroquant® Photometry Instruments

100



300



600



Spectroquant® Prove 100 Cat. No. 1.73016.0001

For routine applications
For routine applications, Prove 100 is the best choice for those who primarily use our broad range of Spectroquant® test kits, or only perform Vis measurements. High quality and great value for your daily analyses.

Spectroquant® Prove 300 Cat. No. 1.73017.0001

For sensitive measurements
Because of its long-lasting xenon lamp, Prove 300 is ideal for more intensive use. It is capable of both UV and Vis measurements, for greater flexibility and more intricate analyses.

Spectroquant® Prove 600 Cat. No. 1.73018.0001

For complex analyses
Designed for high-end UV/Vis optics and cells of up to 100-mm, Prove 600 packs great power into a compact size. Excellent resolution and sensitivity for use with test kits, for complex kinetics, or for spectral measurements.

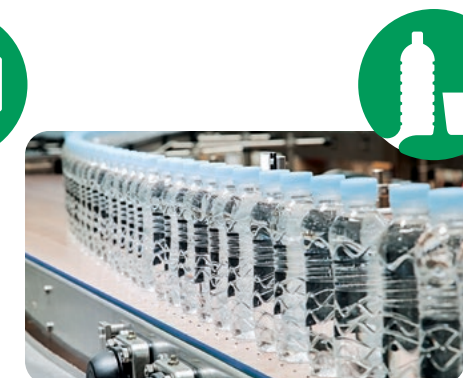
| Specifications | | Prove 100 | Prove 300 | Prove 600 |
|--------------------------|--|-----------|-----------|-----------|
| Measuring technology | Spectrophotometer with reference beam technology | • | • | • |
| Wavelength range | Vis (320–1,100 nm) | • | • | • |
| | UV (190–320 nm) | | • | • |
| Lamp type | Tungsten halogen lamp | • | | |
| | Xenon flash lamp | | • | • |
| Ambient light protection | Measurement with open shaft possible due to proprietary solution (patent pending) | • | • | • |
| Spectral bandwidth | 4 nm | • | • | |
| | 1.8 nm | | | • |
| Smart Screen display | Resistive touch screen | • | • | |
| | P-cap glass touch screen | | | • |
| Live ID system | 2-D Bar-code recognition for cell tests and reagent tests | • | • | • |
| | Bar-code contains lot, expiry, and calibration data. Data stored with each measurement | • | • | • |
| Cell size | 16-mm round cells, 10-, 20- and 50-mm rectangular cells with automatic recognition | • | • | • |
| | 100-mm rectangular cells with automatic recognition | | | • |
| Cell holder | Removable for easy cleaning | • | • | • |
| Methods | Programmed methods of all Spectroquant® cell and reagent tests, 99 user defined methods, | • | • | • |
| | 20 profiles for kinetics and absorbance scans each | • | • | • |
| Applications | Free preprogrammed applications: Brewery methods, Chemical, Physical and Biological applications, Food & Beverage applications and Color Determination | • | • | • |
| AQA Prime | Individual settings for all methods in AQA 1 (instrument check) and AQA 2 mode (system check) and pipette check | • | • | • |
| Sample matrix check | Easy access through setting menu to perform instrument supported matrix check for each method | • | • | • |
| Software updates | Free method updates on our website | • | • | • |
| Languages | Navigation in 28 built-in languages | • | • | • |
| Communication interfaces | USB: 2 x USB-A (for printer, USB memory devices, keyboard or bar-code reader), 1 x USB-B; Ethernet: LAN connection | • | • | • |



Wastewater

The Prove 100 is the perfect choice for regular testing with cell test kits, which are commonly used in wastewater analysis. The Spectroquant® portfolio offers the broadest selection of COD Cell Tests: just choose the measuring range that best suits your needs, and enjoy precise results.

Wastewater workflow
> Page 24



Drinking water & beverages

Analyzing drinking water and beverages usually involves reagent tests as they offer lower detection limits for parameters like manganese and sulfate. Prove 300 is ideal because it allows UV/Vis analyses, and is programmed with free applications, like bromate and brewery tests.

Water workflow
> Page 26



Process water

Even low levels of impurities in process water can lead to damage, downtime, and costly repairs. To avoid this outcome, we offer the most sensitive silicate and chloride tests available. For even greater sensitivity, use 100-mm cells with the Prove 600.

Cooling & boiler water workflow
> Page 22

Prove Connect to LIMS

Automate and streamline quality control data or experimental data transfer to your electronic lab system (Laboratory Information Management System; LIMS or Electronic Lab Notebook; ELN) with Spectroquant® Prove Connect to LIMS software.

- Easily link via simple LAN connection
- Flexible integration with both LIMS and ELN

Order your Spectroquant® Prove Connect to LIMS unlimited license Cat. No. **Y110860001**

The digital solutions from the Supelco® portfolio can simplify your daily analytical workflow and maintain the fidelity of your data while saving you time for your important tasks.





At your service

Our Spectroquant® Service offerings include method updates, firmware updates, maintenance and repair in our service centers, qualifications, and service plans to keep your instruments in top shape.

Photometer software updates

Keep pre-programmed methods up to date and get added features improving usability based on customer feedback for a smooth laboratory workflow. Just download the latest version of the software for your photometer for free.

Installation qualification (IQ), operational qualification (OQ), performance qualification (PQ) – always at your service

Whether you are looking for an IQ after device delivery, OQ to check the system, or a PQ to validate your workflow – we will assist you either in person or with the right documentation.

Spectroquant® Prove service plans

Spectroquant® Prove service plans provide you with the professional support of a team of experts to ensure your spectrophotometer is performing optimally every time you switch it on. Our work is accompanied by detailed documentation to streamline your accreditation and audits. Two service plans, the Essential and the Advanced, help you get the best performance from your instruments.

| Repair Depot Service | Essential | Advanced |
|--|------------|------------|
| For Prove 100 - Cat. No.: | Y110320001 | Y110330001 |
| For Prove 300 - Cat. No.: | Y111320001 | Y111330001 |
| For Prove 600 - Cat. No.: | Y112320001 | Y112330001 |
| Instrument | | |
| Performance check with reference materials | ✓ | ✓ |
| Factory-recommended maintenance | ✓ | ✓ |
| Performance check certificate | ✓ | ✓ |
| Repair | | |
| Telephone support hotline | ✓ | ✓ |
| One floating repair per year* | | ✓ |
| Shipment cost to/from workshop | ✓ | ✓ |
| Upgrade | | |
| Free software upgrade | ✓ | ✓ |
| Option | | |
| Reagent delivery program | ✓ | ✓ |

* Spare parts not included

Carry your benchtop!

Spectroquant® NOVA photometer

Enjoy high measurement quality with great simplicity, packing maximum convenience into a minimum size with the NOVA 60A filter photometer.

- Barcode reading of Spectroquant® tests for automatic cell size recognition, method selection, and results calculation
- Compact and mobile for easy transportation between labs
- Variety of measuring ranges and parameters for accurate results
- Instrument-supported AQA



Spectroquant® NOVA 60A Cat. No. 1.09752.0001

| Technical data | |
|-------------------------------|---|
| Wavelength | 12 filters in array-technique with refer. beam: 340, 410, 445, 500, 525, 550, 565, 605, 620, 665, 690, 820 nm, ±2 nm half band width 10 nm (30 nm for 340 nm) |
| Photometric reproducibility | 0.001 A at 1.000 A |
| Photometric resolution | 0.001 A |
| Types of determination | Absorbance, concentration, transmission |
| Measuring range of absorbance | -0.300 A to 3.200 A |
| Lamp | Tungsten halogen lamp, preset, no warm-up time, measuring time 2 s |
| Date/Time | real time clock integrated in the photometer |
| Cell compartment | 10-, 20- and 50-mm rectangular cells and 16-mm round cells |
| Test recognition | AutoSelect function (bar-code reading system) automatic cell recognition |
| Method-update | via Internet |
| AQA | 3 quality control modes |
| Turbidity correction | simultaneous multiwavelength measurement to correct turbidity |
| Interface | RS 232 C serial interface for printer and computer |
| Methods | Programming of more than 180 methods for Spectroquant® cell and reagent tests, as well as physical measurements and pre-programmed applications |
| Storage capacity | up to 1,000 results |
| Power supply | 100 – 240 V~, 50 – 60 Hz |
| Temperature | Storage: -25 °C to +65 °C, operations: +5 °C to +40 °C |
| Allowable relative humidity | Annual mean: ≤75 %, 30 days/year: 95 %, other days: 85 % |
| Dimensions | 140 x 270 x 260 mm (H x D x W) |
| Weight | 2.8 kg incl. battery |
| Special functions | 50 free programmable methods |
| Accessories | see page 47 Spectroquant® Accessories |

Get answers on the Move

Spectroquant® Move 100

Bring the lab to your sample

Spectroquant® Move 100 is made for rapid, reliable on-site water analysis. No delays, no risk of sample deterioration and no need for additional instruments. The compact, portable colorimeter covers every important parameter of drinking water and wastewater analysis.

- Pre-programmed for over 100 parameters
- Wide choice of measuring ranges for accurate results
- Dust-tight and waterproof according to IP 68 classification
- Secure results with simplified AQA and enhanced documentation

Find technical information on page 46



Spectroquant® Move DC

Simplify disinfection control

Spectroquant® Move DC is built for easy disinfection control in field tests and process monitoring. Used with convenient and accurate Spectroquant® test kits, this small device is automated for the five essential parameters of disinfection control: chlorine, ozone, chlorine dioxide, cyanuric acid, and pH.

- All key disinfection control parameters analyzed with one portable device
- Dust-tight and waterproof according to IP 68 classification
- Pre-programmed for high-quality Spectroquant® test kits

Find technical information on page 46



| Parameter | Measuring Range | No. of Test | Cat. No. | |
|-----------------------------|---------------------------------|-----------------------------------|--------------|---|
| Chlorine Test, free | 0.02–6.00 mg/L Cl ₂ | 200 | 1.00598.0002 | |
| | | 1200 | 1.00598.0001 | |
| Chlorine Test, total | 0.02–6.00 mg/L Cl ₂ | 200 | 1.00602.0001 | |
| | | 1200 | 1.00602.0002 | |
| Chlorine Test, free+total | 0.02–6.00 mg/L Cl ₂ | 100 tests free 100 tests total | 1.00599.0001 | |
| Chlorine Reagent 1 (liquid) | 0.02–6.00 mg/L Cl ₂ | 200 | 1.00086.0001 | Free Chlorine: Use Reagent 1+2 Total Chlorine: Use Reagent 1+2+3 |
| Chlorine Reagent 2 (liquid) | 0.02–6.00 mg/L Cl ₂ | 400 | 1.00087.0001 | |
| Chlorine Reagent 3 (liquid) | 0.02–6.00 mg/L Cl ₂ | 600 | 1.00088.0001 | |
| Chlorine Dioxide Test | 0.05–10.00 mg/L Cl ₂ | 200 | 1.00608.0001 | |
| Cyanuric Acid Test | 2–160 mg/L CyA | 100 | 1.19253.0001 | |
| Ozone Test | 0.02–4.00 mg/L O ₃ | 200 | 1.00607.0001 | |
| Ozone Test | 0.02–4.00 mg/L O ₃ | 1200 | 1.00607.0002 | |
| pH Cell Test | 6.4–8.8 | 280 | 1.01744.0001 | |
| Absorbance | -100–2500 mAbs | | | |

Disinfection Control
> Page 32



Data Transfer

Easy data transmission (to printer or PC) via the Spectroquant® Data Transfer infrared module.
Cat. No. 1.73633.0001



Spectroquant® Photometry Instruments



◀ Spectroquant® Move DC colorimeter

▼ Spectroquant® Move 100 colorimeter

Spectroquant® Move Colorimeters

Spectroquant® Move 100 colorimeter | Cat. No 1.73632.0001

Spectroquant® Move DC colorimeter | Cat. No 1.73635.0001

| Technical data | | Move 100 | Move DC |
|------------------------|---|----------|---------|
| Scope of delivery | Instrument in light carrying case, 4 batteries, 3 round vials each 24- and 16-mm -, 1 adapter for 16-mm vials, screw driver, guarantee certificate, certificate of compliance, instruction manual | • | • |
| Display | Backlit graphic-display | • | |
| | Backlit LCD (on keypress) | | • |
| Interfaces | IR interface for data transfer | • | • |
| | RJ45 connector for internet updates | • | |
| Optics | LED, interference filter, photosensor, transparent measurement chamber | • | • |
| Wavelength | 430, 530, 560, 580, 610 and 660 nm | • | |
| | 530 nm | | • |
| Wavelength accuracy | ±1 nm | • | • |
| Photometric accuracy | 1.000 Abs ±0.020 Abs 2.600 Abs ±0.052 Abs (2 % FS) (measured with standard solutions – T = 20–25 °C) | • | |
| | 1.000 ±0.030 Abs 2.600 Abs ±0.078 Abs (3 % FS) 3 % FS (measured with standard solutions – T = 20–25 °C) | | • |
| Photometric resolution | 0.005 A | • | |
| | 0.001 A | | • |
| Operation | Acid and solvent resistant tactile film keyboard | • | • |
| Power supply | 4 batteries (Type AA/LR6), capacity approx. 26 hours continuous use or 3,500 tests | • | |
| | 4 batteries (Type AAA/LR03), capacity approx. 17 hours continuous use or 5,000 tests | | • |
| Weight | approx. 450 g | • | |
| | approx. 260 g | | • |
| Dimensions | approx. 210 x 95 x 45 mm (instrument); approx. 395 x 295 x 106 mm (case) | • | |
| | approx. 155 x 75 x 35 mm (instrument); approx. 340 x 275 x 83 mm (case) | | • |
| IP classification | Dust and waterproof acc. to IP 68 | • | • |
| Storage capacity | approx. 1,000 data sets | • | |
| | Internal ring memory for 16 data sets | | • |

Accessories and Cells for Spectroquant® instruments

Make your analytical work even easier with useful accessories for Spectroquant® colorimeters, photometers and spectrophotometers.

| Product | Cat. No. for Prove | Cat. No. for NOVA | Cat. No. for Move |
|--|------------------------------|-------------------------------|---|
| Case | 1.73020.0001 | 1.09769.0001 | included |
| Halogen lamp module | 1.74010.0001 (for Prove 100) | 1.09749.0001 | |
| Power supply | 1.74064.0001 | 1.09734.0001 | 4 batteries included |
| | | 1.09779.0001 (EU adapter) | |
| | | 1.20097.0001 (US adapter) | |
| | | 1.20347.0001 (UK adapter) | |
| | | 1.20497.0001 (AUS adapter) | |
| Data transfer | | 1.14964.0001 (PC software) | 1.73633.0001 (unit, cable and software) |
| PC cable | | 1.14667.0001 (for serial bus) | 1.73634.0001 (for updates) |
| 16-mm round cells with screw cap | 1.14724.0001 | 1.14724.0001 | 1.14724.0001 |
| 24-mm round cells with screw caps | | | 1.73650.0001 |
| 10-mm rectangular cell | 1.14946.0001 | 1.14946.0001 | |
| 10-mm rectangular Quartz cell | 1.00784.0001 | 1.00784.0001 | |
| 10-mm rectangular Polystyrene(PS), disposable cell | C5291 | C5291 | |
| 10-mm rectangular semi-micro cell | Z801216 | Z801216 | |
| 10-mm rectangular semi-micro Quartz cell | Z600288 | Z600288 | |
| 10-mm rectangular semi-micro Polystyrene(PS) disposable cell | C5416 | C5416 | |
| 20-mm rectangular cell | 1.14947.0001 | 1.14947.0001 | |
| 50-mm rectangular cell | 1.14944.0001 | 1.14944.0001 | |
| 50-mm semi-micro cell | 1.73502.0001 | 1.73502.0001 | |
| 50-mm rectangular semi-micro Quartz cell | Z801178 | Z801178 | |
| 100-mm rectangular cell | 1.74011.0001 (for Prove 600) | | |



Special Applications for Prove photometers

Brewery Methods

The Spectroquant® Prove software package, "Analysis methods for the brewery industry," contains all 39 methods required for complete beer analysis from raw materials to finished product. The test procedures follow MEBAK (Mittteleuropäische Brautechnische Analysenkommission), EBC (European Brewery Convention), or ASBC (American Society of Brewing Chemists) methods. Find an extract of brewery methods below and the complete list in our Brewery manual provides step-by-step instructions for reagent preparation, sample processing, and analysis. The package also includes information about test solution stability and storage which isn't provided in the standard MEBAK method description.



| | Determination | Measuring Range | Method | Prove 100 | Prove 300 | Prove 600 |
|----------|---|------------------------------------|----------------------------------|-----------|-----------|-----------|
| A | ∅ Acids | 0–80 mg/L | Own coloring | • | • | • |
| | Anthocyanogens (Harris and Ricketts method) | 0–100 mg/L | Acidic hydrolysis | • | • | • |
| B | Bitterness – Beer (EBC method) | 1–80 BU | UV-absorption | | • | • |
| | Bitterness – Wort (EBC method) | 1–120 BU | UV-absorption | | • | • |
| C | Color (EBC method) | 0.0–60.0 EBC Units | Own coloring | • | • | • |
| | Copper (EBC method) | 0.10–5.00 mg/L Cu | Cuprethol | • | • | • |
| F | Flavanoids (EBC method) | 3.0–200.0 mg/L | 4-(Dimethylamino)-cinnamaldehyde | • | • | • |
| | Free Amino Nitrogen (Beer/Wort) | 0–400 mg/L | Ninhydrin | • | • | • |
| I | Iso-∅ Acids | 0–60 mg/L | UV -absorption | | • | • |
| | Iron (EBC method) | 0.000–1.000 mg/L Fe | Ferrospectra® | • | • | • |
| | Iron (EBC method) | 0.000–0.800 mg/L Fe | Ferrospectra® | • | • | • |
| N | Nickel (EBC method) | 0.00–5.00 mg/L Ni | Dimethylglyoxime | • | • | • |
| P | Photometric Iodine Test | 0.00–0.80 | Iodine | • | • | • |
| R | Reducing Power, spectrophotometric | 0–100% | DPI | • | • | • |
| S | Steam-volatile Phenols Malt Beer | 0.00–3.00 mg/kg 0.00–0.30 mg/kg | Aminoantipyrine extractive | • | • | • |
| T | Thiobarbituric Acid Number (TAN) | 0–250 TAN | Thiobarbituric acids | • | • | • |
| | Total Carbohydrates (EBC method) | 0.000–6.000 g/100 mL | Anthrone | • | • | • |
| | Total Polyphenols (EBC method) | 0–800 mg/L | Iron (III) | • | • | • |
| V | Vicinal Diketones | 0.00–1.00 mg/kg | Phenylenediamine | • | • | • |

Chemical, Physical & Biological Applications

| | Determination | Measuring Range | Method | Prove 100 | Prove 300 | Prove 600 |
|----------|---|--|--|-----------|-----------|-----------|
| A | Ammonia, free | 0.00–3.65 mg/L NH ₃ | Indophenol blue | • | • | • |
| B | Bromate in water / drinking water | 0.5–200 µg/L BrO ₃ | 3,3'-dimethylnaphtidine | • | • | • |
| C | Chlorophyll-a (DIN/ISO) | 0–50,000 µg/L Chl-a, Phaeo | Analogous DIN 38412, ISO 10260 | • | • | • |
| | Chlorophyll-a (APHA/ASTM) | 0–50,000 mg/m ³ Chl-a, Phaeo | Analogous APHA 10200-H, ASTM D3731-20 | • | • | • |
| | Chlorophyll-a, -b, -c | 0–50,000 mg/m ³ Chl-a, Chl-b, Chl-c | Trichromatic method, analogous APHA 10200-H, ASTM D3731-20 | • | • | • |
| | Cobalt in Water | 0.5–10.0 mg/L Co | Nitroso-R-Salt | • | • | • |
| D | dsDNA | 5–37500 µg/mL dsDNA | UV absorption | | • | • |
| | ssDNA | 3–25000 µg/mL ssDNA | UV absorption | | • | • |
| M | McFarland | 0.0–10.0 | Cell density, turbidimetric | • | • | • |
| | Mercury in water / wastewater | 0.025–1.000 mg/L Hg | Michler's thioketone | • | • | • |
| N | Nitrate (UV) | 0.0–7.0 mg/L NO ₃ -N | Analogous to APHA 4500-N03- B | | • | • |
| O | OD280 | -0.020–2.000 | Measurement at 280 nm | | • | • |
| | OD600 | -0.020–1.200 | Measurement at 600 nm | • | • | • |
| P | Palladium in water / wastewater | 0.05–1.25 mg/L Pd | Michler's thioketone | • | • | • |
| | Platinum in water / wastewater | 0.10–1.25 mg/L Pt | 1,2-phenylenediamine | • | • | • |
| | Protein BCA | 200–1000 µg/L BSA | Bicinchoninic Acid (BCA) | • | • | • |
| | Protein Biuret LR | 0.5–5.0 g/L BSA | Biuret Reaction | • | • | • |
| | Protein Biuret HR | 1–10 g/L BSA | Biuret Reaction | • | • | • |
| | Protein Bradford LR | 0.01–0.10 mg/L BSA | Coomassie® Brilliant Blue | • | • | • |
| R | Protein Bradford HR | 0.1–1.4 mg/L BSA | Coomassie® Brilliant Blue | • | • | • |
| | RNA | 4–30000 µg/mL RNA | UV absorption | | • | • |
| S | Spectral Absorption Coefficient ∅(254) | 0.5–250 m ⁻¹ | Physical measurement according DIN 38404, at 254 nm | | • | • |
| | Spectral Absorption Coefficient ∅(436) | 0.5–250 m ⁻¹ | Physical measurement according DIN 7887, at 436 nm | • | • | • |
| | Spectral Attenuation Coefficient µ(254) | 0.5–250 m ⁻¹ | Physical measurement according DIN 38404, at 254 nm | | • | • |
| | Suspended Solids | 25–750 mg/L susp. Solids | Physical measurement | • | • | • |

Food & Beverage Applications

Spectroquant® Prove photometers offer special applications for testing the quality of palm oil, olive oil, or sugar, based on methods recommended by the relevant regulatory agencies. In addition to over 180 pre-programmed methods, we provide supplementary application software packages for more specific requirements in quality control. These packages ensure you have accurate results in compliance with international standards.

| | Determination | Measuring Range | Method | Prove 100 | Prove 300 | Prove 600 |
|----------|-------------------------------------|--|------------------------------------|-----------|-----------|-----------|
| A | Acesulfame-K EN 1377 | 0.0–1200.0 mg/g | UV absorption | | • | • |
| | Annatto Cheese §64LFBG 03.00-37 | 0.0–10.0 mg/kg | Bixin/Norbixin | | | |
| C | Carotene Palm Oil | 10–7,500 mg/kg β-Car | Inherent color | • | • | • |
| D | DOBI Palm Oil | 0.00–4.00 DOBI | UV-absorption | | • | • |
| K | K232 Olive Oil | 0.00–4.00 K232 | UV-absorption | | • | • |
| | K268 Olive Oil | 0.00–4.00 K268 | UV-absorption | | • | • |
| | K270 Olive Oil | 0.00–4.00 K270 | UV-absorption | | • | • |
| | delta K268 Olive Oil | -0.10–1.00 ΔK268 | UV-absorption | | • | • |
| | delta K270 Olive Oil | -0.10–1.00 ΔK270 | UV-absorption | | • | • |
| H | Hydroxyproline Meat §64LFBG 06.00-8 | 0.000–1.000 g/100g | 4-Dimethylamino benzaldehyde | • | • | • |
| I | ICUMSA Color GS1/3-7 | 0–50,000 IU7.0 | Inherent color | • | • | • |
| | ICUMSA Color GS2/3-9 | 0–600 IU7.0 | Inherent color | • | • | • |
| | ICUMSA Color GS2/3-10 | 0–50 IU7.0 | Inherent color | • | • | • |
| | ICUMSA Color GS9/1/2/3-8 | 0–20,000 IU7.0 | Inherent color | • | • | • |
| P | Phosphatide Milk §64LFBG 01.00-41 | 0–750 mg/100g P | Ashing/ Phosphormolybdenum blue | • | • | • |
| | Phosphorus Juice EN 1136 | 0.0–300.0 mg/L P | Phosphormolybdenum blue | • | • | • |
| | Phosphorus Milk §64LFBG 01.00-92 | 0–2000 mg/100g P | Ashing/ Phosphormolybdenum blue | • | • | • |
| | Phosphorus Meat §64LFBG 06.00-9 | 0.000–2.500 g/100g P ₂ O ₅ | Ashing/ Vanadatomoxydate | • | • | • |
| | Proline Juice EN 1141 | 0–1200 mg/L | Ninhydrin | • | • | • |
| S | Saccharine EN 1376 | 0.0–1200.0 mg/g | UV absorption | | • | • |
| | Sugar | 0–200 g/L | 3,5-Dinitrosalicylic Acid (DNSA) | • | • | • |
| Y | Yellow Pigment EN ISO 11052 | 0.000–1.250 mg/100g | β-Carotene | • | • | • |

stay up to date

Surfactant cell tests – superior sensitivity, easy handling

Surfactants come in three main classes: anionic, cationic and nonionic. All of these can enter water systems from extensive use in detergents and industrial processes. They can be harmful for humans, animals, and vegetation, so authorities require regular water testing and treatment to confirm that surfactant content is within limits.

Surfactants (anionic) Cell Test | Cat. No. 1.02552.0001

Surfactants (cationic) Cell Test | Cat. No. 1.01764.0001

Surfactants (nonionic) Cell Test | Cat. No. 1.01787.0001



| | Determination | Description | Prove 100 | Prove 300 | Prove 600 |
|-----------------------------------|---|--|-----------|-----------|-----------|
| A | ADMI Color measurement | Determination of color acc. to APHA 2120F | • | • | • |
| | Ansidine value | Measure for the amount of α , β -unsaturated aldehydes (2-alkenals) in animal and vegetable fats and oils acc. to ISO 6885 | • | • | • |
| | ASTM Color | Determination of the color of a wide variety of petroleum products (lubricating oils, heating oils, diesel fuel oils, petroleum waxes) acc. to ASTM D6045 | • | • | • |
| C | CIE color distance | Determination of CIE Color Distance D65/2° values (ΔE^*ab ; ΔL^* ; Δa^* ; Δb^* ; ΔC^*ab) for liquid samples | • | • | • |
| | CIELAB color space (brightness, chroma) | Determination of CIELAB D65/2° values (L^* ; a^* ; b^* ; C^*ab) for liquid samples | • | • | • |
| | CIELUV color space | Determination of CIELUV D65/2° values (L^* ; u^* ; v^* ; C^*uv ; S^*uv) for liquid samples | • | • | • |
| | CIExyY color space | Determination of CIExyY D65/2° values (x ; y ; Y) for liquid samples | • | • | • |
| | Color (ASBC) | Determination of the color of brewery products according to ASBC (American Society of Brewing Chemists) method Beer-10 and method Wort-9 | • | • | • |
| | Color (EBC method) | Determination of color of beers, worts, liquid malt substitutes according to MEBAK method 2.12.3, EBC method 8.5 and 9.6 | • | • | • |
| | Color 410 acc. to EN 7887 | Measurement at 410 nm, range 2-2,500 mg/L Pt | • | • | • |
| | Color, Hazen | Measurement at 340 nm, range 0.2-500 mg/L Pt, Pt/Co, Hazen, CU | • | • | • |
| Color, Hazen | Measurement at 445 nm, corresponds to ASTM D 1209-05, DIN EN ISO 6271-2, range 0-1,000 mg/L Pt, Pt/Co, Hazen, CU | • | • | • | |
| Color, Hazen | Measurement at 455 nm, corresponds to APHA 2120 B, ASTM D 1209-05, DIN EN ISO 6271-2, range 0-1,000 mg/L Pt, Pt/Co, Hazen, CU | • | • | • | |
| Color, Hazen | Measurement at 465 nm, corresponds to APHA 2120 B, ASTM D 1209-05, DIN EN ISO 6271-2, range 0-1,000 mg/L Pt, Pt/Co, Hazen, CU | • | • | • | |
| G | Gardner Color | Estimation of color by the Gardner color scale-clear, yellow-brown liquids, e.g. drying oils, varnishes, solutions of fatty acids, resins etc. | • | • | • |
| H | Hess-Ives color units | Determination of the Hess-Ives color units | • | • | • |
| | Hunter color distance | Determination of Hunter Color Distance D65/2° values for liquid samples acc. to HunterLab application note Vol8, Vol 9, 06/08 (ΔE^*H ; ΔL^* ; Δa^* and Δb^*) | • | • | • |
| | Hunter LAB color space | Determination of Hunter Lab D65/2° values for liquid samples acc. to HunterLab application note Vol8, Vol 9, 06/08 (L^* , a^* and b^*) | • | • | • |
| I | ICUMSA Color GS1 / 3-7 | Color measurement of sugar with a color index >250 IU7.0 (Raw sugar, strongly colored white sugar, partly refined brown sugar, sugar syrup) | • | • | • |
| | ICUMSA Color GS2 / 3-9 | Color measurement of sugar with a color index up to 600 IU7.0 (Crystalline white sugar, icing sugar and sugar syrup) | • | • | • |
| | ICUMSA Color GS2 / 3-10 | Color measurement of sugar with a color index up to 50 IU (crystalline white sugar, icing sugar and sugar syrup) | • | • | • |
| | ICUMSA Color GS9 / 1/ 2 / 3-8 | Color measurement of sugar with a color index up to 16000 IU7.0 (raw sugar, white sugar from plantations, refined raw sugar) | • | • | • |
| | Iodine Color Number, lower range | Measurement at 340 nm, corresponds to DIN 6162 A, range 0.010-3.01 | • | • | • |
| Iodine Color Number, higher range | Measurement at 445 nm, corresponds to DIN 6162 A, range 0.2-50.0 | • | • | • | |
| K | Klett color index | Determination of Klett color of clear, yellow to yellow-brown liquids comparable with the Klett-Summerson colorimeter | • | • | • |



| | Determination | Description | Prove 100 | Prove 300 | Prove 600 |
|----------|---|--|-----------|-----------|-----------|
| S | Spectral Absorption coefficient | Determination of the spectral absorption coefficient at 254 nm acc to DIN 38404-3 | | • | • |
| | Spectral Absorption coefficient | Determination of the spectral absorption coefficient at 436 nm acc to DIN EN ISO 7887-B | • | • | • |
| | Spectral Absorption coefficient | Determination of the spectral absorption coefficient at 525 nm acc to DIN EN ISO 7887-B | • | • | • |
| | Spectral Absorption coefficient | Determination of the spectral absorption coefficient at 620 nm acc to DIN EN ISO 7887- | • | • | • |
| | Spectral Absorption coefficient | Determination of the spectral absorption coefficient at 436 nm, 525 nm and 620 nm acc to DIN EN ISO 7887-B (Multi-wavelength method) | • | • | • |
| | Spectral Attenuation coefficient | Determination of the spectral attenuation coefficient at 254 nm acc to DIN 38404-3 for a filtered sample | | • | • |
| | Spectral Attenuation coefficient, corrected | Determination of the spectral attenuation coefficient at 254 nm acc to DIN 38404-3 for an unfiltered sample | | • | • |
| | Saybolt Color | Determination of the color of refined oils (undyed motor & aviation gasoline, jet propulsion fuels, naphthas, kerosene & petroleum waxes & pharmaceutical white oils) ASTM D6045 | • | • | • |
| T | Tint index | Determination of Tint index from instrumentally measured Color Coordinates according to ASTM E 313-15e1 | • | • | • |
| | Transmittance TX, TY, TZ | Spectrophotometric characterization of optically clear colored liquids | • | • | • |
| U | UV absorbing organic constituents | Determination of UV absorbing organic constituents at 254 nm acc. to APHA 5910 | | • | • |
| | UV irradiation (UV absorption) | Determination of the UV Absorption at 254 nm | | • | • |
| | UV irradiation (UV transmission) | Determination of the UV Transmission at 254 nm | | • | • |
| W | Whiteness index | Determination of Whiteness index from instrumentally measured Color Coordinates according to ASTM E 313-15e1 | • | • | • |
| Y | Yellowness index | Determination of Yellowness index from instrumentally measured Color Coordinates Q3 2017 according to ASTM E 313-15e1 | • | • | • |

Ready-to-use sample preparation

Decomposition converts the substance to be determined into an analyzable form. In most cases, decomposition agents are acids in combination with oxidizing agents; in exceptional cases (e.g. in the determination of total nitrogen) an alkaline decomposition is more effective. The type of decomposition procedure used depends on the analyte to be determined and the sample matrix.

The ready-to-use sample-decomposition products **Spectroquant® Crack Sets** are suited for the preparation of sample materials for the determinations stated in the table. The decomposition processes are carried out in the **Spectroquant® thermoreactors** that combine outstanding precision and speed to ensure thorough digestion. See **page 56**



All the
reagents
you need
for digestion

quick and easy
sample preparation for
analysis

step by step
instructions with
no special training



Spectroquant® Crack Sets

We offer a choice of three Crack Sets for determining the total content of different parameters. Each set contains all reagents needed for digestion with the thermoreactor.

| Spectroquant® | Crack Set 10 | Crack Set 10C | Crack Set 20 |
|--|--|---|--|
| Catalog No. | 1.14687.0001 | 1.14688.0001 | 1.14963.0001 |
| Sample preparation for determination of total content of | Cd, Cr, Co, Fe, Pb, Ni, P, Zn | Cd, Cr, Co, Fe, Pb, Ni, P, Zn | Nitrogen |
| Method | Peroxodisulfate/acidic | Peroxodisulfate/acidic | Koroleff |
| Content | Reagents, neutralizing agent for pH adjustment, pH paper (1 – 14), dose metering cap | Reagent prefilled in 16 mm – cells, acid, neutralizing agent for pH adjustment, pH paper (1–14), dose metering cap, and stickers for sample labelling | Reagents |
| Cells needed | Empty cells 16 mm – with screw caps Cat. No. 1.14724.0001 | No further cells needed | Empty cells 16 mm – with screw caps Cat. No. 1.14724.0001 |

it's precise

Accurate analysis of all wastewater parameters with Spectroquant® test kits

Each country or region has different regulations and limits regarding wastewater parameters. Where can you get the test parameter you want with the exact limits you need? We have the perfect solution: convenient cell tests and economical reagent tests for all of them. Combine our high-quality test kits with Spectroquant®. Prove spectrophotometers for fast, easy, and accurate analysis.



Choose your photometric test kit from our overview table. See **page 63**.

Spectroquant® Photometry

Sample Preparation

Developed in practice for practice, **Spectroquant® thermoreactors** offer everything you need for perfect sample preparation: reliability, simplicity, safety, and future-compatibility. Choose from pre-installed programs to avoid errors in routine use, or program your own methods for complete flexibility.



Flexible selection
between standard
and individual
programs

Easy handling
with our clear
digestion guide

**TWO temperature
zones**
in one instrument
(TR 620)

Spectroquant® thermoreactors offer 8 pre-installed digestion programs for routine use

| Temperature | Time | Method |
|-------------|---------|---|
| 148 °C | 120 min | for COD |
| 148 °C | 20 min | for COD (rapid digestion method) |
| 150 °C | 120 min | for COD acc. to USEPA |
| 120 °C | 120 min | for TOC |
| 120 °C | 60 min | for total nitrogen, total contents of Cr, Cu, Ni, Pb, Cd, Fe, Zn and Ag |
| 120 °C | 30 min | for AOX and total phosphorus, cyanide |
| 100 °C | 60 min | |
| 100 °C | 30 min | |

320



Spectroquant® TR 320
Cat. No. 1.71200.0001

Standard model for basic use
12 holes | 8 pre-installed programs

420



Spectroquant® TR 420
Cat. No. 1.71201.0001

Advanced device for frequent use
24 holes | 8 pre-installed and 8 freely selectable programs

620



Spectroquant® TR 620
Cat. No. 1.71202.0001

Two-in-one instrument for flexible use
2 x 12 holes | 8 pre-installed and 8 freely selectable programs | 2 separately-controlled heating zones

| Technical data | | Spectroquant® thermoreactors | | |
|-----------------------|---|------------------------------|--------|--------|
| | | TR 320 | TR 420 | TR 620 |
| Scope of delivery | Incl. integrated protective hood for the determination of COD and TOC, as well as of total contents of cadmium, chromium, copper, cyanide, iron, lead, nickel, nitrogen, phosphorus, silver, and zinc. | • | • | • |
| Display | LCD display for temperature and time, desired and actual values for heating time and temperature continually shown in the LCD display | • | • | • |
| Heater | On/off display (the LED blinks red during the heating phase and is permanently on during the digestion phase), contact guard on the surface of the heating-block | • | • | • |
| Functions | 8 pre-installed programs | | | |
| | 8 freely selectable programs | • | | |
| | Simultaneous digestion of 12 samples | | • | • |
| | Simultaneous digestion of 24 samples | | • | • |
| | Free temperature and time selection | | • | • |
| | Two separate temperature-selectable heating zones | | | • |
| | Thermosensor and PC cable available | | • | • |
| | AQA documentation for control purposes | | • | • |
| Holes | 12 for cell tests – 16 mm | • | | |
| | 24 for cell tests – 16 mm | | • | |
| | 24 (2 x 12) for cell tests – 16 mm | | | • |
| Temperature selection | 100 °C, 120 °C, 148 °C and 150 °C ±1.0 °C | • | • | • |
| | Room temperature–170 °C ±1.0 °C | | • | • |
| Controlling accuracy | ±1 °C ±1 digit | • | • | • |
| Timer | 0–180 min freely selectable | | • | • |
| Heating time | 8 temperature heating-time programs for simplest possible operation: 148 °C (20 min or 120 min), 150 °C (120 min), 120 °C (30 min, 60 min or 120 min), 100 °C (30 + 60 min) automatic power switch-off at the end of the heating time | • | • | • |
| Mains version | 115 V~ / 230 V~, 50 Hz / 60 Hz convertible | • | • | • |
| Dimensions | 180 x 245 x 292 mm (H x W x D) | • | • | • |
| Weight | 2.85 kg | • | | |
| | 3.6 kg | | • | • |
| Optional accessories | Thermosensor: heating-block temperature-monitoring option via integrated serial interface and control software for AQA, brass adapter with integrated Pt sensor fitting the holes incl. connector cable (for checking equipment) | | • | • |

Thermosensor for thermoreactors TR 420/620 | Cat. No 1.71203.0001

The thermosensor measures the current temperature in the bore of the thermoreactor and compares it with the specified temperature. The results can be transmitted to a PC for documentation purposes.

PC cable for thermoreactors TR 420/620 | Cat. No 1.71204.0001

it's convenient

Spectroquant® test kits are swift, sensitive, and accurate whether they are used with Spectroquant® instruments or other photometers. Nearly all kits conveniently contain all necessary reagents for your analysis. Test kits are available in two formats to suit your needs: Spectroquant® Reagent Tests contain the reagents you need for photometric determinations with your own rectangular cells of 10–100 mm path length and Spectroquant® Cell Tests are ready-to-use, with 16 mm round cells pre-filled with reagents. Kits are highly stable and most can be stored at room temperature.

While Spectroquant® test kits are compatible with any photometer, using Spectroquant® Prove instruments for your determinations offers the additional benefit of intuitive controls and pre-programmed methods for seamless analysis of over 200 Spectroquant® test kits.



Cell Tests

- Ready-to-use, with the vast majority of kits containing all necessary reagents and cells
- Very stable; shelf life of up to three years at room temperature
- Automatically recognized by Spectroquant® Prove and NOVA photometers so that the correct method is always selected
- Label provides all key information: contents, safety, and batch number
- Package insert explains reaction principle, handling instructions, and potential applications

rapid,
reliable
results
though
pre-programmed
blank values

secure
analysis
with validated,
standard-compliant
reagents

barcode
identification
for fast, simple operation



Reagent Tests

- Reagent mixtures are ready-to-use
- Components are very stable; shelf life of up to three years at room temperature
- Variable measuring range by selecting the appropriate cell format
- A barcode system allowing Spectroquant® Prove and NOVA photometers to automatically apply the correct analysis method
- Package insert explains reaction principle, working procedures, and application areas

it's
sensitive



Several measuring ranges and formats to meet your sulfate testing needs

High sulfate levels in tap water can diminish water quality and cause pipes to corrode or burst. Maximum sulfate limit set by regulatory agencies are in the 250 mg/L range, which is covered by Spectroquant® sulfate tests. They can measure anywhere from 5–300 mg/L, which is appropriate to determine low sulfate in bottled water or high content in tap water.

Benefits

- Cost-efficient: reagent test kits with 100 or 1000 determinations per pack
Spectroquant® Sulfate Test | Cat. No. 1.02537.0001
- Convenient: cell tests contain 25 prefilled round cells (16 mm)
Spectroquant® Sulfate Cell Test | Cat. No. 1.02532.0001

Sensitive, secure measurement of phosphate

Phosphate is essential for plants and animals, but its content in ground and surface water should be minimized to avoid excess algal growth, called eutrophication, and other environmental risks in marine ecosystems.

Benefits

- High sensitivity: with Spectroquant® Prove 600 and 100-mm cells, levels as low as 2.5 µg/L PO₄-P can be measured, corresponding to DIN EN ISO 6878, 4500 P and EPA 365.2+3

Spectroquant® Phosphate Test | Cat. No. 1.14848.0001

- Easy to use: Spectroquant® Phosphate Cell Tests contain 25 round cells (16 mm), each with pre-filled reagents

Spectroquant® Phosphate Cell Test | Cat. No. 1.14543.0001





Spectroquant® Test Kits (A)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|-------------------------|--|---|------------------------------|--------------------------------|--|--------------|--|-----------------------|--|---------------------|----------------------------|-----------------|--|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| A | Absorbance | -3.300-3.300 A | -0.300-3.000 A | -2.600-2.600 A | - | - | - | own coloring | physical measurement | - | 10, 20, 50 | - | |
| | Acid Capacity Cell Test to pH 4.3 (total alkalinity) ^{A.2)} | 0.40-8.00 mmol/L 20-400 | 0.40-8.00 mmol/L 20-400 | 0.40-8.00 mmol/L 20-400 | CaCO ₃ | 120 | 1.01758.0001 | Indicator | - | 4.0 + 1.0 + 0.5 | - | ±0.29 mmol/L | 2, 5, 9, 10, 11, 13, 15, 18 |
| | ADMI Color measurement | | | | | | | | see Color, ADMI | | | | |
| | Alkalinity (total) | | | | | | | | see Acid Capacity Cell Tests to pH 4.3 | | | | |
| | Aluminium Cell Test | 0.02-0.50 | 0.02-0.50 | 0.05-0.50 | Al | 25 | 1.00594.0001 | Chromazurol S | analogous APHA 3500-Al B, DIN ISO 10566 | 0.25 + 6.0 | - | ±0.02 | 1, 6, 8, 9, 11, 13, 15, 16, 17, 18 |
| | Aluminium Test | 0.020-1.20 | 0.020-1.20 | 20-700 µg/L | Al | 350 | 1.14825.0001 | Chromazurol S | analogous APHA 3500-Al B, DIN ISO 10566 | 0.25 + 1.2 + 5.0 | 10, 20, 50 | ±0.009 | 1, 6, 9, 11, 13, 15, 16, 17, 18 |
| | Ammonia, free | 0.000-3.00 0.000-3.65 | - | - | NH ₃ -N NH ₃ | - | - | - | Application, measurement of free ammonia under consideration of the pH and temperature of the sample after spectrophotometric determination of the ammonium content, additionally required 1.14752 | 0.6 + 5.0 | 10, 20, 50 | - | 2, 9, 13, 18 |
| USEPA equivalent | Ammonium Cell Test ^{B.3)} | 0.010-2.000 0.01-2.58 0.010-2.000 0.01-2.43 | 0.010-2.000 0.01-2.58 | 10-2,000 µg/L 10-2,576 µg/L | NH ₄ -N NH ₄ NH ₃ -N NH ₃ | 25 | 1.14739.0001 | Indophenol blue | analogous EPA 350.1, APHA 4500-NH3 F, ISO 7150-1, DIN 38406-5 | 5.0 | - | ±0.050 | 1, 2, 5, 9, 11, 12, 13, 15, 17, 18 |
| USEPA equivalent | Ammonium Test ^{B.3)} | 0.010-3.00 0.013-3.86 0.010-3.00 0.016-3.65 | 0.010-3.00 • 0.013-3.86 • | 0.02-1.30 0.03-1.67 | NH ₄ -N NH ₄ NH ₃ -N NH ₃ | 250 500 | 1.14752.0002 1.14752.0001 | Indophenol blue | analogous EPA 350.1, APHA 4500-NH3 F, ISO 7150-1, DIN 38406-5 | 0.6 + 5.0 | 10, 20, 50 | ±0.016 | 1, 2, 5, 9, 11, 12, 13, 15, 16, 17, 18 |
| USEPA equivalent | Ammonium Cell Test ^{B.3)} | 0.20-8.00 0.26-10.30 0.20-8.00 0.24-9.73 | 0.20-8.00 0.26-10.30 | 0.20-8.00 0.26-10.30 | NH ₄ -N NH ₄ NH ₃ -N NH ₃ | 25 | 1.14558.0001 | Indophenol blue | analogous EPA 350.1, APHA 4500-NH3 F, ISO 7150-1, DIN 38406-5 | 1.0 | - | ±0.19 | 1, 2, 5, 6, 8, 9, 11, 12, 13, 15, 16, 18 |
| USEPA equivalent | Ammonium Cell Test ^{B.3)} | 0.5-16.0 0.6-20.6 0.5-16.0 0.6-19.5 | 0.5-16.0 0.6-20.6 | - | NH ₄ -N NH ₄ NH ₃ -N NH ₃ | 25 | 1.14544.0001 | Indophenol blue | analogous EPA 350.1, APHA 4500-NH3 F, ISO 7150-1, DIN 38406-5 | 0.5 | - | ±0.4 | 1, 6, 8, 11, 13, 16, 18 |
| USEPA equivalent | Ammonium Test ^{B.3)} | 2.0-150 2.6-193 2.0-150 2.4-182 | 2.0-150 • 2.6-193 • | 1.0-50.0 1.3-64.4 | NH ₄ -N NH ₄ NH ₃ -N NH ₃ | 100 | 1.00683.0001 | Indophenol blue | analogous EPA 350.1, APHA 4500-NH3 F, ISO 7150-1, DIN 38406-5 | 0.1 + 0.2 + 5.0 | 10 | ±1.7 | 1, 4, 8, 9, 12, 13, 16, 18 |
| USEPA equivalent | Ammonium Cell Test ^{B.3)} | 4.0-80.0 5.2-103.0 4.0-80.0 4.9-97.3 | 4.0-80.0 5.2-103.0 | 4.0-80.0 5.2-103.0 | NH ₄ -N NH ₄ NH ₃ -N NH ₃ | 25 | 1.14559.0001 | Indophenol blue | analogous EPA 350.1, APHA 4500-NH3 F, ISO 7150-1, DIN 38406-5 | 0.1 | - | ±1.9 | 1, 4, 8, 12, 13, 16, 18 |
| | Antimony | 0.10-8.00 | 0.10-8.00 | - | Sb | - | - | Brilliant green | Application, see more information in Prove and NOVA manual | 4.0 + 1.0 + 5.0 | 10 | - | 11, 18 |
| | AOX Cell Test | 0.05-2.50 | 0.05-2.50 | 0.05-2.50 | AOX | 25 | 1.00675.0001 | Iron(III)-thiocyanate | adsorption analogous EN ISO 9562 | 0.2 + 1.0 + 7.0 | - | ±0.20 | 5, 8, 9, 10, 11, 13, 15, 18 |
| | AOX Sample Preparation Set | - | - | - | - | 25 | 1.00677.0001 | - | additionally required for AOX measurement | - | - | - | |

Areas of application:

- | | | | | | | | | | | | | | | | | | |
|---------------|---------------|-------------|----------------------------|-------------------------------|----------------------------------|------------------------|---------------------------|------------------|--------------------------------------|----------------|-----------------|-------------------------------|------------------------|------------------|-------------|-------------------|---------------|
| 1 Agriculture | 2 Aquaculture | 3 Beverages | 4 Biotechnology, fermenter | 5 Boiler water, cooling water | 6 Construction-material industry | 7 Disinfection control | 8 Disposal drainage water | 9 Drinking water | 10 Electroplating surface refinement | 11 Environment | 12 Food testing | 13 Groundwater, surface water | 14 Milk dairy products | 15 Mineral water | 16 Seawater | 17 Swimming pools | 18 Wastewater |
|---------------|---------------|-------------|----------------------------|-------------------------------|----------------------------------|------------------------|---------------------------|------------------|--------------------------------------|----------------|-----------------|-------------------------------|------------------------|------------------|-------------|-------------------|---------------|

Spectroquant® Test Kits (A-C)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|----------------------|---|--|--|----------------------------|--|--------------|--------------|------------------------|---|-----------------------------------|----------------------------|-----------------|-----------------------------|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| A | AOX Enrichment Set | - | - | - | - | 2 | 1.00678.0001 | - | for multiple use, additionally required for AOX measurement | - | - | - | |
| | Arsenic Test | 0.001-0.100 | 0.001-0.100 • | 5-100 µg/L | As | 30 | 1.01747.0001 | Silver DDTC | analogous EPA 206.4, APHA 3500-As B, ASTM D2972-08A | 1.0 + 5.0 + 20 (+ 350) | 10, 20 | ±0.003 | 5, 8, 9, 10, 11, 13, 15, 18 |
| | Arsenic reagent 2: Sulfuric acid 95-97 % for analysis EMSURE® ISO | - | - | - | - | 50 | 1.00731.1000 | - | additionally required for Arsenic measurement | - | - | - | |
| | Arsenic reagent 7: Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO | - | - | - | - | 27 | 1.08780.0500 | - | additionally required for Arsenic measurement | - | - | - | |
| | Absorption Tube for Arsenic with ground joint NS29 | - | - | - | - | 1 | 1.73501.0001 | - | for multiple use, additionally required for Arsenic measurement | - | - | - | |
| B | BOD Cell Test ^{A.1)} | 0.5-3,000 | 0.5-3,000 | 0.5-3,000 | BOD | 50 | 1.00687.0001 | mod. Winkler method | - | - | - | ±0.5 | 2, 8, 9, 10, 11, 13, 16, 18 |
| | BOD Nutrient Salt Mixture (with allyl thiourea) | - | - | - | - | | 1.00688.0001 | - | for 12 x 1 L nutrient salt solution, additionally required for BOD measurement, anal. DIN EN 1899 | 20 | - | - | |
| | BOD (Oxygen) Reaction bottle | - | - | - | - | 1 | 1.14663.0001 | - | 4 bottles are necessary for 1 determination, 6 for 2, 8 for 3 etc. | - | - | - | |
| | Boron Test | 0.050-0.800 | 0.050-0.800 | - | B | 60 | 1.14839.0001 | Rosocyanine | analogous EPA 212.3, ASTM D3082-09, APHA 4500-B B | 0.5 + 0.8 + 1.0 + 1.5 + 5.0 + 6.0 | 10 | ±0.030 | 1, 9, 11, 13, 15, 18 |
| | Boron Cell Test | 0.05-2.00 | 0.05-2.00 | 0.05-2.00 | B | 35 | 1.00826.0001 | Azomethine H | analogous DIN 38405-17 | 1.0 + 4.0 | - | ±0.09 | 1, 9, 11, 13, 15, 16, 18 |
| | Bromine Test | 0.020-10.00 | 0.020-10.00 | 0.10-5.00 | Br ₂ | 200 | 1.00605.0001 | DPD | - | - | 10 | 10, 20, 50 | ±0.047 |
| C | Cadmium Test [□] | 0.0020-0.500 | 0.0020-0.500 • | 5-500 µg/L | Cd | 55 | 1.01745.0001 | Cadion derivative | - | 0.2 + 1.0 + 10 | 10, 20, 50 | ±0.0039 | 5, 8, 9, 10, 11, 13, 15, 18 |
| | Cadmium Cell Test [□] | 0.025-1.000 | 0.025-1.000 | 25-1.000 µg/L | Cd | 25 | 1.14834.0001 | Cadion derivative | - | 0.2 + 5.0 | - | ±0.025 | 5, 8, 9, 10, 11, 13, 15, 18 |
| | Calcium Test | 0.20-4.00 | 0.20-4.00 | - | Ca | 100 | 1.00049.0001 | Phthalein derivat | - | 0.5 + 5.0 | 10 | ±0.11 | 2, 3, 5, 9, 11, 12, 13 |
| | Calcium Test | 1.0-15.0 1.4-21.0 2.5-37.5 5-160 7-224 12-400 | 1.0-15.0 1.4-21.0 2.5-37.5 5-160 7-224 12-400 | 5-160 7-224 13-400 | Ca CaO CaCO ₃ Ca CaO CaCO ₃ | 100 | 1.14815.0001 | Glyoxalbis-hydroxyanil | for determinations in the low measuring range see manual NOVA / Prove | 0.5 + 5.0 0.10 + 5.0 | 10 10, 20 | ±1.8 ±3 | 1, 2, 5, 6, 9, 13, 15, 16 |
| | Calcium Cell Test | 10-250 14-350 25-624 | 10-250 14-350 25-624 | 10-250 14-350 25-625 | Ca CaO CaCO ₃ | 25 | 1.00858.0001 | Phthalein complexone | - | 0.5 + 1.0 | - | ±9 | 1, 2, 5, 6, 9, 13, 15 |
| | Carbohydrazide | | | | | | | | see Oxygen Scavengers Test | | | | |
| | Chloride Test | 0.10-5.00 | 0.10-5.00 | 0.50-5.00 | Cl | 100 | 1.01807.0001 | Iron(III)-thiocyanate | analogous EPA 325.1, APHA 4500-Cl- E | 0.20 + 10 | 50 | ±0.10 | 2, 5, 6, 9, 12, 13, 15, 18 |

Areas of application:

- | | | | | | | | | | | | | | | | | | |
|---------------|---------------|-------------|----------------------------|-------------------------------|----------------------------------|------------------------|---------------------------|------------------|--------------------------------------|----------------|-----------------|-------------------------------|------------------------|------------------|-------------|-------------------|---------------|
| 1 Agriculture | 2 Aquaculture | 3 Beverages | 4 Biotechnology, fermenter | 5 Boiler water, cooling water | 6 Construction-material industry | 7 Disinfection control | 8 Disposal drainage water | 9 Drinking water | 10 Electroplating surface refinement | 11 Environment | 12 Food testing | 13 Groundwater, surface water | 14 Milk dairy products | 15 Mineral water | 16 Seawater | 17 Swimming pools | 18 Wastewater |
|---------------|---------------|-------------|----------------------------|-------------------------------|----------------------------------|------------------------|---------------------------|------------------|--------------------------------------|----------------|-----------------|-------------------------------|------------------------|------------------|-------------|-------------------|---------------|

Spectroquant® Test Kits (C)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|-------------------------|--|---|---------------------------|------------------------------|-------------------------|--------------|------------------------------|-----------------------|--|--------------------------|----------------------------|-----------------|---|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| C | Chloride Cell Test | 0.5–15.0 | 0.5–15.0 | 0.5–15.0 | Cl | 25 | 1.01804.0001 | Iron(III)-thiocyanate | analogous EPA 325.1, APHA 4500-Cl- E | 0.25 + 10 | – | ±0.3 | 2, 5, 6, 9, 12, 13, 15, 18 |
| | Chloride Test | 2.5–250 | 2.5–250 • | 10–250 | Cl | 100 175 | 1.14897.0001 1.14897.0002 | Iron(III)-thiocyanate | analogous EPA 325.1, APHA 4500-Cl- E | 1.0 + 5.0 + 0.5 + 2.5 | 10 | ±1.0 | 1, 2, 5, 6, 8, 9, 10, 12, 13, 15, 16, 18 |
| | Chloride Cell Test | 5–125 | 5–125 | 5–125 | Cl | 25 | 1.14730.0001 | Iron(III)-thiocyanate | analogous EPA 325.1, APHA 4500-Cl- E | 0.5 + 1.0 | – | ±5 | 1, 2, 5, 6, 8, 9, 10, 12, 13, 15, 16, 18 |
| USEPA equivalent | Chloride Test (free chlorine) ^{B.2)} | 0.010–6.00 | 0.010–6.00 • | 0.02–6.00 | Cl ₂ | 200 1,200 | 1.00598.0002 1.00598.0001 | DPD | analogous EPA 330.5, APHA 4500-Cl ₂ G, DIN EN ISO 7393-2 | 10 | 10, 20, 50 | ±0.034 | 2, 5, 7, 9, 13, 17, 18 |
| USEPA equivalent | Chlorine Cell Test ^{A.1)} (free chlorine) ^{B.2)} | 0.03–6.00 | 0.03–6.00 | 0.05–5.00 | Cl ₂ | 200 | 1.00595.0001 | DPD | analogous EPA 330.5, APHA 4500-Cl ₂ G, DIN EN ISO 7393-2 | 5.0 | – | ±0.15 | 2, 5, 7, 9, 13, 17, 18 |
| USEPA equivalent | Chlorine Test (total chlorine) ^{B.3)} | 0.010–6.00 | 0.010–6.00 • | 0.02–6.00 | Cl ₂ | 200 1,200 | 1.00602.0001 1.00602.0002 | DPD | analogous EPA 330.5, APHA 4500-Cl ₂ G, DIN EN ISO 7393-2 | 10 | 10, 20, 50 | ±0.032 | 2, 5, 7, 9, 13, 17, 18 |
| USEPA equivalent | Chlorine Test 100 tests free chlorine + 100 tests chlorine (total) ^{B.3)} | 0.010–6.00 | 0.010–6.00 • | 0.02–6.00 | Cl ₂ | 200 | 1.00599.0001 | DPD | analogous EPA 330.5, APHA 4500-Cl ₂ G, DIN EN ISO 7393-2 | 10 | 10, 20, 50 | ±0.032 | 2, 5, 7, 9, 13, 17, 18 |
| USEPA equivalent | Chlorine Cell Test ^{A.1)} 100 tests free chlorine + 100 tests chlorine (total) ^{B.3)} | 0.03–6.00 | 0.03–6.00 | 0.05–5.00 | Cl ₂ | 200 | 1.00597.0001 | DPD | analogous EPA 330.5, APHA 4500-Cl ₂ G, DIN EN ISO 7393-2 | 5.0 | – | ±0.11 | 2, 5, 7, 9, 13, 17, 18 |
| | Chlorine Reagent Cl ₂ -1 (liquid) ^{F)} | 0.03–6.00 | 0.03–6.00 | 0.02–6.00 | Cl ₂ | 200 | 1.00086.0001 | DPD | analogous EPA 330.5, APHA 4500-Cl ₂ G, DIN EN ISO 7393-2 | 10 | 16, 50 | ±0.036 | 2, 5, 7, 9, 13, 17, 18 |
| | Chlorine Reagent Cl ₂ -2 (liquid) ^{F)} | 0.03–6.00 | 0.03–6.00 | 0.02–6.00 | Cl ₂ | 400 | 1.00087.0001 | DPD | analogous EPA 330.5, APHA 4500-Cl ₂ G, DIN EN ISO 7393-2 | 10 | 16, 50 | ±0.036 | 2, 5, 7, 9, 13, 17, 18 |
| | Chlorine Reagent Cl ₂ -3 (liquid) ^{F)} | 0.03–6.00 | 0.03–6.00 | 0.02–6.00 | Cl ₂ | 600 | 1.00088.0001 | DPD | analogous EPA 330.5, APHA 4500-Cl ₂ G, DIN EN ISO 7393-2 | 10 | 16, 50 | ±0.036 | 2, 5, 7, 9, 13, 17, 18 |
| | Cells and accessories for the photometric chlorine measurement with liquid reagents 1.00086, 1.00087 and 1.00088 | – | – | – | Cl ₂ | 25 | 1.00089.0001 | DPD | additionally required for Chlorine Reagent Cl ₂ -1, Cl ₂ -2, Cl ₂ -3 for free chlorine: Cl ₂ -1 and Cl ₂ -2 for total chlorine: Cl ₂ -1, Cl ₂ -2 and Cl ₂ -3 Measuring range of NOVA 30: 0.03–6.00 mg/L Cl ₂ | – | – | – | |
| | Chlorine Dioxide Test | 0.020–10.00 | 0.020–10.00 • | 0.05–10.00 | ClO ₂ | 200 | 1.00608.0001 | DPD | analogous APHA 4500-ClO ₂ D, DIN 38408-5 | 10 | 10, 20, 50 | ±0.045 | 5, 7, 9, 15, 17 |
| | Chlorophyll-a and Phaeophytin-a | – | – | – | Chl-a Phaeo | – | – | – | Application on Prove, analogous APHA 10200 H, ASTM D3731-87, DIN 38412-16, ISO 10260 | – | 10, 20, 50 | – | 1, 2, 13 |
| | Chlorophyll-a, -b, -c | – | – | – | Chl-a Chl-b Chl-c | – | – | Trichromatic Method | Application on Prove, analogous APHA 10200 H, ASTM D3731-87 | – | 10, 50 | – | 1, 2, 13 |
| | Chromate Test ^{C)} for the determination of chromium (VI) | 0.010–3.00 0.02–6.69 | 0.010–3.00 • 0.02–6.69 | 10–1,400 µ/L 22–3,123 µ/L | Cr CrO ₄ | 250 | 1.14758.0001 | Diphenylcarbazide | analogous APHA 3500-Cr B, DIN 38405-24 | 5.0 | 10, 20, 50 | ±0.012 | 2, 5, 6, 8, 9, 10, 11, 13, 14, 15, 16, 18 |

Areas of application:

- | | | | |
|----------------------------|----------------------------------|--------------------------------------|-------------------|
| 1 Agriculture | 5 Boiler water, cooling water | 10 Electroplating surface refinement | 15 Mineral water |
| 2 Aquaculture | 6 Construction-material industry | 11 Environment | 16 Seawater |
| 3 Beverages | 7 Disinfection control | 12 Food testing | 17 Swimming pools |
| 4 Biotechnology, fermenter | 8 Disposal drainage water | 13 Groundwater, surface water | 18 Wastewater |
| | 9 Drinking water | 14 Milk dairy products | |

Spectroquant® Test Kits (C)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|----------------------|--|---|------------------------|------------------------|------------------------|--------------|--------------|--|--|---------------------|----------------------------|-----------------|------------------------------------|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| USEPA equivalent | Chromate Cell Test for the determination of chromium (VI) and chromium (total) ^{B.1)} | 0.05–2.00 0.11–4.46 | 0.05–2.00 0.11–4.46 | 0.05–2.00 0.11–4.46 | Cr CrO ₄ | 25 | 1.14552.0001 | Diphenylcarbazide | analogous APHA 3500-Cr B, DIN 38405-24 | 5.0 (+10) | – | ±0.04 | 2, 5, 6, 8, 10, 11, 13, 14, 16, 18 |
| | Chromium in electroplating baths (inherent color) | 4.0–400 g/L | 4.0–400 g/L | – | CrO ₃ | – | – | – | Application, see more information in Prove and NOVA manual | 5.0 + 4.0 | 10, 20, 50 | – | 10 |
| | Cobalt Cell Test | 0.05 - 2.00 | 0.05 - 2.00 | 0.05 - 2.00 | Co | 25 | 1.17244.0001 | Nitroso-R salt | – | 0.5 + 5.0 | – | ±0.05 | 2, 8, 9, 11, 13, 15, 16, 18 |
| USEPA equivalent | COD Cell Test ^{B.1)} | 4.0–40.0 | 4.0–40.0 | – | COD | 25 | 1.14560.0001 | Oxidation with chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 3.0 | – | ±1.5 | 2, 5, 6, 9, 11, 13, 15, 18 |
| USEPA equivalent | COD Cell Test | 5.0–80.0 | 5.0–80.0 | 5.0–80.0 | COD | 25 | 1.01796.0001 | Oxidation with chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 2.0 | – | ±1.8 | 2, 6, 5, 9, 11, 13, 15, 18 |
| USEPA equivalent | COD Cell Test ^{B.1)} | 10–150 | 10–150 | 10–150 | COD | 25 | 1.14540.0001 | Oxidation with chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 3.0 | – | ±7 | 2, 5, 6, 11, 13, 18 |
| USEPA equivalent | COD Cell Test ^{B.1)} | 15–300 | 15–300 | 15–300 | COD | 25 | 1.14895.0001 | Oxidation with chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 2.0 | – | ±8 | 2, 5, 6, 11, 13, 18 |
| USEPA equivalent | COD Cell Test ^{B.1)} | 50–500 | 50–500 | 50–500 | COD | 25 | 1.14690.0001 | Oxidation with chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 2.0 | – | ±13 | 2, 8, 10, 11, 18 |
| USEPA equivalent | COD Cell Test ^{B.1)} | 25–1,500 | 25–1,500 | 25–1,500 | COD | 25 | 1.14541.0001 | Oxidation with chromosulfuric acid, determination as chromium(III) | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 3.0 | – | ±29 | 2, 8, 10, 11, 18 |
| USEPA equivalent | COD Cell Test ^{B.1)} | 300–3,500 | 300–3,500 | 300–3,500 | COD | 25 | 1.14691.0001 | Oxidation with chromosulfuric acid, determination as chromium(III) | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 2.0 | – | ±63 | 8, 10, 11, 18 |
| USEPA equivalent | COD Cell Test ^{B.1)} | 500–10,000 | 500–10,000 | 500–10,000 | COD | 25 | 1.14555.0001 | Oxidation with chromosulfuric acid, determination as chromium(III) | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 1.0 | – | ±143 | 1, 3, 8, 10, 11, 12, 14, 18 |
| USEPA equivalent | COD Cell Test | 5,000–90,000 | 5,000–90,000 | 5,000–90,000 | COD | 25 | 1.01797.0001 | Oxidation with chromosulfuric acid, determination as chromium(III) | analogous EPA 410.4, APHA 5220 D, ASTM D1252-06B, ISO 15705 | 0.1 | – | ±1,151 | 1, 3, 8, 10, 11, 12, 14, 16, 18 |
| USEPA equivalent | COD Cell Test for seawater / high chloride contents | 5.0–60.0 | 5.0–60.0 | 5.0–60.0 | COD | 25 | 1.17058.0001 | Oxidation with chromosulfuric acid, determination as chromate | chloride depletion method corresponds to DIN 38409-41-2, method corresponds to DIN ISO 15705, analogous EPA 410.4, APHA 5220 D and ASTM D1252-06 B | 20 + 25 + 5.0 | – | ±3.0 | 2, 3, 4, 6, 8, 10, 11, 13, 16, 18 |

Areas of application:

- | | | | |
|----------------------------|----------------------------------|--------------------------------------|-------------------|
| 1 Agriculture | 5 Boiler water, cooling water | 10 Electroplating surface refinement | 15 Mineral water |
| 2 Aquaculture | 6 Construction-material industry | 11 Environment | 16 Seawater |
| 3 Beverages | 7 Disinfection control | 12 Food testing | 17 Swimming pools |
| 4 Biotechnology, fermenter | 8 Disposal drainage water | 13 Groundwater, surface water | 18 Wastewater |
| | 9 Drinking water | 14 Milk dairy products | |

Spectroquant® Test Kits (C)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|----------------------|--|---|-----------|-----------|---------------|------------------|------------------------------|--|--|---------------------|----------------------------|-----------------|-----------------------------------|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| USEPA equivalent | COD Cell Test for seawater / high chloride contents | 50–3,000 | 50–3,000 | 50–3,000 | COD | 25 | 1.17059.0001 | Oxidation with chromosulfuric acid, determination as chromium(III) | chloride depletion method corresponds to DIN 38409-41-2, method corresponds to DIN ISO 15705, analogous EPA 410.4, APHA 5220 D and ASTM D1252-06 B | 20 + 25 + 3.0 | – | ±44 | 2, 3, 4, 6, 8, 10, 11, 13, 16, 18 |
| | COD Cell Test for seawater / chloride: Absorption tube | – | – | – | – | 1 piece | 1.15955.0001 | – | additionally required for COD Cell Test for seawater / high chloride contents | – | – | – | |
| | COD Cell Test for seawater / chloride: Sodalime | – | – | – | – | 500 g 2,500 g | 1.06733.0501 1.06733.2500 | – | additionally required for COD Cell Test for seawater / high chloride contents | – | – | – | |
| | COD Cell Test for seawater / chloride: Sulfuric Acid for COD determ. | – | – | – | – | 1 L | 1.17048.1000 | – | additionally required for COD Cell Test for seawater / high chloride contents | – | – | – | |
| | COD Cell Test (Hg free) | 10–150 | 10–150 | 10–150 | COD | 25 | 1.09772.0001 | Oxidation with chromosulfuric acid, determination as chromate | – | 2.0 | – | ±8 | 9, 11, 13, 18 |
| | COD Cell Test (Hg free) | 100–1,500 | 100–1,500 | 100–1,500 | COD | 25 | 1.09773.0001 | Oxidation with chromosulfuric acid, determination as chromium(III) | – | 2.0 | – | ±32 | 11, 18 |
| | Color, ADMI | 2.0–500 | – | – | – | – | – | Inherent color | physical measurement, analogous to APHA 2120 F | – | 10, 50 | – | |

- Only with NOVA 60/ Nova 60A

Areas of application:

- | | | | |
|----------------------------|----------------------------------|--------------------------------------|-------------------|
| 1 Agriculture | 5 Boiler water, cooling water | 10 Electroplating surface refinement | 15 Mineral water |
| 2 Aquaculture | 6 Construction-material industry | 11 Environment | 16 Seawater |
| 3 Beverages | 7 Disinfection control | 12 Food testing | 17 Swimming pools |
| 4 Biotechnology, fermenter | 8 Disposal drainage water | 13 Groundwater, surface water | 18 Wastewater |
| | 9 Drinking water | 14 Milk dairy products | |

Measure COD in wastewater

The Application

Chemical oxygen demand (COD) is a sum parameter in wastewater analysis, measuring overall organic pollutant content. As such, it is a key parameter that is measured at many points of wastewater treatment.

Our Solution: Spectroquant® COD test kits

Spectroquant® COD test kits are ready-to-use and are available in many concentration ranges. Whether your sample concentration is just 4 mg/L, or as much as 90,000 mg/L, there is a kit that can determine it. Specialty kits designed to function with high chloride samples such as seawater as well as Hg-free kits are available.

Benefits

- Simple procedures with ready-to-use reagents and cells
- High sensitivity for measurements as low as 4 mg/L
- Environmentally friendly Hg-free kits available



Spectroquant® Test Kits (C-H)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|----------------------|---|---|----------------------------------|----------------------|-------------------------------|--------------|--|---|--|---------------------|----------------------------|-----------------|--------------------------------------|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| C | Color, Hazen | 0.2–500 | 0.2–500 • | – | Pt, Pt/Co, Hazen, CU | – | – | Inherent color | physical measurement at 340 nm | – | 10, 20, 50 | – | 5, 9, 10, 11, 12, 13, 15, 18 |
| | Color, Hazen | 0–1,000 (at 445, 455, 465 nm) | 0–1,000 • (at 445 nm) | 25–1,000 (at 430 nm) | Pt, Pt/Co, Hazen, CU | – | – | Inherent color | physical measurement, corresponds to APHA 2120 B, DIN EN ISO 6271-2 | – | 50 | – | 5, 9, 10, 11, 12, 13, 15, 18 |
| | Color, Spectral Absorption Coefficient | 0.1–250 m-1 | 0.1–50.0 m-1 • | – | – | – | – | Inherent color | physical measurement according EN ISO 7887, at 445, 525 and 620 nm with NOVA 60, at 436, 525 and 620 nm with Prove 100/300/600 | – | 10, 20, 50 | – | |
| | Color, true color | 2–2,500 | – | – | Pt, Pt/Co, CU | – | – | Inherent color | physical measurement according EN ISO 7887, at 410 nm | – | 10, 20, 50 | – | |
| | Copper Test ^{C)} | 0.02–6.00 | 0.02–6.00 • | 0.10–6.00 | Cu | 250 | 1.14767.0001 | Cuprizone | – | 5.0 | 10, 20, 50 | ±0.034 | 1, 2, 5, 6, 8, 9, 10, 11, 13, 16, 18 |
| | Copper Cell Test ^{C)} | 0.05–8.00 | 0.05–8.00 | 0.05–8.00 | Cu | 25 | 1.14553.0001 | Cuprizone | – | 5.0 | – | ±0.13 | 1, 2, 5, 6, 8, 9, 10, 11, 13, 16, 18 |
| | Copper in electroplating baths (inherent color) | 2.0–80.0 g/L | 2.0–80.0 g/L | – | Cu | – | – | – | Application, see more information in Prove and NOVA manual | 25 + 5.0 | 10, 20, 50 | | 10 |
| | Cyanide Test (free and readily liberated cyanide) | 0.0020–0.500 | 0.0020–0.500 • | 5–200 µg/L | CN | 100 | 1.09701.0001 | Barbituric acid, pyridine-carboxylic acid | analogous EPA 335.2, APHA 4500-CN- E, ASTM D2036-09D, ISO 6703, DIN 38405-13 | 5.0 + 10 | 10, 20, 50 | ±0.0025 | 8, 9, 10, 11, 13, 15, 18 |
| | USEPA equivalent Cyanide Cell Test (free and readily liberated cyanide) ^{B.1)} | 0.010–0.500 | 0.010–0.500 | 10–350 µg/L | CN | 25 | 1.14561.0001 | Barbituric acid, pyridine-carboxylic acid | analogous EPA 335.2, APHA 4500-CN- E, ASTM D2036-09D, ISO 6703, DIN 38405-13 | 5.0 + 10 | – | ±0.013 | 8, 9, 10, 11, 13, 15, 18 |
| | Cyanuric Acid Test | 2–160 | 2–160 • | 2–160 | Cyanuric acid | 100 | 1.19253.0001 | Turbidity | – | 5.0 | 20 | ±5 | 7, 11, 17 |
| D | DEHA (Diethylhydroxylamine) | | | | | | | | see Oxygen Scavengers Test | | | | |
| | Detergents | | | | | | | | see Surfactants | | | | |
| F | Fluoride Cell Test | 0.025 - 0.500 0.10 - 1.80 | 0.025 - 0.500 • 0.10 - 1.80 • | 0.10–1.80 | F | 25 | 1.00809.0001 | Alizarin complexone | analogous EPA 340.3, APHA 4500-F- E for determinations in the low measuring range see manual NOVA / Prove | 10 5.0 | 50 – | ±0.024 ±0.06 | 9, 10, 11, 13, 15, 18 |
| | Fluoride Test | 0.02–2.00 | 0.02–2.00 • | 0.08–2.00 | F | 250 | 1.00822.0250 | SPADNS method | analogous to APHA 4500-F- D | 5.0 + 1.0 | 50 | ±0.04 | 8, 9, 10, 11, 13, 15, 16, 18 |
| | Fluoride Test | 0.10–20.0 | 0.10–20.0 • | 0.10–2.00 | F | 100 250 | 1.14598.0001 1.14598.0002 | Alizarin complexone | analogous EPA 340.3, APHA 4500-F- E | 0.5 + 2.0 + 5.0 | 10 | ±0.12 | 9, 10, 11, 13, 15, 16, 18 |
| | Formaldehyde Test | 0.02–8.00 | 0.02–8.00 • | – | HCHO | 100 | 1.14678.0001 | Chromotropic acid | – | 3.0 + 4.5 | 10, 20, 50 | ±0.03 | 7, 9, 10, 11, 15, 18 |
| | Formaldehyde Cell Test | 0.10–8.00 | 0.10–8.00 | – | HCHO | 25 | 1.14500.0001 | Chromotropic acid | – | 2.0 | – | ±0.18 | 7, 9, 10, 11, 15, 18 |
| G | Gold Test | 0.5–12.0 | 0.5–12.0 | – | Au | 75 | 1.14821.0002 | Rhodamine B | – | 2.0 + 6.0 | 10 | ±0.4 | 10, 13, 16 |
| | Hardness | | | | | | | | see Total Hardness or Residual Hardness | | | | |
| H | Hazen Color Number (Pt/Co / APHA / Hazen) | | | | | | | | see Color, Hazen | | | | |
| | Hydrazine Test | 0.005–2.00 | 0.005–2.00 • | 10–1,200 µ/L | N ₂ H ₄ | 100 | 1.09711.0001 | 4-(Dimethylamino)-benzaldehyde | analogous DIN 38413-1 | 2.0 + 5.0 | 10, 20, 50 | ±0.007 | 5 |

Areas of application:

- | | | | | | | | | | | | | | | | | | |
|---------------|---------------|-------------|----------------------------|-------------------------------|----------------------------------|------------------------|---------------------------|------------------|--------------------------------------|----------------|-----------------|-------------------------------|------------------------|------------------|-------------|-------------------|---------------|
| 1 Agriculture | 2 Aquaculture | 3 Beverages | 4 Biotechnology, fermenter | 5 Boiler water, cooling water | 6 Construction-material industry | 7 Disinfection control | 8 Disposal drainage water | 9 Drinking water | 10 Electroplating surface refinement | 11 Environment | 12 Food testing | 13 Groundwater, surface water | 14 Milk dairy products | 15 Mineral water | 16 Seawater | 17 Swimming pools | 18 Wastewater |
|---------------|---------------|-------------|----------------------------|-------------------------------|----------------------------------|------------------------|---------------------------|------------------|--------------------------------------|----------------|-----------------|-------------------------------|------------------------|------------------|-------------|-------------------|---------------|

Spectroquant® Test Kits (H-M)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application | |
|----------------------|---------------------------------------|--|---|-------------------------------------|--|--------------|------------------------------|----------------------|---|-----------------------------|----------------------------|-----------------|--|--------|
| | | Prove | NOVA | Move 100 | | | | | | | | | | |
| H | Hydrogen Peroxide Test | 0.015–6.00 | 0.015–6.00 • | 0.02–5.50 | H ₂ O ₂ | 100 | 1.18789.0001 | Neocuproin | – | 8.0 + 0.5 | 10, 20 | ±0.033 | 3, 7, 9, 11, 12, 13, 14, 15 | |
| | Hydrogen Peroxide Cell Test | 2.0–20.0 0.25–5.00 | 2.0–20.0 • 0.25–5.00 • | – | H ₂ O ₂ H ₂ O ₂ | 25 | 1.14731.0001 | Titanyl sulfate | analogous DIN 38409-15 for determinations in the low measuring range see manual of instrument | 10 10 | – 50 | ±0.9 | 3, 7, 9, 11, 12, 13, 14, 15, 18 | |
| | Hydrogen sulfide | | | | | | | | see Sulfide | | | | | |
| | Hydroquinone | | | | | | | | see Oxygen Scavengers Test | | | | | |
| I | Iodine color number | 0.010–50.0 | 0.010–50.0 • | – | IFZ | – | | Inherent color | corresponds to DIN 6162 A | – | 10, 20, 50 | – | 3, 11, 12 | |
| | Iron Test [□] | 0.0005– 0.0100 [▷] 0.0025–5.00 [▷] 0.005–5.00 | 0.005–5.00 • | 0.01–2.00 | Fe | 250 1,000 | 1.14761.0002 1.14761.0001 | Triazine | – | 5.0 | 100 100 10, 20, 50 | ±0.014 | 1, 2, 5, 6, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18 | |
| | Iron Test [□] | 0.010–5.00 | 0.010–5.00 • | 0.10–5.00 | Fe | 150 | 1.00796.0001 | 1,10-Phenanthroline | differentiation between Fe(II) and Fe(III) possible, analogous APHA 3500-Fe B, DIN 38406-1 | 0.5 + 8.0 | 10, 20, 50 | ±0.024 | 1, 2, 5, 6, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18 | |
| | Iron Cell Test [□] | 0.05–4.00 | 0.05–4.00 | 0.05–4.00 | Fe | 25 | 1.14549.0001 | Triazine | – | 5.0 | – | ±0.06 | 1, 2, 6, 8, 9, 10, 11, 12, 13, 15, 16, 18 | |
| | Iron Cell Test [□] | 1.0–50.0 | 1.0–50.0 | – | Fe | 25 | 1.14896.0001 | 2,2'-Bipyridine | differentiation between Fe(II) and Fe(III) possible | 1.0 | – | ±0.9 | 6, 8, 10, 11, 13, 18 | |
| | Isoascorbic acid (erythorbic acid) | | | | | | | | see Oxygen Scavengers Test | | | | | |
| L | Lead Test [□] | 0.010–5.00 | 0.010–5.00 • | 0.05–5.00 | Pb | 50 | 1.09717.0001 | | – | 0.5 + 8.0 | | ±0.028 | 2, 5, 8, 9, 10, 11, 15, 18 | |
| | Lead Cell Test [□] | 0.10–5.00 | 0.10–5.00 | 0.10–5.00 | Pb | 25 | 1.14833.0001 | PAR | – | 5.0 | – | ±0.08 | 1, 2, 6, 9, 10, 12, 13, 15, 18 | |
| M | Magnesium Cell Test | 5.0–75.0 | 5.0–75.0 | 5.0–75.0 | Mg | 25 | 1.00815.0001 | Phthalein complexone | – | 1.0 | – | ±4.0 | 1, 2, 9, 10, 15, 18 | |
| | Manganese Test | 0.005–2.00 | 0.005–2.00 • | 0.05–1.80 | Mn | 250 | 1.01846.0001 | PAN | – | 8.0 + 2.0 + 0.25 | 10, 20, 50 | ±0.007 | 1, 2, 9, 10, 13, 15 | |
| | Manganese Test | 0.010–10.00 | 0.010–10.00 • | 0.05–6.00 | Mn | 250 500 | 1.14770.0002 1.14770.0001 | Formaldioxime | analogous DIN 38406-2 | 5.0 | 10, 20, 50 | ±0.035 | 1, 2, 9, 10, 13, 15, 18 | |
| | Manganese Cell Test | 0.10–5.00 | 0.10–5.00 | 0.10–5.00 | Mn | 25 | 1.00816.0001 | Formaldioxime | analogous DIN 38406-2 | 7.0 | – | ±0.08 | 1, 2, 10, 13, 18 | |
| | Mercury | 0.025–1.000 | 0.025–1.000 | | Hg | – | – | Michler's thioketone | Application, see more information in Prove and NOVA manual | 2.5 + 5.0 + 1.0 + 1.5 | 50 | – | | 11, 18 |
| | Methylethylketoxime (2-Butanoneoxime) | | | | | | | | see Oxygen Scavengers Test | | | | | |
| | Molybdenum Cell Test | 0.02–1.00 0.03–1.67 0.04–2.15 | 0.02–1.00 • 0.03–1.67 • 0.04–2.15 • | 0.02–1.00 0.03–1.67 0.04–2.15 | Mo MoO ₄ ²⁺ Na ₂ MoO ₄ | 25 | 1.00860.0001 | Bromopyrogallol red | – | 10 | – | ±0.04 | 1, 5, 9, 13, 15, 18 | |

Areas of application:

- | | | | | | | | | | | | | | | | | | |
|---------------|---------------|-------------|----------------------------|-------------------------------|----------------------------------|------------------------|---------------------------|------------------|--------------------------------------|----------------|-----------------|-------------------------------|------------------------|------------------|-------------|-------------------|---------------|
| 1 Agriculture | 2 Aquaculture | 3 Beverages | 4 Biotechnology, fermenter | 5 Boiler water, cooling water | 6 Construction-material industry | 7 Disinfection control | 8 Disposal drainage water | 9 Drinking water | 10 Electroplating surface refinement | 11 Environment | 12 Food testing | 13 Groundwater, surface water | 14 Milk dairy products | 15 Mineral water | 16 Seawater | 17 Swimming pools | 18 Wastewater |
|---------------|---------------|-------------|----------------------------|-------------------------------|----------------------------------|------------------------|---------------------------|------------------|--------------------------------------|----------------|-----------------|-------------------------------|------------------------|------------------|-------------|-------------------|---------------|

Spectroquant® Photometry Test Kits



Nitrogen

From total nitrogen to nitrate, nitrite, and ammonium, Spectroquant® test kits can measure nitrogen in whatever form you need to analyze.

Spectroquant® Test Kits (M–N)

| | USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|-------------------------|-----------------------------------|---|---|---|---------------------------------------|---|------------------------------|------------------------------|---|--|---------------------|----------------------------|---------------------------------------|---|
| | | | Prove | NOVA | Move 100 | | | | | | | | | |
| M | | Monochloramine Test | 0.050–10.00 0.036–7.26 0.010–1.98 | 0.050–10.00 • 0.036–7.26 • 0.010–1.98 • | 0.10–5.00 0.07–3.63 0.02–0.99 | Cl ₂ NH ₂ Cl NH ₂ Cl-N | 150 | 1.01632.0001 | Indophenol blue | – | 0.6 + 10 | 10, 20, 50 | ±0.033 | 7, 9, 17 |
| N | | Nickel Test ^C | 0.02–5.00 | 0.02–5.00 • | 0.05–5.00 | Ni | 250 | 1.14785.0001 | Dimethylglyoxime | – | 5.0 | 10, 20, 50 | ±0.03 | 3, 5, 8, 9, 10, 11, 13, 15, 18 |
| | | Nickel Cell Test ^C | 0.10–6.00 | 0.10–6.00 | 0.10–6.00 | Ni | 25 | 1.14554.0001 | Dimethylglyoxime | – | 5.0 | – | ±0.11 | 3, 5, 8, 10, 11, 18 |
| | | Nickel in electroplating baths (inherent color) | 2.0–120 g/L | 2.0–120 g/L | – | Ni | – | – | – | Application, see more information in Prove and NOVA manual | 5.0 | 10, 20, 50 | – | 10 |
| | | Nitrate (UV) | 0.0–7.0 | – | – | NO ₃ -N | – | – | direct measurement in the UV range | Application on Prove 300, analogous to APHA 4500-NO3- B, quartz cuvette required | 50 + 1.0 | 10 | – | 9, 13 |
| | USEPA equivalent | Nitrate Test ^{B.3) C)} | 0.10–25.0 0.4–110.7 | 0.10–25.0 • 0.4–110.7 • | – | NO ₃ -N NO ₃ | 100 250 | 1.09713.0001 1.09713.0002 | 2,6-Dimethylphenol | analogous DIN 38405-9 | 0.5 + 4.0 | 10, 20, 50 | ±0.11 | 2, 6, 8, 9, 11, 13, 15, 17, 18 |
| | USEPA equivalent | Nitrate Test ^{B.3) C)} | 0.2–20.0 0.89–88.5 | 0.2–20.0 • 0.89–88.5 • | 0.5–15.0 2.2–66.4 | NO ₃ -N NO ₃ | 100 | 1.14773.0001 | Nitrospectral | – | 1.5 + 5.0 | 10, 20 | ±0.31 | 2, 6, 9, 11, 13, 15, 17, 18 |
| | USEPA equivalent | Nitrate Test ^{B.3) C)} | 0.3–30.0 1.3–132.8 | 0.3–30.0 • 1.3–132.8 • | 0.3–30.0 1.3–132.8 | NO ₃ -N NO ₃ | 100 | 1.01842.0001 | Cadmium Reduction | – | 10 | 50 | ±1.2 | 1, 2, 6, 8, 9, 10, 11, 13, 15, 17, 18 |
| | USEPA equivalent | Nitrate Cell Test ^{B.3) C)} | 0.5–18.0 2.2–79.7 | 0.5–18.0 • 2.2–79.7 • | 0.5–15.0 2.2–66.4 | NO ₃ -N NO ₃ | 25 | 1.14542.0001 | Nitrospectral | – | 1.5 | – | ±0.5 | 1, 2, 6, 8, 9, 11, 13, 15, 17, 18 |
| | USEPA equivalent | Nitrate Cell Test ^{B.3) C)} | 0.5–25.0 2.2–110.7 | 0.5–25.0 • 2.2–110.7 • | – | NO ₃ -N NO ₃ | 25 | 1.14563.0001 | 2,6-Dimethylphenol | analogous DIN 38405-9 | 1.0 | – | ±0.5 | 1, 2, 6, 9, 11, 13, 15, 17, 18 |
| | USEPA equivalent | Nitrate Cell Test ^{B.3) C)} | 1.0–50.0 4–221 | 1.0–50.0 • 4–221 • | – | NO ₃ -N NO ₃ | 25 | 1.14764.0001 | 2,6-Dimethylphenol | analogous DIN 38405-9 | 0.5 + 1.0 | – | ±1.0 | 1, 2, 8, 9, 11, 13, 15, 18 |
| | USEPA equivalent | Nitrate Cell Test ^{B.3) C)} | 23–225 102–996 | 23–225 • 102–996 • | – | NO ₃ -N NO ₃ | 25 | 1.00614.0001 | 2,6-Dimethylphenol | analogous DIN 38405-9 | 0.1 + 1.0 | – | ±5.0 | 1, 8, 11, 13, 18 |
| | USEPA equivalent | Nitrate Cell Test in seawater | 0.10–3.00 0.4–13.3 | 0.10–3.00 • 0.4–13.3 • | 0.10–3.00 0.4–13.3 | NO ₃ -N NO ₃ | 25 | 1.14556.0001 | Resorcinol | – | 2.0 | – | ±0.09 | 1, 2, 8, 9, 11, 13, 15, 16, 18 |
| | USEPA equivalent | Nitrate Test in seawater | 0.2–17.0 0.9–75.3 | 0.2–17.0 • 0.9–75.3 • | – | NO ₃ -N NO ₃ | 50 | 1.14942.0001 | Resorcinol | – | 1.0 + 1.5 + 5.0 | 10 | ±0.4 | 1, 2, 8, 9, 11, 13, 15, 16, 18 |
| USEPA equivalent | Nitrite Test ^{B.3)} | 0.002–1.00 0.007–3.28 | 0.002–1.00 • 0.007–3.28 • | 5–400 µg/L 16–1,313 µg/L | NO ₂ -N NO ₂ | 335 1,000 | 1.14776.0002 1.14776.0001 | Griess' reaction | analogous EPA 354.1, APHA 4500-NO2- B, DIN EN 26777 | 5.0 | 10, 20, 50 | ±0.005 | 2, 5, 8, 9, 10, 11, 13, 15, 16, 18 | |
| USEPA equivalent | Nitrite Cell Test ^{B.3)} | 0.010–0.700 0.03–2.30 | 0.010–0.700 • 0.03–2.30 • | 10–700 µg/L 33–2,299 µg/L | NO ₂ -N NO ₂ | 25 | 1.14547.0001 | Griess' reaction | analogous EPA 354.1, APHA 4500-NO2- B, DIN EN 26777 | 5.0 | – | ±0.010 | 2, 5, 8, 9, 10, 11, 13, 15, 16, 18 | |

B.3 This method is officially recognized by the USEPA as an alternative method for the investigation of drinking water and wastewater
 C For determination of total content of this parameter, use one of the Crack Sets before the photometric procedure, see page 55
 • Only with NOVA 60/ Nova 60A

Areas of application:

- | | | | |
|----------------------------|----------------------------------|--------------------------------------|-------------------|
| 1 Agriculture | 6 Construction-material industry | 11 Environment | 16 Seawater |
| 2 Aquaculture | 7 Disinfection control | 12 Food testing | 17 Swimming pools |
| 3 Beverages | 8 Disposal drainage water | 13 Groundwater, surface water | 18 Wastewater |
| 4 Biotechnology, fermenter | 9 Drinking water | 14 Milk dairy products | |
| | | 10 Electroplating surface refinement | |

Spectroquant® Photometry Test Kits



pick your phosphate
Choose the citation form (e.g., PO₄³⁻, PO₄-P, P₂O₅)

Spectroquant® Test Kits (N-P)

| | USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|----------|-------------------------|--|---|---|---|--|--------------|------------------------------|--|---|----------------------|----------------------------|------------------|--------------------------------|
| | | | Prove | NOVA | Move 100 | | | | | | | | | |
| N | USEPA equivalent | Nitrite Cell Test ^{B.3)} | 1.0–90.0 3.0–295.2 | 1.0–90.0 3.0–295.2 | 1.0–90.0 3.0–295.2 | NO ₂ -N NO ₂ | 25 | 1.00609.0001 | Iron sulfate | – | 8.0 | – | ±2.6 | 5, 10, 13, 16, 18 |
| | | Nitrogen (total) Cell Test | 0.5–15.0 | 0.5–15.0 | – | N | 25 | 1.00613.0001 | Koroleff digestion, 2,6-dimethylphenol | digestion analogous DIN EN ISO 11905-1, determination analogous DIN 38405-9 | 1.0 + 10 | – | ±0.5 | 1, 2, 5, 8, 11, 13, 14, 18 |
| | | Nitrogen (total) Cell Test | 0.5–15.0 | 0.5–15.0 | 0.5–15.0 | N | 25 | 1.14537.0001 | Koroleff digestion, nitrospectral | digestion analogous to DIN EN ISO 11905-1 | 1.5 + 10 | – | ±0.6 | 1, 2, 5, 8, 11, 13, 14, 18 |
| | | Nitrogen (total) Cell Test | 10–150 | 10–150 | – | N | 25 | 1.14763.0001 | Koroleff digestion, 2,6-dimethylphenol | digestion analogous DIN EN ISO 11905-1, determination analogous DIN 38405-9 | 1.0 + 9.0 | – | ±5.0 | 1, 8, 11, 14, 18 |
| O | | Organic Carbon, Total | | | | | | | see TOC | | | | | |
| | | Oxygen Cell Test | 0.5–12.0 | 0.5–12.0 | 0.5–12.0 | O ₂ | 25 | 1.14694.0001 | mod. Winkler method | analogous DIN EN 25813-21 | – | – | ±0.3 | 2, 5, 11, 13, 17 |
| | | Oxygen Demand, Biological | | | | | | | | see BOD | | | | |
| | | Oxygen Demand, Chemical | | | | | | | | see COD | | | | |
| | | Oxygen Scavengers Test | 0.020–0.500 0.027–0.667 0.05–1.32 0.08–1.95 0.09–2.17 | 0.020–0.500 • 0.027–0.667 • 0.05–1.32 • 0.08–1.95 • 0.09–2.17 • | 0.020–0.500 0.027–0.667 0.053–1.315 0.078–1.950 0.087–2.170 | DEHA Carbohy Hydro ISA MEKO | 200 | 1.19251.0001 | Iron reduction | – | 0.2 + 10 | 20 | ±0.022 | 5 |
| P | | Ozone Test | 0.010–4.00 | 0.010–4.00 • | 0.02–4.00 | O ₃ | 200 1,200 | 1.00607.0001 1.00607.0002 | DPD | analogous DIN 38408-3 | 10 | 10, 20, 50 | ±0.023 | 7, 9, 15, 17 |
| | | Palladium | 0.05–1.25 | 0.05–1.25 • | – | Pd | – | – | Michlers' thioketone | Application, see more information in Prove and NOVA manual | 5.0 + 1.0 + 0.20 | 10 | – | 10, 18 |
| | | Peroxide | | | | | | | | see Hydrogen Peroxide | | | | |
| | | pH Cell Test ^{A.1)} | pH 6.4–8.8 | pH 6.4–8.8 | pH 6.4–8.8 | pH | 280 | 1.01744.0001 | Indicator | – | 10 | – | ±0.1 pH | 2, 5, 7, 9, 13, 15, 16, 17 |
| | | Phaeophytin-a and Chlorophyll-a | | | | | | | | see Chlorophyll-a and Phaeophytin-a | | | | 1, 2, 13 |
| | | Phenol Test | 0.002–0.100 0.025–5.00 | 0.002–0.100 • 0.025–5.00 • | 0.10–5.00 | Phenol | 50 – 250 | 1.00856.0001 | 4-Aminoantipyrine | analogous EPA 420.1, ASTM D1783-01, APHA 5530 C + D, ISO 6439 | 5.0 + 10 1.0 + 10 | 20 10, 20, 50 | ±0.004 ±0.027 | 8, 9, 11, 13, 16, 18 |
| | | Phenol Cell Test | 0.10–2.50 | 0.10–2.50 • | 0.10–2.50 | Phenol | 25 | 1.14551.0001 | MBTH | – | 10 | – | ±0.11 | 8, 11, 13, 16, 18 |
| | | USEPA equivalent Phosphate Test ^{C)} (ortho-phosphate) | 0.0025–5.00 0.0077–15.30 0.0057–11.46 0.0005 - 0.0250 ^{D)} 0.0015 - 0.0767 ^{D)} 0.0007 - 0.0335 ^{D)} | 0.010–5.00 • 0.03–15.3 • 0.02–11.46 • | 0.01–2.50 0.03–7.66 0.02–5.73 | PO ₄ -P PO ₄ P ₂ O ₅ PO ₄ -P PO ₄ P ₂ O ₅ | 220 420 | 1.14848.0002 1.14848.0001 | Phosphomolybdenum blue | analogous EPA 365.2+3, APHA 4500-P E, DIN EN ISO 6878 | 5.0 | 10, 20, 50 100 | ±0.015 | 1, 2, 5, 9, 11, 13, 15, 16, 18 |
| | | USEPA equivalent Phosphate Test ^{C)} (ortho-phosphate) | 0.05–5.00 0.2–15.3 0.11–11.46 | 0.05–5.00 0.2–15.3 0.11–11.46 | 0.05–4.00 0.15–12.26 0.11–9.17 | PO ₄ -P PO ₄ P ₂ O ₅ | 25 | 1.00474.0001 | Phosphomolybdenum blue | analogous EPA 365.2+3, APHA 4500-P E, DIN EN ISO 6878 | 5.0 | – | ±0.08 | 1, 2, 5, 9, 11, 13, 15, 16, 18 |
| | | USEPA equivalent Phosphate Cell Test (ortho-phosphate and total phosphorus) ^{B.3)} | 0.05–5.00 0.2–15.3 0.11–11.46 | 0.05–5.00 0.2–15.3 0.11–11.46 | 0.05–4.00 0.15–12.26 0.11–9.17 | PO ₄ -P PO ₄ P ₂ O ₅ | 25 | 1.14543.0001 | Phosphomolybdenum blue | analogous EPA 365.2+3, APHA 4500-P E, DIN EN ISO 6878 | 5.0 | – | ±0.06 | 1, 2, 5, 9, 11, 13, 15, 16, 18 |

A.1 The cell test contains three 16 mm cells with a bar-code label. After measurement, the cells can be emptied and cleaned for subsequent measurements
B.3 This method is officially recognized by the USEPA as an alternative method for the investigation of drinking water and wastewater
C For determination of total content of this parameter, use one of the Crack Sets before the photometric procedure, see page 55
D With Prove 600
• Only with NOVA 60/ Nova 60A

Areas of application:

- | | | | |
|----------------------------|----------------------------------|-------------------------------|-------------------|
| 1 Agriculture | 6 Construction-material industry | 11 Environment | 15 Mineral water |
| 2 Aquaculture | 7 Disinfection control | 12 Food testing | 16 Seawater |
| 3 Beverages | 8 Disposal drainage water | 13 Groundwater, surface water | 17 Swimming pools |
| 4 Biotechnology, fermenter | 9 Drinking water | 14 Milk dairy products | 18 Wastewater |

Spectroquant® Photometry Test Kits



ultra-sensitive!

Measure ultra-low range of Silicate, Iron or Phosphate with Spectroquant® Prove 600 and a 100-mm cell.

Spectroquant® Test Kits (P-S)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|------------------------------|--|--|---|---|--|--------------|------------------------------|--|--|---------------------|----------------------------|-----------------|----------------------------|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| P USEPA equivalent | Phosphate Cell Test (ortho-phosphate and total phosphorus) ^{B.3)} | 0.5–25.0 1.5–76.7 1.1–57.3 | 0.5–25.0 1.5–76.7 1.1–57.3 | 0.5–20.0 1.5–61.3 1.1–45.8 | PO ₄ -P PO ₄ P ₂ O ₅ | 25 | 1.14729.0001 | Phosphomolybdenum blue | analogous EPA 365.2+3, APHA 4500-P E, DIN EN ISO 6878 | 1.0 | – | ±0.4 | 1, 2, 4, 8, 11, 13, 16, 18 |
| | Phosphate Cell Test (ortho-phosphate) | 0.5–25.0 1.5–76.7 1.1–57.3 | 0.5–25.0 1.5–76.7 1.1–57.3 | 0.5–25.0 1.5–76.7 1.1–57.3 | PO ₄ -P PO ₄ P ₂ O ₅ | 25 | 1.14546.0001 | Vanadatomolybdate | analogous APHA 4500-P C | 5.0 | – | ±0.4 | 5, 16 |
| | Phosphate Test (ortho-phosphate) | 0.5–30.0 1.5–92.0 1.1–68.7 | 0.5–30.0 • 1.5–92.0 • 1.1–68.7 • | 0.5–30.0 1.5–92.0 1.1–68.7 | PO ₄ -P PO ₄ P ₂ O ₅ | 400 | 1.14842.0001 | Vanadatomolybdate | analogous APHA 4500-P C | 1.2 + 5.0 | 10, 20 | ±0.2 | 5, 16 |
| | Phosphate Test (ortho-phosphate) | 1.0–100.0 3–307 2–229 | 1.0–100.0 • 3–307 • 2–229 • | 1.0–60.0 3.1–184 2.3–137.5 | PO ₄ -P PO ₄ P ₂ O ₅ | 100 | 1.00798.0001 | Phosphomolybdenum blue | analogous EPA 365.2+3, APHA 4500-P E, DIN EN ISO 6878 | 0.5 + 8.0 | 10 | ±1.4 | 1, 2, 4, 8, 11, 12, 13, 18 |
| | Phosphate Cell Test (ortho-phosphate) | 3.0–100.0 9–307 7–229 | 3.0–100.0 9–307 7–229 | 3.0–100.0 9–307 7–229 | PO ₄ -P PO ₄ P ₂ O ₅ | 25 | 1.00616.0001 | Phosphomolybdenum blue | analogous EPA 365.2+3, APHA 4500-P E, DIN EN ISO 6878 | 0.2 | – | ±1.2 | 1, 4, 8, 11, 13, 16, 18 |
| | Phosphate Cell Test (ortho-phosphate and total phosphorus) | 3.0–100.0 9–307 7–229 | 3.0–100.0 9–307 7–229 | 3.0–100.0 9–307 7–229 | PO ₄ -P PO ₄ P ₂ O ₅ | 25 | 1.00673.0001 | Phosphomolybdenum blue | analogous EPA 365.2+3, APHA 4500-P E, DIN EN ISO 6878 | 0.2 | – | ±1.4 | 1, 4, 8, 11, 13, 16, 18 |
| | Platinum | 0.10–1.25 | 0.10–1.25 • | – | Pt | – | – | – | Application, see more information in Prove and NOVA manual | 5.0 + 1.0 + 0.50 | 10 | – | 10, 18 |
| | Potassium Cell Test | 5.0–50.0 | 5.0–50.0 | 5.0–50.0 | K | 25 | 1.14562.0001 | Kalignost®, turbidimetric | – | 2.0 | – | ±2.2 | 9, 12, 13, 15, 16 |
| | Potassium Cell Test | 30–300 | 30–300 | 30–300 | K | 25 | 1.00615.0001 | Kalignost®, turbidimetric | – | 0.5 | – | ±1.3 | 1, 16 |
| | Protein Test | 0.01–1.4 g/L | 0.01–1.4 g/L | – | Protein | 200 | 1.10306.0500 | Bradford Method | Method not programmed in the photometers | – | 10 | – | – |
| Protein Test | 0.5–10 g/L | 0.5–10 g/L | – | Protein | 250 | 1.10307.0500 | Biuret Method | Method not programmed in the photometers | – | 10 | – | – | – |
| R | Residual Hardness Cell Test | 0.50–5.00 0.070–0.700 0.087–0.874 0.12–1.25 0.70–7.00 1.2–12.5 | 0.50–5.00 0.070–0.700 0.087–0.874 0.12–1.25 0.70–7.00 1.2–12.5 | 0.50–5.00 0.070–0.700 0.087–0.874 0.12–1.25 0.70–7.00 1.2–12.5 | Ca °d °e °f CaO CaCO ₃ | 25 | 1.14683.0001 | Phthalein complexone | – | 0.2 + 4.0 | – | ±0.14 | 2, 5, 9 |
| S | SAC (Spectral absorption coefficient) | 0.5–250 m ⁻¹ | – | – | – | – | – | – | physical measurement according DIN 38404, at 436 nm (Prove 100) and 254 + 436 nm (Prove 300) | – | 10, 20, 50 | – | 9, 15 |
| | Silicate (Silicic Acid) Test | 0.00025–0.50000 0.00012–0.23370 0.00025–0.02500 ^{D)} 0.00012–0.01168 ^{D)} | 0.0005–0.5000 • 0.0002–0.2337 • | 0.004–0.500 0.002–0.234 | SiO ₂ Si SiO ₂ Si | 100 900 | 1.01813.0001 1.01813.0002 | Silicomolybdenum blue | analogous APHA 4500-SiO ₂ D+E, ASTM D859-10, DIN 38405-21 | 10 + 0.5 | 50 100 | ±0.00449 | 5, 9, 13, 15 |
| | Silicate (Silicic Acid) Test | 0.011–10.70 0.005–5.00 | 0.011–10.70 • 0.005–5.00 • | 0.11–8.56 0.05–4.00 | SiO ₂ Si | 300 | 1.14794.0001 | Silicomolybdenum blue | analogous APHA 4500-SiO ₂ D+E, ASTM D859-10, DIN 38405-21 | 5.0 + 0.5 | 10, 20, 50 | ±0.024 | 5, 6, 9, 13, 16 |

B.3 This method is officially recognized by the USEPA as an alternative method for the investigation of drinking water and wastewater

D With Prove 600

• Only with NOVA 60/ Nova 60A

Areas of application:

- | | | | |
|----------------------------|----------------------------------|--------------------------------------|-------------------|
| 1 Agriculture | 6 Construction-material industry | 10 Electroplating surface refinement | 15 Mineral water |
| 2 Aquaculture | 7 Disinfection control | 11 Environment | 16 Seawater |
| 3 Beverages | 8 Disposal drainage water | 12 Food testing | 17 Swimming pools |
| 4 Biotechnology, fermenter | 9 Drinking water | 13 Groundwater, surface water | 18 Wastewater |

Spectroquant® Photometry Test Kits



surfactants testing

Rapidly determine anionic, cationic or nonionic surfactants with Spectroquant® Cell tests

Spectroquant® Test Kits (S-T)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|----------------------------------|--|---|--|-------------------|--|--------------|------------------------------|-------------------------------|--|--------------------------|----------------------------|-----------------|-----------------------------------|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| S | Silicate (Silicic Acid) Test | 1.1–1,070 0.5–500 | 1.1–1,070 • 0.5–500 • | 11–1,070 5–500 | SiO ₂ Si | 100 | 1.00857.0001 | Molybdosilicate | analogous APHA 4500-SiO ₂ C | 0.5 + 2.0 + 4.0 + 5.0 | 10 | ±2.1 | 5, 6, 9, 13, 15 |
| | Sodium Cell Test in nutrient solutions for fertilization | 10–300 | 10–300 | 10–300 | Na | 25 | 1.00885.0001 | Iron(III)-thiocyanate | determination as chloride | 0.5 | – | ±13 | 1 |
| | Spectral Absorption Coefficient, Color | 0.1–250 m-1 | – | – | – | – | – | – | see Color, Spectral Absorption Coefficient | – | – | – | – |
| | Spectral Attenuation Coefficient | 0.5–250 m-1 | – | – | – | – | – | – | physical measurement according DIN 38404, at 254 nm | – | 10, 20, 50 | – | – |
| | Sulfate Test | 0.50–50.0 | 0.50–50.0 • | 1.0–25.0 | SO ₄ | 100 | 1.01812.0001 | Barium sulfate, turbidimetric | analogous EPA 375.4, APHA 4500-SO ₄ 2- E, ASTM D516-11 | 0.5 + 10 | 10, 20, 50 | ±0.90 | 1, 2, 6, 9, 11, 13, 15, 18 |
| | Sulfate Cell Test | 1.0–50.0 | 1.0–50.0 | 1.0–50.0 | SO ₄ | 25 | 1.02532.0001 | Barium sulfate, turbidimetric | analogous EPA 375.4, APHA 4500-SO ₄ 2- E, ASTM D516-11 | 10 | – | ±1.1 | 1, 6, 9, 11, 13, 15, 18 |
| | USEPA equivalent Sulfate Cell Test ^{B.1)} | 5–250 | 5–250 | 5–250 | SO ₄ | 25 | 1.14548.0001 | Barium sulfate, turbidimetric | analogous EPA 375.4, APHA 4500-SO ₄ 2- E, ASTM D516-11 | 5.0 | – | ±8 | 1, 6, 9, 11, 13, 15, 16 |
| | Sulfate Test | 5–300 | 5–300 • | 5–300 | SO ₄ | 100 1,000 | 1.02537.0001 1.02537.0002 | Barium sulfate, turbidimetric | analogous EPA 375.4, APHA 4500-SO ₄ 2- E, ASTM D516-11 | 0.5 + 5 | 10 | ±7 | 1, 6, 9, 11, 13, 15, 16, 18 |
| | Sulfate Cell Test | 50–500 | 50–500 | 50–500 | SO ₄ | 25 | 1.00617.0001 | Barium sulfate, turbidimetric | analogous EPA 375.4, APHA 4500-SO ₄ 2- E, ASTM D516-11 | 2.0 + 5.0 | – | ±16 | 1, 6, 9, 11, 13, 15, 16 |
| | USEPA equivalent Sulfate Cell Test ^{B.1)} | 100–1,000 | 100–1,000 | 100–1,000 | SO ₄ | 25 | 1.14564.0001 | Barium sulfate, turbidimetric | analogous EPA 375.4, APHA 4500-SO ₄ 2- E, ASTM D516-11 | 1.0 + 5.0 | – | ±33 | 1, 4, 6, 8, 9, 11, 13, 15, 16, 18 |
| | Sulfide Test | 0.020–1.50 | 0.020–1.50 • | 0.10–1.50 | S ²⁻ | 220 | 1.14779.0001 | Dimethyl-p-phenylenediamine | analogous EPA 376.2, APHA 4500-S ₂ - D, ISO 10530, DIN 38405-26 | 5.0 | 10, 20, 50 | ±0.017 | 2, 8, 9, 11, 13, 15, 18 |
| | Sulfite Cell Test | 0.8–16.00 1.0–20.00 0.05–3.00 0.04–2.40 | 0.8–16.00 • 1.0–20.00 • 0.05–3.00 • 0.04–2.40 • | 1.0–20.0 | SO ₂ SO ₃ SO ₃ SO ₂ | 25 | 1.14394.0001 | Ellman's reagent | for determinations of the low measuring range see manual NOVA / Prove | 3.0 + 7.0 | – – 50 50 | ±0.4 | 1, 3, 5, 12, 15, 18 |
| | Sulfite Test | 1.0–60.0 0.8–48.0 | 1.0–60.0 • 0.8–48.0 • | 1.0–60.0 | SO ₃ SO ₂ | 150 | 1.01746.0001 | Ellman's reagent | – | 2.0 + 3.0 + 5.0 | 10 | ±1.0 | 3, 5, 12, 13, 15, 18 |
| | Surfactants (anionic) Cell Test | 0.05–2.00 | 0.05–2.00 • | 0.10–2.00 | MBAS | 25 | 1.02552.0001 | Methylene blue | analogous EPA 425.1, APHA 5540 C, ASTM 2330-02, DIN EN 903, ISO 7875-1 | 5.0 | – | ±0.09 | 9, 11, 13, 18 |
| | Surfactants (cationic) Cell Test | 0.05–1.50 | 0.05–1.50 • | – | CTAB | 25 | 1.01764.0001 | Disulfine blue | analogous DIN 38409-20 | 0.5 + 5.0 | – | ±0.06 | 9, 11, 13, 18 |
| Surfactants (nonionic) Cell Test | 0.1–7.50 | 0.1–7.50 | 0.1–7.50 | Triton® X-100 | 25 | 1.01787.0001 | TBPE | – | 4.0 | – | ±0.26 | 9, 11, 13, 18 | |
| Suspended solids | 25–750 | 25–750 | 50–750 | susp. Solids | – | – | – | physical measurement | – | 20 | – | – | |
| T | Tin Cell Test | 0.10 - 2.50 | 0.10 - 2.50 | 0.10 - 2.50 | Sn | 25 | 1.17265.0001 | Pyrocatechol violet | – | 0.5 + 4.0 | – | ±0.04 | 5, 10, 16 18 |
| | TOC Cell Test | 5.0–80.0 | 5.0–80.0 | – | TOC | 25 | 1.14878.0001 | Indicator | Oxidation analogous APHA 5310 D | 3.0 + 25 | – | ±3.6 | 9, 11, 13, 15, 18 |
| | TOC Cell Test | 50–800 | 50–800 | – | TOC | 25 | 1.14879.0001 | Indicator | Oxidation analogous APHA 5310 D | 1.0 + 3.0 + 9.0 | – | ±40 | 8, 11, 13, 18 |

B.1 This method is officially recognized by the USEPA as an alternative method for the investigation of wastewater
• Only with NOVA 60/ Nova 60A

Areas of application:

- | | | | |
|----------------------------|----------------------------------|--------------------------------------|-------------------|
| 1 Agriculture | 6 Construction-material industry | 11 Environment | 16 Seawater |
| 2 Aquaculture | 7 Disinfection control | 12 Food testing | 17 Swimming pools |
| 3 Beverages | 8 Disposal drainage water | 13 Groundwater, surface water | 18 Wastewater |
| 4 Biotechnology, fermenter | 9 Drinking water | 14 Milk dairy products | |
| | | 10 Electroplating surface refinement | |

Spectroquant® Test Kits (T-Z)

| USEPA classification | Parameter | Measuring range of the Spectroquant® instruments [mg/L] | | | Citation form | No. of tests | Cat. No. | Method | Reference to norms and standards / Comments | Pipette volume [mL] | Rectangular cell size [mm] | Accuracy [mg/L] | Areas of application |
|----------------------|--|--|--|--|--|--------------|--------------|-----------------------------------|---|---------------------|----------------------------|-----------------|--------------------------------|
| | | Prove | NOVA | Move 100 | | | | | | | | | |
| T | Screw caps for Spectroquant® TOC digestion | - | - | - | - | 6 | 1.73500.0001 | - | for multiple use, additionally required for TOC measurement | - | - | - | |
| | Total Alkalinity | | | | | | | | see Acid Capacity to pH 4.3 | | | | |
| | Total Hardness Cell Test | 5-215 0.7-30.1 0.9-37.6 1.2-53.7 7-301 12-537 | 5-215 0.7-30.1 0.9-37.6 1.2-53.7 7-301 12-537 | 5-215 0.7-30.1 0.9-37.6 1.2-53.7 7-301 12-537 | Ca °d °e °f CaO CaCO ₃ | 25 | 1.00961.0001 | Phthalein complexone | - | 1.0 | - | ±8 | 2, 9, 13, 15 |
| | Total Nitrogen | | | | | | | | see Nitrogen (total) | | | | |
| | Transmission | 0.0-100.0 % | 0.0-100.0 % | - | T | - | - | - | - | 10, 20, 50 | - | - | |
| | Turbidity | 1-100 | 1-100 • | 1-100 | FAU | - | - | - | analogous to EN ISO 7027 | - | 50 | - | |
| V | Volatile Organic Acid Cell Test | 50-3,000 71-4,401 | 50-3,000 71-4,401 | 50-3,000 71-4,401 | acetic acid butyric acid | 25 | 1.01749.0001 | Hydroxamic acids / iron(III) salt | - | 0.5 + 5.0 | - | ±69 | 4, 8, 11, 18 |
| | Volatile Organic Acid Test ^{A,2)} | 50-3,000 71-4,401 | 50-3,000 71-4,401 | 50-3,000 71-4,401 | acetic acid butyric acid | 100 | 1.01809.0001 | Hydroxamic acids / iron(III) salt | - | 0.75 + 0.5 + 5.0 | - | ±85 | 4, 8, 11, 18 |
| W | Water Hardness | | | | | | | | see Total Hardness or Res. Hardness | | | | |
| Z | Zinc Cell Test ^{C)} | 0.025-1.000 | 0.025-1.000 | 25-1,000 µg/L | Zn | 25 | 1.00861.0001 | PAR | - | 0.5 + 2.0 + 10 | - | ±0.033 | 1, 5, 9, 10, 11, 13, 15, 18 |
| | Zinc Test ^{C)} | 0.05-2.50 | 0.05-2.50 • | - | Zn | 100 | 1.14832.0001 | Cl-PAN | - | 5.0 | 10 | ±0.07 | 5, 6, 8, 9, 10, 11, 15, 18 |
| | Zinc Reagent 6 (Isobutylmethylketone GR) | - | - | - | - | 200 | 1.06146.1000 | - | Extracting agent for Zinc Test 1.14832.0001 | - | - | - | |
| | Zinc Cell Test ^{C)} | 0.20-5.00 | 0.20-5.00 | 0.20-5.00 | Zn | 25 | 1.14566.0001 | PAR | - | 0.5 | - | ±0.18 | 5, 6, 8, 9, 10, 11, 15, 18 |

A.2 The cell test contains four 16 mm cells with a bar-code label. After measurement, the cells can be emptied and cleaned for subsequent measurements
 C For determination of total content of this parameter, use one of the Crack Sets before the photometric procedure, see page 55
 • Only with NOVA 60/ Nova 60A

- Areas of application:**
- | | | | |
|----------------------------|----------------------------------|--------------------------------------|-------------------|
| 1 Agriculture | 5 Boiler water, cooling water | 10 Electroplating surface refinement | 15 Mineral water |
| 2 Aquaculture | 6 Construction-material industry | 11 Environment | 16 Seawater |
| 3 Beverages | 7 Disinfection control | 12 Food testing | 17 Swimming pools |
| 4 Biotechnology, fermenter | 8 Disposal drainage water | 13 Groundwater, surface water | 18 Wastewater |
| | 9 Drinking water | 14 Milk dairy products | |

Total Organic Carbon (TOC)

While COD is the most widely-used parameter to determine organic pollution in wastewater, TOC is sometimes used as an alternative sum parameter. In some cases, regulations may require TOC in addition to COD as a complementary measurement. The Spectroquant® TOC Cell Tests allow streamlined and accurate photometric determination with ready-to-use reagents and cells.



it's flexible

Test kits for other photometer brands

We also offer Spectroquant® test kits for photometers of other manufactures. They work seamlessly with other photometer brands. The tests work with the original programming data installed by the manufacturers according to the instrument's operation manual.

Furthermore, we provide test-specific data for easy programming for each Spectroquant® test kits with any photometer.

programming
data for FREE

Test kits for other photometer brands | Overview A-Z

| | Parameter | Measuring range [mg/L] | No. of tests | Cat. No. | Hach Cat. No. | Method | Reference to norms and standards / Comments | Pipette-volume | Cell size Hach | Areas of application |
|----------|--|---|--------------|---------------------|----------------------------------|---|--|-------------------|----------------|------------------------------|
| C | Chlorine Powder Packs for photometers of other manufacturers for 10-mL-samples (free Chlorine) | 0-2.00 Cl ₂ | 100 | 1.19254.0001 | 21055-69 21055-28 | DPD | analogous EPA 330.5, APHA 4500-Cl G | 10 mL | 1 inch | 2, 7, 9, 11, 13, 16, 17, 18 |
| | USEPA equivalent COD Cell Tests for photometers of other manufacturers* | 0-40.0 COD | 25 | 1.18750.0001 | 24158-25 24158-15 24158-51 | Oxidation with Chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ISO 15705 and ASTM D1252-06B | 2.0 mL | 16 mm | 5, 9, 10, 11, 13, 15, 17, 18 |
| | COD Cell Tests for photometers of other manufacturers* | 0-150.0 COD | 25 | 1.18751.0001 | 21258-25 21258-15 21258-51 | Oxidation with Chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ISO 15705 and ASTM D1252-06B | 2.0 mL | 16 mm | 5, 9, 10, 11, 13, 15, 17, 18 |
| | COD Cell Tests for photometers of other manufacturers* | 0-1,500 COD | 25 | 1.18752.0001 | 21259-25 21259-15 21259-51 | Oxidation with Chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ISO 15705 and ASTM D1252-06B | 2.0 mL | 16 mm | 3, 4, 5, 8, 10, 11, 13, 18 |
| | COD Cell Tests for photometers of other manufacturers* | 0-15,000 COD | 25 | 1.18753.0001 | 24159-25 24159-15 24159-51 | Oxidation with Chromosulfuric acid, determination as chromate | analogous EPA 410.4, APHA 5220 D, ISO 15705 and ASTM D1252-06B | 0.2 mL | 16 mm | 3, 4, 5, 8, 10, 11, 13, 18 |
| O | Oxygen Scavengers Test | 0.020-0.500 DEHA 0.027-0.667 Carbohy 0.053-1.315 Hydro 0.078-1.950 ISA 0.087-2.170 MEKO | 200 | 1.19251.0001 | 24466-00 | Iron Reduction | - | 2.0 mL + 10 mL | 1 inch | 5 |

* Listed COD cell test kits comes pre-filled in 15,4 mm round cells and Hach photometer method numbers for same measuring range can be used (please ensure appropriate AQA).

it's robust

Stable results in challenging samples

Some samples contain compounds other than the target analyte which could impact the measuring results of the test kits. Many of our kits were investigated for their susceptibility to this sort of interference from other substances, and the results of those studies are provided with the test kits.

The following tables help you choose the most suitable Spectroquant® test kits for analyzing seawater and samples with high salt content. Select the test kit with your required parameter to learn about its tolerance limits for neutral salts, and its suitability for analyzing seawater.



One key example of a sample with compounds that may interfere with analysis is seawater with high sodium chloride content. We provide a specific test kit dedicated to measure chemical oxygen demand (COD) in high chloride samples without the need of additional mercury application. After a depletion step to remove chloride, the sample can be used directly for photometric determination, allowing for a theoretically unlimited tolerance to chloride. This method is suitable for testing seawater, municipal wastewater, and industrial wastewater. It is convenient with an easy, fast, and precise workflow.

Two different measuring ranges are available:

COD Cell Test for seawater / high chloride contents 5–60 mg/L COD
Cat. No. 1.17058.0001

COD Cell Test for seawater / high chloride contents 50–3,000 mg/L COD
Cat. No. 1.17059.0001

Tolerance Overview (A–C)

| | USEPA classification | Test Kits | Cat. No. | Seawater | Tolerance limit, NaCl | salts in % NaNO ₃ | Na ₂ SO ₄ |
|---|----------------------|--|--|------------------|-----------------------|------------------------------|---------------------------------|
| A | | Acid Capacity Cell Test | 1.01758.0001 | no | – | – | – |
| | | Aluminium Cell Test | 1.00594.0001 | yes | 20 | 20 | 20 |
| | | Aluminium Test | 1.14825.0001 | yes | 10 | 20 | 20 |
| | USEPA equivalent | Ammonium Cell Test | 1.14739.0001 | no | 5 | 5 | 5 |
| | | Ammonium Cell Test | 1.14558.0001 | yes | 20 | 10 | 15 |
| | USEPA equivalent | Ammonium Cell Test | 1.14544.0001 | yes | 20 | 15 | 20 |
| | USEPA equivalent | Ammonium Cell Test | 1.14559.0001 | yes | 20 | 20 | 20 |
| | USEPA equivalent | Ammonium Test | 1.14752.0001 1.14752.0002 | no ¹⁾ | 10 | 10 | 20 |
| | USEPA equivalent | Ammonium Test | 1.00683.0001 | yes | 20 | 20 | 20 |
| | | AOX Cell Test | 1.00675.0001 | no | 0.4 | 20 | 20 |
| | Arsenic Test | 1.01747.0001 | no | 10 | 10 | 10 | |
| B | | BOD Cell Test | 1.00687.0001 | yes | 20 | 20 | 20 |
| | | Boron Cell Test | 1.00826.0001 | yes | 10 | 20 | 20 |
| | | Boron Test | 1.14839.0001 | no | 20 | 5 | 20 |
| | | Bromine Test | 1.00605.0001 | no | 10 | 10 | 10 |
| C | | Cadmium Cell Test | 1.14834.0001 | no | 1 | 10 | 1 |
| | | Cadmium Test | 1.01745.0001 | no | 1 | 10 | 1 |
| | | Calcium Cell Test | 1.00858.0001 | no | 2 | 2 | 1 |
| | | Calcium Test | 1.14815.0001 | yes | 20 | 20 | 10 |
| | | Calcium Test | 1.00049.0001 | no | – | – | – |
| | | Chloride Test | 1.01807.0001 | no | – | 0.5 | 0.05 |
| | | Chloride Cell Test | 1.01804.0001 | no | – | 0.5 | 0.05 |
| | | Chloride Cell Test | 1.14730.0001 | yes | – | 20 | 1 |
| | | Chloride Test | 1.14897.0001 1.14897.0002 | yes | – | 10 | 0.1 |
| | USEPA equivalent | Chlorine Cell Test | 1.00595.0001 | no | 10 | 10 | 10 |
| | USEPA equivalent | Chlorine Cell Test | 1.00597.0001 | no | 10 | 10 | 10 |
| | USEPA equivalent | Chlorine Test | 1.00598.0001 1.00598.0002 | no | 10 | 10 | 10 |
| | USEPA equivalent | Chlorine Test | 1.00602.0001 1.00602.0002 | no | 10 | 10 | 10 |
| | USEPA equivalent | Chlorine Test | 1.00599.0001 | no | 10 | 10 | 10 |
| | | Chlorine Reagent (liquid) (free and total) | 1.00086.0001 1.00087.0001 1.00088.0001 | no | 10 | 10 | 10 |

¹ This test kit is also suitable for testing seawater after the addition of sodium hydroxide solution (see package insert).

² Distill beforehand as per APHA 4400-F- B

Find all details on interferences in the package insert in Chapter 4: Influence of Foreign Substances

Tolerance Overview (C)

| | USEPA classification | Test Kits | Cat. No. | Seawater | Tolerance limit, NaCl | salts in % NaNO ₃ | Na ₂ SO ₄ | |
|-------------------------|-------------------------|---|-------------------------|--------------|-----------------------|------------------------------|---------------------------------|----|
| C | | Chlorine dioxide Test | 1.00608.0001 | no | 10 | 10 | 10 | |
| | USEPA equivalent | Chromate Cell Test (Chromium VI) | 1.14552.0001 | yes | 10 | 10 | 10 | |
| | | Chromium (total) Cell Test | 1.14552.0001 | no | 1 | 10 | 10 | |
| | | Chromate Test | 1.14758.0001 | yes | 10 | 10 | 10 | |
| | | Cobalt Cell Test | 1.17244.0001 | yes | 10 | 10 | 20 | |
| | USEPA equivalent | COD Cell Test | 1.14560.0001 | no | 0.4 | 10 | 10 | |
| | USEPA equivalent | COD Cell Test | 1.01796.0001 | no | 0.4 | 10 | 10 | |
| | USEPA equivalent | COD Cell Test | 1.14540.0001 | no | 0.4 | 10 | 10 | |
| | USEPA equivalent | COD Cell Test | 1.14895.0001 | no | 0.4 | 10 | 10 | |
| | USEPA equivalent | COD Cell Test | 1.14690.0001 | no | 0.4 | 20 | 20 | |
| | USEPA equivalent | COD Cell Test | 1.14541.0001 | no | 0.4 | 10 | 10 | |
| | USEPA equivalent | COD Cell Test | 1.14691.0001 | no | 0.4 | 20 | 20 | |
| | USEPA equivalent | COD Cell Test | 1.14555.0001 | no | 1.0 | 10 | 10 | |
| | USEPA equivalent | COD Cell Test | 1.01797.0001 | no | 10 | 20 | 20 | |
| | USEPA equivalent | COD Cell Test for seawater / high chloride contents | 1.17058.0001 | yes | 35 | 10 | 10 | |
| | USEPA equivalent | COD Cell Test for seawater / high chloride contents | 1.17059.0001 | yes | 35 | 10 | 10 | |
| | | | COD Cell Test (Hg free) | 1.09772.0001 | no | 0 | 10 | 10 |
| | | | COD Cell Test (Hg free) | 1.09773.0001 | no | 0 | 10 | 10 |
| | | | Copper Cell Test | 1.14553.0001 | yes | 15 | 15 | 15 |
| | | | Copper Test | 1.14767.0001 | yes | 15 | 15 | 15 |
| USEPA equivalent | | Cyanide Cell Test | 1.14561.0001 | no | 10 | 10 | 10 | |
| | | Cyanide Test | 1.09701.0001 | no | 10 | 10 | 10 | |
| | | Cyanuric Acid Test | 1.19253.0001 | yes | - | - | - | |

1 This test kit is also suitable for testing seawater after the addition of sodium hydroxide solution (see package insert).

2 Distill beforehand as per APHA 4400-F- B

Tolerance Overview (F-N)

| | USEPA classification | Test Kits | Cat. No. | Seawater | Tolerance limit, NaCl | salts in % NaNO ₃ | Na ₂ SO ₄ |
|----------|-------------------------|--|------------------------------|-------------------|-----------------------|------------------------------|---------------------------------|
| F | | Fluoride Test | 1.00822.0250 | yes ²⁾ | 0.05 | 0.05 | 0.001 |
| | | Fluoride Cell Test | 1.00809.0001 | no | 10 | 10 | 10 |
| | | Fluoride Test | 1.14598.0002 | yes | 20 | 20 | 20 |
| | | Formaldehyde Cell Test | 1.14500.0001 | no | 5 | 0 | 10 |
| | | Formaldehyde Test | 1.14678.0001 | no | 5 | 0 | 10 |
| G | | Gold Test | 1.14821.0002 | yes | 10 | 20 | 5 |
| H | | Hardness, see Total Hardness Cell Test | | | | | |
| | | Hydrazine Test | 1.09711.0001 | no | 20 | 5 | 2 |
| | | Hydrogen Peroxide Cell Test | 1.14731.0001 | yes | 20 | 20 | 20 |
| | | Hydrogen Peroxide Test | 1.18789.0001 | no | 0.1 | 1 | 5 |
| I | | Iron Cell Test | 1.14549.0001 | yes | 20 | 20 | 20 |
| | | Iron Cell Test | 1.14896.0001 | no | 5 | 5 | 5 |
| | | Iron Test | 1.14761.0001 1.14761.0002 | yes | 20 | 20 | 20 |
| | | Iron Test | 1.00796.0001 | yes | 20 | 20 | 20 |
| L | | Lead Cell Test | 1.14833.0001 | no | 20 | 20 | 1 |
| | | Lead Test | 1.09717.0001 | no | 20 | 5 | 15 |
| M | | Magnesium Cell Test | 1.00815.0001 | yes | 2 | 2 | 1 |
| | | Manganese Test | 1.00816.0001 | no | 20 | 20 | 20 |
| | | Manganese Test | 1.01846.0001 | no | 20 | 25 | 5 |
| | | Manganese Test | 1.14770.0001 1.14770.0002 | yes | 20 | 20 | 20 |
| | | Molybdenum Cell Test | 1.00860.0001 | no | 20 | 20 | 5 |
| | Monochloramine Test | 1.01632.0001 | no | 10 | 10 | 20 | |
| N | | Nickel Cell Test | 1.14554.0001 | no | 20 | 20 | 20 |
| | | Nickel Test | 1.14785.0001 | no | 20 | 20 | 20 |
| | USEPA equivalent | Nitrate Cell Test | 1.14542.0001 | no | 0.4 | - | 20 |
| | USEPA equivalent | Nitrate Cell Test | 1.14563.0001 | no | 0.2 | - | 20 |
| | USEPA equivalent | Nitrate Cell Test | 1.14764.0001 | no | 0.5 | - | 20 |
| | USEPA equivalent | Nitrate Cell Test | 1.00614.0001 | no | 2 | - | 20 |
| | USEPA equivalent | Nitrate Test | 1.01842.0001 | no | 0.001 | - | 0.001 |
| | USEPA equivalent | Nitrate Test | 1.14773.0001 | no | 0.4 | - | 20 |

1 This test kit is also suitable for testing seawater after the addition of sodium hydroxide solution (see package insert).

2 Distill beforehand as per APHA 4400-F- B

Tolerance Overview (N-P)

| | USEPA classification | Test Kits | Cat. No. | Seawater | Tolerance limit, NaCl | salts in % NaNO ₃ | Na ₂ SO ₄ |
|---|----------------------|---------------------------------------|------------------------------|--------------|-----------------------|------------------------------|---------------------------------|
| N | USEPA equivalent | Nitrate Test | 1.09713.0001 1.09713.0002 | no | 0.2 | - | 20 |
| | USEPA equivalent | Nitrate Cell Test (seawater) | 1.14556.0001 | yes | 20 | - | 20 |
| | USEPA equivalent | Nitrate Test (seawater) | 1.14942.0001 | yes | 20 | - | 20 |
| | USEPA equivalent | Nitrite Cell Test | 1.14547.0001 | yes | 20 | 20 | 15 |
| | USEPA equivalent | Nitrite Cell Test | 1.00609.0001 | yes | 20 | 20 | 15 |
| | USEPA equivalent | Nitrite Test | 1.14776.0001 1.14776.0002 | yes | 20 | 20 | 15 |
| | | Nitrogen (total) Cell Test | 1.14537.0001 | no | 0.5 | - | 10 |
| | | Nitrogen (total) Cell Test | 1.00613.0001 | no | 0.2 | - | 10 |
| | | Nitrogen (total) Cell Test | 1.14763.0001 | no | 2 | - | 20 |
| | O | | Oxygen Cell Test | 1.14694.0001 | no | 10 | 5 |
| | | Oxygen Scavengers Test | 1.19251.0001 | no | - | - | - |
| | | Ozone Test | 1.00607.0001 1.00607.0002 | no | 10 | 10 | 10 |
| P | | pH Cell Test | 1.01744.0001 | yes | - | - | - |
| | | Phenol Cell Test | 1.14551.0001 | yes | 20 | 20 | 15 |
| | | Phenol Test | 1.00856.0001 | yes | 20 | 20 | 20 |
| | USEPA equivalent | Phosphate (ortho-phosphate) Cell Test | 1.00475.0001 | yes | 20 | 20 | 20 |
| | USEPA equivalent | Phosphate (ortho-phosphate) Cell Test | 1.14543.0001 | yes | 5 | 10 | 10 |
| | | Phosphorus (total) Cell Test | 1.14543.0001 | no | 1 | 10 | 10 |
| | USEPA equivalent | Phosphate (ortho-phosphate) Cell Test | 1.14729.0001 | yes | 20 | 20 | 20 |
| | | Phosphorus (total) Cell Test | 1.14729.0001 | yes | 5 | 20 | 20 |
| | USEPA equivalent | Phosphate (ortho-phosphate) Cell Test | 1.00616.0001 | yes | 20 | 20 | 20 |
| | USEPA equivalent | Phosphate (ortho-phosphate) Cell Test | 1.00673.0001 | yes | 20 | 20 | 20 |
| | | Phosphorus (total) Cell Test | 1.00673.0001 | yes | 20 | 20 | 20 |
| | USEPA equivalent | Phosphate Test | 1.14848.0001 1.14848.0002 | yes | 5 | 10 | 10 |

1 This test kit is also suitable for testing seawater after the addition of sodium hydroxide solution (see package insert).

2 Distill beforehand as per APHA 4400-F- B

Tolerance Overview (N-Z)

| | USEPA classification | Test Kits | Cat. No. | Seawater | Tolerance limit, NaCl | salts in % NaNO ₃ | Na ₂ SO ₄ | |
|------------------|----------------------|----------------------------------|------------------------------|--------------|-----------------------|------------------------------|---------------------------------|-----|
| P | USEPA equivalent | Phosphate Test | 1.00798.0001 | yes | 15 | 20 | 10 | |
| | USEPA equivalent | Phosphate Cell Test | 1.14546.0001 | yes | 20 | 20 | 20 | |
| | USEPA equivalent | Phosphate Test | 1.14842.0001 | yes | 20 | 20 | 20 | |
| | | Potassium Cell Test | 1.14562.0001 | yes | 20 | 20 | 20 | |
| | | Potassium Cell Test | 1.00615.0001 | yes | 20 | 20 | 20 | |
| | | Residual Hardness Cell Test | 1.14683.0001 | no | 0.01 | 0.01 | 0.01 | |
| | S | | Silicate (Silicic Acid) Test | 1.01813.0001 | no | 0.5 | 1 | 0.2 |
| | | | Silicate (Silicic Acid) Test | 1.14794.0001 | yes | 5 | 10 | 5 |
| | | | Silicate (Silicic Acid) Test | 1.00857.0001 | no | 5 | 10 | 2.5 |
| | | | Sodium Cell Test | 1.00885.0001 | no | - | 10 | 1 |
| | | Sulfate Test | 1.01812.0001 | no | 2 | 0.007 | - | |
| USEPA equivalent | | Sulfate Cell Test | 1.14548.0001 | yes | 10 | 0.1 | - | |
| | | Sulfate Cell Test | 1.00617.0001 | yes | 10 | 0.1 | - | |
| USEPA equivalent | | Sulfate Cell Test | 1.14564.0001 | yes | 10 | 0.5 | - | |
| | | Sulfate Cell Test | 1.02537.0001 1.02537.0002 | yes | 10 | 0.015 | - | |
| | | Sulfate Test | 1.02532.0001 | no | 2 | 0.007 | - | |
| T | | Sulfide Test | 1.14779.0001 | no | 0.5 | 1 | 1 | |
| | | Sulfite Cell Test | 1.14394.0001 | no | 20 | 20 | 20 | |
| | | Sulfite Test | 1.01746.0001 | no | 20 | 20 | 20 | |
| | | Surfactants (anionic) Cell Test | 1.02552.0001 | no | 0.1 | 0.01 | 10 | |
| | | Surfactants (cationic) Cell Test | 1.01764.0001 | no | 0.1 | 0.1 | 20 | |
| | | Surfactants (nonionic) Cell Test | 1.01787.0001 | no | 2 | 5 | 2 | |
| | | Tin Cell Test | 1.17265.0001 | no | 5 | - | - | |
| | | TOC Cell Test | 1.14878.0001 | no | 0.5 | 10 | 10 | |
| | | TOC Cell Test | 1.14879.0001 | no | 5 | 20 | 20 | |
| | | Total Hardness Cell Test | 1.00961.0001 | no | 2 | 2 | 1 | |
| V | | Volatile Organic Acid Cell Test | 1.01749.0001 | no | 20 | 20 | 10 | |
| | | Volatile Organic Acid Test | 1.01809.0001 | no | 20 | 20 | 10 | |
| Z | | Zinc Cell Test | 1.00861.0001 | no | 20 | 20 | 1 | |
| | | Zinc Cell Test | 1.14566.0001 | no | 10 | 10 | 10 | |
| | | Zinc Test | 1.14832.0001 | no | 5 | 15 | 15 | |

1 This test kit is also suitable for testing seawater after the addition of sodium hydroxide solution (see package insert).

2 Distill beforehand as per APHA 4400-F- B



National and International Regulations for Testing Drinking Water

Contaminated water poses a threat to both human health and the environment. As a result, national and international regulatory agencies like the U.S. Environmental Protection Agency (USEPA), World Health Organization (WHO), EU, and other regulators have set official testing methods for drinking water and wastewater that must be followed in order to ensure a benchmark of health and safety. While a quality standard must always be maintained, regulations have increasingly allowed for more method flexibility in recent years, including modifications such as rapid testing, for example.

To help you meet these standards, many Spectroquant® test kits were developed according to approved USEPA or ISO methods. With these kits, you get reliable and reproducible results in compliance with the national regulations of your region.

WHO Drinking Water Limits and Methods

“Access to safe drinking-water is essential to health, a basic human right and a component of effective policy for health protection.”¹

The WHO has published drinking water guidelines for the maximum allowable levels of many parameters (summarized in the table below), and detailed information on individual parameters can be found in the subchapters of the guidelines.¹ Some limits in the summary table appear as “not specified”, meaning that the WHO has not provided guidance on that particular parameter because it is not found at levels posing a health concern in drinking water.

In addition to imposing limits on parameters, the WHO is also clear on its guidelines for analysis methods:

“While it is not essential to use standard methods, it is important that the methods used are properly validated and their precision and accuracy determined before significant decisions are made based on the results.”

It is therefore necessary to ascertain that a given method has sufficient precision and accuracy, with an auditable quality control and quality assurance procedure to ensure credible results.



USEPA Drinking Water Limits and Methods

“The National Primary Drinking Water Regulations (NPDWR) are legally enforceable primary standards and treatment techniques that apply to public water systems. Primary standards and treatment techniques protect public health by limiting the levels of contaminants in drinking water.”²

In 1974, the Safe Drinking Water Act (SDWA)³ was enacted to protect and regulate public water supplies in the US. The SDWA authorized the USEPA to set enforceable standards for contaminants in drinking water in the interest of public health. Similar to the WHO, the NPDWR also dictates methods for drinking water testing. Most approved analysis methods come from the USEPA, American Public Health Association (APHA), or American Society for Testing and Materials (ASTM).

In addition, there are allowances for modified methods with strict guidelines in terms of how alternatives are implemented and categorized.⁴ USEPA-equivalent methods can differ significantly from approved methods, but must meet criteria set out for procedural changes in order to be considered USEPA-compliant.

Merck received its first USEPA equivalency certificate in 1999, and continues to work closely with consultants to provide more equivalent methods for a range of testing parameters. To date, we have equivalent methods to those in the Safe Drinking Water Act for the following parameters: ammonium, chlorine, COD, and ortho-phosphate.

For your wastewater analysis, we have a number of equivalent methods to those in the Clean Water Act: ammonium, chromium (VI), COD, cyanide, nitrate, nitrite, total nitrogen, ortho-phosphate, and sulfate.

EU Drinking Water Directive

The EU Drinking Water Directive (2020/2184 of Dec 16th, 2020)⁵ established the legal framework to protect human health from the adverse effects of drinking water contamination, providing clear regulations for all member states. Similar to both WHO and USEPA guidelines, limits on various water parameters were implemented in order to ensure a safe water supply. In its most recent update in December 2020, an important change was included in terms of analytical quality assurance such that the performance characteristics required of a measurement were clearly defined. Any method that fulfills three acceptance criteria may be used for monitoring.

These acceptance criteria are:

- Limit of Detection (LOD)
- Limit of Quantification (LOQ)
- Uncertainty ($k=2$) of the method

Annex III, Part B of the directive has the chemical and indicator parameters for which such performance characteristics are specified.

Table 1 in Annex III defines the minimum performance characteristic ‘uncertainty of measurement’. You can also find this in an overview table on **page 96** of this catalog, where we specify EU drinking water values, information about the $\leq 30\%$ value of the LOQ, and the calculated values of uncertainty ($k=2$) for both our standard and rapid methods.

References

1. Guidelines for Drinking Water Quality, 4th edition incorporating the first addendum 2017
2. National Primary Drinking Water Regulations and Secondary Drinking Water Standards, last updated Jan 05th 2021
3. Summary of the Safe Drinking Water Act, <https://www.epa.gov/laws-regulations/summary-safe-drinking-water-act>
4. Alternative Testing Methods for Contaminants Listed at 40 CFR 141.21 https://www.ecfr.gov/cgi-bin/text-idx?SID=e7755de6447839f1a9496a59f9d4d9cf&mc=true&node=ap40.25.141_129.a&rgn=div9
5. Directive (EU) 2020/2184 of the European Parliament and the Council of 16 December 2020 on the quality of water intended for human consumption

Spectroquant® Test Kits for Drinking Water (A–C)

| Parameter | WHO Guideline | USEPA | EU | EU | EU | EU | EU | Test information according EU requirements | | | | | | | | Test type | Cat. No. | No. of tests | USEPA equivalent for SDWA ⁶⁾ | USEPA equivalent for CWA ⁷⁾ |
|-------------------------------|-----------------------------|-----------------------------|----------------------------------|------------------------------|---|---|--|--|---------------|----------------|-----------------------------|-----------------------------|--|----------------------------------|---|------------------------------|------------|------------------|---|--|
| | | 2017 Limit values in [mg/L] | Jan 05th 2021 max. MCL in [mg/L] | Dec. 2020 max. limits [mg/L] | LOQ ≤ 30% of the limit calculated in [mg/L] | Uncertainty of measurement % of parameter value (k = 2) | Uncertainty value from the limit (k = 2) in [mg/L] | Measuring range per cell size [mg/L] | Citation form | Cell size [mm] | LOD in [mg/L] ¹⁾ | LOQ in [mg/L] ²⁾ | Uncertainty (k = 2) [mg/L] ³⁾ | Good for reporting ⁴⁾ | Screening (own information) ⁵⁾ | | | | | |
| A Aluminium (Al) | 0.1 - 0.2 | 0.05–0.2 | 0.2 | 0.06 | 25 | 0.05 | 0.020–0.200 | Al | 50 mm | 0.008 | 0.024 | ±0.025 | yes | yes | Reagent Test | 1.14825.0001 | 350 | | | |
| | | | | | | | 0.05–0.60 | | 20 mm | 0.008 | 0.024 | ±0.03 | yes | yes | | | | | | |
| | | | | | | | 0.10–1.20 | | 10 mm | 0.008 | 0.024 | ±0.03 | yes | yes | | | | | | |
| | | | | | | | 0.02–0.50 | Al | 16 mm | 0.0048 | 0.0144 | ±0.02 | yes | yes | Cell Test | 1.00594.0001 | 25 | | | |
| Ammonium (NH ₄) | not specified ⁹⁾ | | 0.5 | 0.15 | 40 | 0.2 | 0.013–0.644 | NH ₄ ²⁴⁾ | 50 mm | 0.0041 | 0.0123 | ±0.013 | yes | yes | Reagent Test | 1.14752.0001 1.14752.0002 | 250 500 | USEPA equivalent | USEPA equivalent | |
| | | | | | | | 0.04–1.93 | NH ₄ ²⁴⁾ | 20 mm | 0.006 | 0.018 | ±0.032 | yes | yes | | | | | | |
| | | | | | | | 0.06–3.86 | NH ₄ ²⁴⁾ | 10 mm | 0.009 | 0.027 | ±0.067 | yes | yes | | | | | | |
| | | | | | | | 0.01–2.86 | NH ₄ ²⁴⁾ | 16 mm | 0.0062 | 0.0186 | ±0.041 | yes | yes | Cell Test | 1.14739.0001 | 25 | USEPA equivalent | USEPA equivalent | |
| Antimony | 0.02 | 0.006 | 0.01 | 0.003 | 40 | 0.004 | | | | | | | | | | | | | | |
| Arsenic (As) | 0.01 | 0.01 | 0.01 | 0.003 | 30 | 0.003 | 0.001–0.020 | As | 20 mm | 0.0002 | 0.0006 | ±0.002 | yes | yes | Reagent Test | 1.01747.0001 | 30 | | | |
| | | | | | | | 0.005–0.100 | As | 10 mm | 0.0004 | 0.0012 | ±0.004 | no | yes | | | | | | |
| B Barium (Ba) | 1.3 | 2 | | | | | | | | | | | | | | | | | | |
| B Boron (B) | 2.4 | | 1.5 | 0.45 | 25 | 0.375 | 0.050–0.800 | B | 10 mm | 0.0056 | 0.0168 | ±0.022 | yes | yes | Reagent Test | 1.14839.0001 | 60 | | | |
| | | | | | | | 0.05–2.00 | B | 16 mm | 0.024 | 0.072 | ±0.06 | yes | yes | Cell Test | 1.00826.0001 | 25 | | | |
| C Cadmium (Cd) | 0.003 | 0.005 | 0.005 | 0.0015 | 25 | 0.00125 | 0.0020–0.100 | Cd | 50 mm | 0.00072 | 0.00216 | ±0.0018 | no | yes | Reagent Test | 1.01745.0001 | 55 | | | |
| | | | | | | | 0.005–0.250 | Cd | 20 mm | 0.00090 | 0.00240 | ±0.0045 | no | no | | | | | | |
| | | | | | | | 0.010–0.500 | Cd | 10 mm | 0.00128 | 0.00384 | ±0.009 | no | no | | | | | | |
| | | | | | | | 0.025–1.000 | Cd | 16 mm | 0.0040 | 0.0120 | ±0.016 | no | no | Cell Test | 1.14834.0001 | 25 | | | |
| Chlorate | 0.7 | | 0.25 ⁹⁾ | 0.075 | 40 | 0.1 | | | | | | | | | | | | | | |
| Chlorite | 0.7 | 1.0 | 0.25 ⁹⁾ | 0.075 | 40 | 0.1 | | | | | | | | | | | | | | |
| C Chloride (Cl ⁻) | not specified ⁹⁾ | 250 | 250 | 75 | 15 | 37.5 | 0.5–15.0 | Cl ⁻ | 16 mm | 0.08 | 0.24 | ±0.3 | yes | yes | Cell Test | 1.01804.0001 | 25 | | | |
| | | | | | | | 2.5–25.0 | Cl ⁻ | 10 mm | 0.32 | 0.96 | ±0.5 | yes | yes | Reagent Test | 1.14897.0001 1.14897.0002 | 100 175 | | | |
| | | | | | | | 10–250 | | 10 mm | 1.28 | 3.84 | ±7 | yes | yes | | | | | | |
| | | | | | | | 5–125 | Cl ⁻ | 16 mm | 1.20 | 3.60 | ±3 | yes | yes | Cell Test | 1.14730.0001 | 25 | | | |

WHO Guidelines for drinking-water quality: fourth edition incorporating the first addendum. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.
 USEPA National Primary Drinking Water Regulations and Secondary Drinking Water Standards, last updated Jan 05th 2021
 EU Directive (EU) 2020/2184 of the European Parliament and the Council of 16 December 2020 on the quality of water intended for human consumption

- The "Limit of Detection" (LOD) is determined by skilled staff in the QC lab and calculated according to ISO/TS 13530:2009 chapter 4.4.2 Limit of detection based on standard deviation of results of blank samples. To comply with regulatory demands, it may be necessary to perform an own determination.
- The "Limit of Quantification" (LOQ) is determined by skilled staff in the QC lab and calculated according to ISO/TS 13530:2009 and calculated as 3 times the LOD. To comply with regulatory demands, it may be necessary to perform an own determination.
- The uncertainty (k=2) is calculated according to ISO 11352:2012 Appendix B.3 — Estimation of measurement uncertainty using a standard solution. In contrary to the Appendix B3 we don't use a single concentration of a standards solution, we are using 10 concentrations for standards equidistance over the entire measuring range and calculate the standard deviation from the entire calibration. From this we calculate the uncertainty.
- The uncertainty of the method lies within the acceptance criteria from requirement measuring the limit and the given tolerance. The results can be used for reporting.
- The uncertainty of the method doesn't lie within the acceptance criteria from requirement measuring the limit and the given tolerance. The results can be used for screening (own information) but not for reporting. For reporting a other method must be used.
- Merck has got an "USEPA equivalent" for SDWA (Safe Drinking Water Act) according to the procedure of 40 CFR part 136 Clean Water Act as for drinking water no own methods are available.
- Merck has got an "USEPA equivalent" according to 40 CFR part 136 Clean Water Act (for wastewater analysis).
- (not specified means, that the WHO has not provided guidelines for the parameter, as it is not found at levels posing a health concern in drinking water)
- A parametric value of 0,70 mg/L shall be applied where a disinfection method that generates chlorate, in particular chlorine dioxide, is used for disinfection of water intended for human consumption.

- The parametric value of 25 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for chromium until that date shall be 50 µg/L.
- For the digestion of total chromium the CrackSet 10 or 10C is needed
- Can be measured photometrically according to different standards like e.g. APHA 2120 F, APHA 2120 B, DIN EN ISO 6271-2, EN ISO 7887
- not a photometric measurement
- For the analysis of the total Cyanide a distillation included purging with air like e.g. described in APHA 4500-CN- C, is required.
- The method determines total cyanide in all forms.
- The parametric value of 5 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for lead until that date shall be 10 µg/L.
- The analysis of Mercury with photometric analysis is not sensitive enough. Better to use a AA-Hg system or ICP-MS
- A parametric value of 30 µg/L shall be applied for regions where geological conditions could lead to high levels of selenium in groundwater.
- Method of choice is the flame photometer
- The measurement of TDS is done with a conductivity meter.
- It is the sum of concentrations of the following specified compounds: chloroform, bromoform, dibromochloromethane and bromodichloromethane.
- For the measurement of turbidity in drinking water it is required to use a turbidity meter
- Turbidity: For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 Nephelometric Turbidity Unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTUs in at least 95 percent of the samples in any month. Systems that use filtration other than the conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTUs.
- This citation form differs from the one in the product name. The measurement ranges mentioned in this table refer to this citation form.

Spectroquant® Test Kits for Drinking Water (C)

| Parameter | WHO Guideline | USEPA | EU | EU | EU | EU | Test information according EU requirements | | | | | | | | | | | | | |
|--------------------------------------|---|-----------------------------|----------------------------------|------------------------------|---|---|--|--------------------------------------|------------------|----------------|-----------------------------|-----------------------------|--|----------------------------------|---|--------------|------------------------------|------------------|---|--|
| | | 2017 Limit values in [mg/L] | Jan 05th 2021 max. MCL in [mg/L] | Dec. 2020 max. limits [mg/L] | LOQ ≤ 30% of the limit calculated in [mg/L] | Uncertainty of measurement % of parameter value (k = 2) | Uncertainty value from the limit (k = 2) in [mg/L] | Measuring range per cell size [mg/L] | Citation form | Cell size [mm] | LOD in [mg/L] ¹⁾ | LOQ in [mg/L] ²⁾ | Uncertainty (k = 2) [mg/L] ³⁾ | Good for reporting ⁴⁾ | Screening (own information) ⁵⁾ | Test type | Cat. No. | No. of tests | USEPA equivalent for SDWA ⁶⁾ | USEPA equivalent for CWA ⁷⁾ |
| C Chlorine (Cl ₂) free | 0.2 (minimal residual concentration at the point of delivery) | 4.0 | | | | | | 0.010–1.000 | Cl ₂ | 50 mm | 0.0028 | 0.0084 | ±0.022 | | | Reagent Test | 1.00598.0002 1.00598.0001 | 200 1200 | USEPA equivalent | |
| | | | | | | | | 0.02–3.00 | | 20 mm | 0.0036 | 0.0100 | ±0.055 | | | | | | | |
| | | | | | | | | 0.05–6.00 | | 10 mm | 0.004 | 0.012 | ±0.11 | | | | | | | |
| | | | | | | | | 0.03–6.00 | Cl ₂ | 16 mm | 0.0128 | 0.0384 | ±0.1 | Cell Test | 1.00595.0001 | 200 | USEPA equivalent | | | |
| Chlorine (total) | 0.2–0.5 | | | | | | | 0.010–1.000 | Cl ₂ | 50 mm | 0.0028 | 0.0084 | ±0.022 | | | Reagent Test | 1.00602.0001 1.00602.0002 | 200 1200 | USEPA equivalent | USEPA equivalent |
| | | | | | | | | 0.02–3.00 | | 20 mm | 0.0036 | 0.0100 | ±0.055 | | | | | | | |
| | | | | | | | | 0.05–6.00 | | 10 mm | 0.004 | 0.012 | ±0.11 | | | | | | | |
| | | | | | | | | 0.03–6.00 | Cl ₂ | 16 mm | 0.0128 | 0.0384 | ±0.1 | Cell Test | 1.00597.0001 | 200 | USEPA equivalent | USEPA equivalent | | |
| Chlorine dioxide (ClO ₂) | not specified ⁸⁾ | 0.8 | | | | | | 0.020–2.000 | ClO ₂ | 50 mm | 0.005 | 0.016 | ±0.024 | | | Reagent Test | 1.00608.0001 | 200 | | |
| | | | | | | | | 0.05–5.00 | | 20 mm | 0.006 | 0.018 | ±0.060 | | | | | | | |
| | | | | | | | | 0.10–10.00 | | 10 mm | 0.0072 | 0.0216 | ±0.12 | | | | | | | |
| Chromium (Cr) | | | 0.05 ¹⁰⁾ | 0.015 | 30 | 0.015 | | 0.010–0.600 | Cr | 50 mm | 0.0024 | 0.0072 | ±0.008 | yes | yes | Reagent Test | 1.14758.0001 | 250 | | |
| | | | | | | | | 0.03–1.50 | | 20 mm | 0.0030 | 0.0090 | ±0.02 | no | yes | | | | | |
| | | | | | | | | 0.05–3.00 | | 10 mm | 0.0056 | 0.0168 | ±0.04 | no | yes | | | | | |
| | | | | | | | | 0.05–2.00 | Cr | 16 mm | 0.004 | 0.012 | ±0.02 | no | yes | Cell Test | 1.14552.0001 | 25 | USEPA equivalent | |
| Chromium (total) (Cr) | 0.05 | 0.1 | | | | | | 0.010–0.600 | Cr | 50 mm | 0.0024 | 0.0072 | ±0.008 | yes | yes | Reagent Test | 1.14758.0001 | 250 | | |
| | | | | | | | | 0.03–1.50 | | 20 mm | 0.0030 | 0.0090 | ±0.02 | no | yes | | | | | |
| | | | | | | | | 0.05–3.00 | | 10 mm | 0.0056 | 0.0168 | ±0.04 | no | yes | | | | | |
| | | | | | | | | 0.05–2.00 | Cr | 16 mm | 0.004 | 0.012 | ±0.02 | no | yes | Cell Test | 1.14552.0001 | 25 | | |
| Coliforms (total) (organisms/100 mL) | 0 | 0 | 0 | | | | | | | | | | | | | | | | | |
| Color ¹²⁾ | acceptable | 15 color units | acceptable | | | | | 0–1000 Pt/Co | Color | 10 mm | 1.6 Pt/Co | 5 Pt/Co | ±6 Pt/Co | | | Color | application | - | | |
| Conductivity ¹³⁾ | | | | 2500 µS/cm at 20 °C | | | | | | | | | | | | | | | | |

WHO Guidelines for drinking-water quality: fourth edition incorporating the first addendum. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.
 USEPA National Primary Drinking Water Regulations and Secondary Drinking Water Standards, last updated Jan 05th 2021
 EU Directive (EU) 2020/2184 of the European Parliament and the Council of 16 December 2020 on the quality of water intended for human consumption

- The "Limit of Detection" (LOD) is determined by skilled staff in the QC lab and calculated according to ISO/TS 13530:2009 chapter 4.4.2 Limit of detection based on standard deviation of results of blank samples. To comply with regulatory demands, it may be necessary to perform an own determination.
- The "Limit of Quantification" (LOQ) is determined by skilled staff in the QC lab and calculated according to ISO/TS 13530:2009 and calculated as 3 times the LOD. To comply with regulatory demands, it may be necessary to perform an own determination.
- The uncertainty (k=2) is calculated according to ISO 11352:2012 Appendix B.3 — Estimation of measurement uncertainty using a standard solution. In contrary to the Appendix B3 we don't use a single concentration of a standards solution, we are using 10 concentrations for standards equidistance over the entire measuring range and calculate the standard deviation from the entire calibration. From this we calculate the uncertainty.
- The uncertainty of the method lies within the acceptance criteria from requirement measuring the limit and the given tolerance. The results can be used for reporting.
- The uncertainty of the method doesn't lie within the acceptance criteria from requirement measuring the limit and the given tolerance. The results can be used for screening (own information) but not for reporting. For reporting a other method must be used.
- Merck has got an "USEPA equivalent" for SDWA (Safe Drinking Water Act) according to the procedure of 40 CFR part 136 Clean Water Act as for drinking water no own methods are available.
- Merck has got an "USEPA equivalent" according to 40 CFR part 136 Clean Water Act (for wastewater analysis).
- (not specified means, that the WHO has not provided guidelines for the parameter, as it is not found at levels posing a health concern in drinking water)
- A parametric value of 0,70 mg/L shall be applied where a disinfection method that generates chlorate, in particular chlorine dioxide, is used for disinfection of water intended for human consumption.

- The parametric value of 25 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for chromium until that date shall be 50 µg/L.
- For the digestion of total chromium the CrackSet 10 or 10C is needed
- Can be measured photometrically according to different standards like e.g. APHA 2120 F, APHA 2120 B, DIN EN ISO 6271-2, EN ISO 7887
- not a photometric measurement
- For the analysis of the total Cyanide a distillation included purging with air like e.g. described in APHA 4500-CN- C, is required.
- The method determines total cyanide in all forms.
- The parametric value of 5 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for lead until that date shall be 10 µg/L.
- The analysis of Mercury with photometric analysis is not sensitive enough. Better to use a AA-Hg system or ICP-MS
- A parametric value of 30 µg/L shall be applied for regions where geological conditions could lead to high levels of selenium in groundwater.
- Method of choice is the flame photometer
- The measurement of TDS is done with a conductivity meter.
- It is the sum of concentrations of the following specified compounds: chloroform, bromoform, dibromochloromethane and bromodichloromethane.
- For the measurement of turbidity in drinking water it is required to use a turbidity meter
- Turbidity: For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 Nephelometric Turbidity Unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTUs in at least 95 percent of the samples in any month. Systems that use filtration other than the conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTUs.
- This citation form differs from the one in the product name. The measurement ranges mentioned in this table refer to this citation from.

Spectroquant® Test Kits for Drinking Water (C-L)

| Parameter | WHO Guideline | USEPA | EU | EU | EU | EU | EU | Test information according EU requirements | | | | | | | | Test type | Cat. No. | No. of tests | USEPA equivalent for SDWA ⁶⁾ | USEPA equivalent for CWA ⁷⁾ | | | | | |
|------------------------------------|-----------------------------|-----------------------------|----------------------------------|------------------------------|---|---|--|--|----------------|----------------|-----------------------------|-----------------------------|--|----------------------------------|---|--------------|------------------------------|--------------|---|--|--------------|--------------|-----|--|------------------|
| | | 2017 Limit values in [mg/L] | Jan 05th 2021 max. MCL in [mg/L] | Dec. 2020 max. limits [mg/L] | LOQ ≤ 30% of the limit calculated in [mg/L] | Uncertainty of measurement % of parameter value (k = 2) | Uncertainty value from the limit (k = 2) in [mg/L] | Measuring range per cell size [mg/L] | Citation form | Cell size [mm] | LOD in [mg/L] ¹⁾ | LOQ in [mg/L] ²⁾ | Uncertainty (k = 2) [mg/L] ³⁾ | Good for reporting ⁴⁾ | Screening (own information) ⁵⁾ | | | | | | | | | | |
| C | Copper (Cu) | 2 | 1.0 | 2 | 0.6 | 25 | 0.5 | 0.02–1.20 | Cu | 50 mm | 0.0008 | 0.0024 | ±0.01 | yes | yes | Reagent Test | 1.14767.0001 | 250 | | | | | | | |
| | | | | | | | | 0.05–3.00 | | 20 mm | 0.0025 | 0.0075 | ±0.02 | yes | yes | | | | | | | | | | |
| | | | | | | | | 0.10–6.00 | | 10 mm | 0.0056 | 0.0168 | ±0.05 | yes | yes | | | | | | | | | | |
| | | | | | | | | 0.05–8.00 | Cu | 16 mm | 0.0088 | 0.0264 | ±0.09 | yes | yes | | | | | | Cell Test | 1.14553.0001 | 25 | | |
| | Cyanides (Cy) free | 0.2 | | | | | | 0.0020–0.1000 | Cy | 50 mm | 0.00032 | 0.00096 | ±0.0018 | | | Reagent Test | 1.09701.0001 | 100 | | | | | | | |
| | | | | | | | | 0.005–0.200 | | 20 mm | 0.00032 | 0.00096 | ±0.0045 | | | | | | | | | | | | |
| | | | | | | | | 0.010–0.500 | | 10 mm | 0.00032 | 0.00096 | ±0.009 | | | | | | | | | | | | |
| | | | | | | | | 0.010–0.500 | Cy | 16 mm | 0.0088 | 0.0264 | ±0.09 | | | | | | | | Cell Test | 1.14561.0001 | 25 | | USEPA equivalent |
| Cyanides (Cy) total ¹⁴⁾ | not specified ⁸⁾ | | 0.05 ¹⁵⁾ | 0.015 | 30 | 0.015 | 0.0020–0.1000 | Cy | 50 mm | 0.00032 | 0.00096 | ±0.0018 | yes | yes | Reagent Test | 1.09701.0001 | 100 | | | | | | | | |
| | | | | | | | 0.005–0.200 | | 20 mm | 0.00032 | 0.00096 | ±0.0045 | yes | yes | | | | | | | | | | | |
| | | | | | | | 0.010–0.500 | | 10 mm | 0.00032 | 0.00096 | ±0.009 | yes | yes | | | | | | | | | | | |
| | | | | | | | 0.010–0.500 | Cy | 16 mm | 0.0088 | 0.0264 | ±0.09 | yes | yes | | | | | | Cell Test | 1.14561.0001 | 25 | | | |
| F | Fluoride (F ⁻) | 1.5 | 2.0 | 1.5 | 0.45 | 20 | 0.3 | 0.025–0.500 | F ⁻ | 50 mm | 0.0096 | 0.0288 | ±0.014 | yes | yes | Cell Test | 1.00809.0001 | 25 | | | | | | | |
| | | | | | | | | 0.1–1.80 | | 16 mm | 0.04 | 0.12 | ±0.02 | yes | yes | | | | | | | | | | |
| | | | | | | | | 0.02–2.00 | F ⁻ | 50 mm | 0.016 | 0.048 | ±0.02 | yes | yes | | | | | | Reagent Test | 1.17236.0250 | 250 | | |
| | | | | | | | | 0.10–2.50 | F ⁻ | 16 mm | 0.04 | 0.12 | ±0.06 | yes | yes | | | | | | Cell Test | 1.17243.0001 | 25 | | |
| | | | | | | | | 0.10–2.00 | F ⁻ | 10 mm | 0.032 | 0.096 | ±0.04 | yes | yes | | | | | | Reagent Test | 1.14598.0001 | 100 | | |
| | | | | | | | | 1.0–20.0 | F ⁻ | 10 mm | 0.26 | 0.65 | ±0.4 | no | no | | | | | | Reagent Test | 1.14598.0002 | 250 | | |
| I | Iron (Fe) | not specified ⁸⁾ | 0.3 | 0.2 | 0.06 | 30 | 0.06 | 0.0025–0.5000 | Fe | 100 mm | 0.00096 | 0.0029 | ±0.004 | yes | yes | Reagent Test | 1.14761.0002 1.14761.0001 | 250 1000 | | | | | | | |
| | | | | | | | | 0.005–1.000 | | 50 mm | 0.0017 | 0.0050 | ±0.008 | yes | yes | | | | | | | | | | |
| | | | | | | | | 0.03–2.50 | | 20 mm | 0.0024 | 0.0072 | ±0.020 | yes | yes | | | | | | | | | | |
| | | | | | | | | 0.05–5.00 | | 10 mm | 0.0048 | 0.0144 | ±0.040 | yes | yes | | | | | | | | | | |
| | | | | | | | | 0.010–1.000 | Fe | 50 mm | 0.0042 | 0.0125 | ±0.008 | yes | yes | | | | | | Reagent Test | 1.00796.0001 | 150 | | |
| | | | | | | | | 0.05–2.50 | 20 mm | 0.012 | 0.036 | ±0.02 | yes | yes | | | | | | | | | | | |
| | | | | | | | | 0.10–5.00 | 10 mm | 0.025 | 0.075 | ±0.04 | no | no | | | | | | | | | | | |
| | | | | | | | | 0.05–4.00 | Fe | 16 mm | 0.011 | 0.034 | ±0.04 | yes | yes | | | | | | Cell Test | 1.14549.0001 | 25 | | |
| L | Lead (Pb) | 0.01 | 0.015 | 0.01 ¹⁶⁾ | 0.003 | 30 | 0.003 | 0.010–1.000 | Pb | 50 mm | 0.0048 | 0.0144 | ±0.010 | no | yes | Reagent Test | 1.09717.0001 | 50 | | | | | | | |
| | | | | | | | | 0.05–2.50 | | 20 mm | 0.010 | 0.030 | ±0.025 | no | no | | | | | | | | | | |
| | | | | | | | | 0.10–5.00 | | 10 mm | 0.027 | 0.082 | ±0.050 | no | no | | | | | | | | | | |

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 EU Directive (EU) 2020/2184 of the European Parliament and the Council of 16 December 2020 on the quality of water intended for human consumption

1) The "Limit of Detection" (LOD) is determined by skilled staff in the QC lab and calculated according to ISO/TS 13530:2009 chapter 4.4.2 Limit of detection based on standard deviation of results of blank samples. To comply with regulatory demands, it may be necessary to perform an own determination.
 2) The "Limit of Quantification" (LOQ) is determined by skilled staff in the QC lab and calculated according to ISO/TS 13530:2009 and calculated as 3 times the LOD. To comply with regulatory demands, it may be necessary to perform an own determination.
 3) The uncertainty (k=2) is calculated according to ISO 11352:2012 Appendix B.3 — Estimation of measurement uncertainty using a standard solution. In contrary to the Appendix B3 we don't use a single concentration of a standards solution, we are using 10 concentrations for standards equidistance over the entire measuring range and calculate the standard deviation from the entire calibration. From this we calculate the uncertainty.
 4) The uncertainty of the method lies within the acceptance criteria from requirement measuring the limit and the given tolerance. The results can be used for reporting.
 5) The uncertainty of the method doesn't lie within the acceptance criteria from requirement measuring the limit and the given tolerance. The results can be used for screening (own information) but not for reporting. For reporting a other method must be used.
 6) Merck has got an "USEPA equivalent" for SDWA (Safe Drinking Water Act) according to the procedure of 40 CFR part 136 Clean Water Act as for drinking water no own methods are available.
 7) Merck has got an "USEPA equivalent" according to 40 CFR part 136 Clean Water Act (for wastewater analysis).
 8) (not specified means, that the WHO has not provided guidelines for the parameter, as it is not found at levels posing a health concern in drinking water)
 9) A parametric value of 0,70 mg/L shall be applied where a disinfection method that generates chlorate, in particular chlorine dioxide, is used for disinfection of water intended for human consumption.

10) The parametric value of 25 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for chromium until that date shall be 50 µg/L.
 11) For the digestion of total chromium the CrackSet 10 or 10C is needed
 12) Can be measured photometrically according to different standards like e.g. APHA 2120 F, APHA 2120 B, DIN EN ISO 6271-2, EN ISO 7887
 13) not a photometric measurement
 14) For the analysis of the total Cyanide a distillation included purging with air like e.g. described in APHA 4500-CN- C, is required.
 15) The method determines total cyanide in all forms.
 16) The parametric value of 5 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for lead until that date shall be 10 µg/L.
 17) The analysis of Mercury with photometric analysis is not sensitive enough. Better to use a AA-Hg system or ICP-MS
 18) A parametric value of 30 µg/L shall be applied for regions where geological conditions could lead to high levels of selenium in groundwater.
 19) Method of choice is the flame photometer
 20) The measurement of TDS is done with a conductivity meter.
 21) It is the sum of concentrations of the following specified compounds: chloroform, bromoform, dibromochloromethane and bromodichloromethane.
 22) For the measurement of turbidity in drinking water it is required to use a turbidity meter
 23) Turbidity: For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 Nephelometric Turbidity Unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTUs in at least 95 percent of the samples in any month. Systems that use filtration other than the conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTUs.
 24) This citation form differs from the one in the product name. The measurement ranges mentioned in this table refer to this citation form.

Spectroquant® Test Kits for Drinking Water (M–N)

| Parameter | WHO Guideline | USEPA | EU | EU | EU | EU | EU | Test information according EU requirements | | | | | | | | Test type | Cat. No. | No. of tests | USEPA equivalent for SDWA ⁶⁾ | USEPA equivalent for CWA ⁷⁾ |
|---------------------------------------|---------------------------------------|-----------------------------|----------------------------------|------------------------------|---|---|--|--|---------------|----------------|-----------------------------|-----------------------------|--|----------------------------------|---|--------------|------------------------------|------------------|---|--|
| | | 2017 Limit values in [mg/L] | Jan 05th 2021 max. MCL in [mg/L] | Dec. 2020 max. limits [mg/L] | LOQ ≤ 30% of the limit calculated in [mg/L] | Uncertainty of measurement % of parameter value (k = 2) | Uncertainty value from the limit (k = 2) in [mg/L] | Measuring range per cell size [mg/L] | Citation form | Cell size [mm] | LOD in [mg/L] ¹⁾ | LOQ in [mg/L] ²⁾ | Uncertainty (k = 2) [mg/L] ³⁾ | Good for reporting ⁴⁾ | Screening (own information) ⁵⁾ | | | | | |
| M | Manganese (Mn) | not specified ⁸⁾ | 0.05 | 0.05 | 0.015 | 30 | 0.015 | 0.005–0.400 | Mn | 50 mm | 0.0032 | 0.0096 | ±0.004 | yes | yes | Reagent Test | 1.01846.0001 | 250 | | |
| | | | | | | | | 0.03–1.00 | | 20 mm | 0.004 | 0.012 | ±0.01 | yes | yes | | | | | |
| | | | | | | | | 0.05–2.00 | | 10 mm | 0.008 | 0.024 | ±0.02 | no | no | | | | | |
| | | | | | | | | 0.010–2.000 | Mn | 50 mm | 0.0022 | 0.0067 | ±0.0117 | yes | yes | Reagent Test | 1.14770.0002 1.14770.0001 | 250 500 | | |
| | | | | | | | | 0.25–5.00 | | 20 mm | 0.007 | 0.021 | ±0.04 | no | no | | | | | |
| | | | | | | | | 0.50–10.00 | | 10 mm | 0.014 | 0.043 | ±0.09 | no | no | | | | | |
| Mercury (Hg) ¹⁷⁾ | 0.006 | 0.002 | 0.001 | 0.0003 | 30 | 0.0003 | | | | | | | | | – | – | – | | | |
| Monochloramines (as Cl ₂) | 3 | 4.0 | | | | | | Cl ₂ | 50 mm | 0.0023 | 0.007 | ±0.022 | | | Reagent Test | 1.01632.0001 | 150 | | | |
| | | | | | | | | | 20 mm | 0.0048 | 0.015 | ±0.055 | | | | | | | | |
| | | | | | | | | | 10 mm | 0.0096 | 0.029 | ±0.11 | | | | | | | | |
| Molybdenum (Mo) | not specified ⁸⁾ | | | | | | 0.02–1.00 | Mo | 16 mm | 0.0088 | 0.0264 | ±0.02 | | | Cell Test | 1.00860.0001 | 25 | | | |
| N | Nickel (Ni) | 0.07 | | 0.02 | 0.006 | 25 | 0.005 | Ni | 50 mm | 0.0048 | 0.0144 | ±0.012 | no | yes | Reagent Test | 1.14785.0001 | 250 | | | |
| | | | | | | | | | 20 mm | 0.0112 | 0.034 | ±0.03 | no | no | | | | | | |
| | | | | | | | | | 10 mm | 0.0224 | 0.067 | ±0.06 | no | no | | | | | | |
| Nitrates | 50 (as NO ₃ ⁻) | 10 (as N) | 50 (as NO ₃) | 15 | 15 | 7.5 | NO ₃ ²⁴⁾ | 50 mm | 0.18 | 0.53 | ±0.44 | yes | yes | Reagent Test | 1.09713.0001 1.09713.0002 | 100 250 | | USEPA equivalent | | |
| | | | | | | | | 20 mm | 0.25 | 0.75 | ±0.67 | yes | yes | | | | | | | |
| | | | | | | | | 10 mm | 0.50 | 1.5 | ±1.33 | yes | yes | | | | | | | |
| | | | | | | | | NO ₃ ²⁴⁾ | 20 mm | 0.18 | 0.53 | ±0.85 | yes | yes | Reagent Test | 1.14773.0001 | 100 | | USEPA equivalent | |
| | | | | | | | | | 10 mm | 0.21 | 0.63 | ±1.77 | yes | yes | | | | | | |
| | | | | | | | | NO ₃ ²⁴⁾ | 50 mm | 1.06 | 3.18 | ±4.86 | yes | yes | Reagent Test | 1.01842.0001 | 100 | | USEPA equivalent | |
| | | | | | | | | NO ₃ ²⁴⁾ | 16 mm | 0.21 | 0.63 | ±1.33 | yes | yes | Cell Test | 1.14542.0001 | 25 | | USEPA equivalent | |
| | | | | | | | | NO ₃ ²⁴⁾ | 16 mm | 0.46 | 1.38 | ±1.33 | yes | yes | Cell Test | 1.14563.0001 | 25 | | USEPA equivalent | |
| NO ₃ ²⁴⁾ | 16 mm | 1.06 | 3.18 | ±2.66 | yes | yes | Cell Test | 1.14764.0001 | 25 | | USEPA equivalent | | | | | | | | | |

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- 1) The "Limit of Detection" (LOD) is determined by skilled staff in the QC lab and calculated according to ISO/TS 13530:2009 chapter 4.4.2 Limit of detection based on standard deviation of results of blank samples. To comply with regulatory demands, it may be necessary to perform an own determination.
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- 6) Merck has got an "USEPA equivalent" for SDWA (Safe Drinking Water Act) according to the procedure of 40 CFR part 136 Clean Water Act as for drinking water no own methods are available.
- 7) Merck has got an "USEPA equivalent" according to 40 CFR part 136 Clean Water Act (for wastewater analysis).
- 8) (not specified) means, that the WHO has not provided guidelines for the parameter, as it is not found at levels posing a health concern in drinking water
- 9) A parametric value of 0,70 mg/L shall be applied where a disinfection method that generates chlorate, in particular chlorine dioxide, is used for disinfection of water intended for human consumption.

- 10) The parametric value of 25 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for chromium until that date shall be 50 µg/L.
- 11) For the digestion of total chromium the CrackSet 10 or 10C is needed
- 12) Can be measured photometrically according to different standards like e.g. APHA 2120 F, APHA 2120 B, DIN EN ISO 6271-2, EN ISO 7887
- 13) not a photometric measurement
- 14) For the analysis of the total Cyanide a distillation included purging with air like e.g. described in APHA 4500-CN- C, is required.
- 15) The method determines total cyanide in all forms.
- 16) The parametric value of 5 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for lead until that date shall be 10 µg/L.
- 17) The analysis of Mercury with photometric analysis is not sensitive enough. Better to use a AA-Hg system or ICP-MS
- 18) A parametric value of 30 µg/L shall be applied for regions where geological conditions could lead to high levels of selenium in groundwater.
- 19) Method of choice is the flame photometer
- 20) The measurement of TDS is done with a conductivity meter.
- 21) It is the sum of concentrations of the following specified compounds: chloroform, bromoform, dibromochloromethane and bromodichloromethane.
- 22) For the measurement of turbidity in drinking water it is required to use a turbidity meter
- 23) Turbidity: For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 Nephelometric Turbidity Unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTUs in at least 95 percent of the samples in any month. Systems that use filtration other than the conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTUs.
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Spectroquant® Test Kits for Drinking Water (N-Z)

| Parameter | WHO Guideline | USEPA | EU | EU | EU | EU | EU | Test information according EU requirements | | | | | | | | Test type | Cat. No. | No. of tests | USEPA equivalent for SDWA ⁶⁾ | USEPA equivalent for CWA ⁷⁾ |
|---|--------------------------------------|----------------------|--|-------|-----|-------|-------------|--|---------------|----------------|-----------------------------|-----------------------------|--|----------------------------------|---|------------------------------|-------------|--------------|---|--|
| | | | | | | | | Measuring range per cell size [mg/L] | Citation form | Cell size [mm] | LOD in [mg/L] ¹⁾ | LOQ in [mg/L] ²⁾ | Uncertainty (k = 2) [mg/L] ³⁾ | Good for reporting ⁴⁾ | Screening (own information) ⁵⁾ | | | | | |
| N Nitrites | 3 (as NO ₂ ⁻) | 1 (as N) | 0.5 (as NO ₂ ⁻) | 0.15 | 20 | 0.1 | 0.007–0.657 | NO ₂ ²⁴⁾ | 50 mm | 0.0016 | 0.0047 | ±0.0105 | yes | yes | Reagent Test | 1.14776.0002 1.14776.0001 | 335 1000 | | USEPA equivalent | |
| | | | | | | | 0.03–1.64 | | 20 mm | 0.0027 | 0.0079 | ±0.026 | yes | yes | | | | | | |
| | | | | | | | 0.07–3.28 | | 10 mm | 0.0053 | 0.0158 | ±0.052 | yes | yes | | | | | | |
| | | | | | | | 0.03–2.30 | NO ₂ ²⁴⁾ | 16 mm | 0.0021 | 0.0063 | ±0.026 | yes | yes | Cell Test | 1.14547.0001 | 25 | | USEPA equivalent | |
| P pH | not specified ⁸⁾ | 6.5–8.5 | ≥ 6.5–≤ 9.5 | | | | 6.4–8.8 pH | pH | 16 mm | | | ±0.1 pH | | | Cell Test | 1.01744.0001 | 280 | | | |
| S Selenium (Se) | 0.04 | 0.05 | 0.02 ¹⁸⁾ | 0.006 | 40 | 0.008 | | | | | | | | | | | | | | |
| S Silver (Ag) | not specified ⁸⁾ | 0.1 | | | | | | | | | | | | | | | | | | |
| S Sodium (Na) ¹⁹⁾ | not specified ⁸⁾ | | 200 | 60 | 15 | 30 | | | | | | | | | | | | | | |
| Sulfate (SO ₄) | not specified ⁸⁾ | 250 | 250 | 75 | 15 | 37.5 | 0.50–10.00 | SO ₄ | 50 mm | 0.176 | 0.528 | ±0.36 | yes | yes | Reagent Test | 1.01812.0001 | 100 | | | |
| | | | | | | | 1.3–25.0 | | 20 mm | 0.28 | 0.84 | ±0.45 | yes | yes | | | | | | |
| | | | | | | | 2.5–50.0 | | 10 mm | 0.56 | 1.68 | ±0.9 | yes | yes | | | | | | |
| | | | | | | | 1.0–50.0 | SO ₄ | 16 mm | 0.32 | 0.96 | ±1.0 | yes | yes | Cell Test | 1.02532.0001 | 25 | | | |
| | | | | | | | 5–250 | SO ₄ | 16 mm | 1.68 | 5.04 | ±6 | yes | yes | Cell Test | 1.14548.0001 | 25 | | USEPA equivalent | |
| | | | | | | | 5–300 | SO ₄ | 10 mm | 1.6 | 4.8 | ±5 | yes | yes | Reagent Test | 1.02537.0001 | 100 | | | |
| 50–500 | SO ₄ | 16 mm | 13.6 | 40.8 | ±12 | yes | yes | Cell Test | 1.00617.0001 | 25 | | | | | | | | | | |
| T Total Dissolved Solids (TDS) ²⁰⁾ | not specified ⁸⁾ | 500 | | | | | | | | | | | | | | | | | | |
| T Trihalomethans (total) | Chloroform: 0.3 | 0.08 | 0.1 ²¹⁾ | 0.03 | 40 | 0.04 | 0.05–2.00 | AOX | 16 mm | 0.02 | 0.06 | ±0.12 | no | yes | Cell Test | 1.00675.0001 | 25 | | | |
| T Turbidity ²²⁾ | 0.2 - 0.5 NTU | 1 NTU ²³⁾ | acceptable | | 30 | | | | | | | | | | | | | | | |
| Z Zinc | not specified ⁸⁾ | 5 | | | | | 0.025–1.00 | Zn | 16 mm | 0.0112 | 0.0336 | ±0.013 | | | Cell Test | 1.00861.0001 | 25 | | | |
| | | | | | | | 0.05–2.00 | Zn | 10 mm | 0.012 | 0.036 | ±0.06 | | | Reagent Test | 1.14832.0001 | 100 | | | |
| | | | | | | | 0.20–5.00 | Zn | 16 mm | 0.072 | 0.216 | ±0.08 | | | Cell Test | 1.14566.0001 | 25 | | | |

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- 14) For the analysis of the total Cyanide a distillation included purging with air like e.g. described in APHA 4500-CN- C, is required.
- 15) The method determines total cyanide in all forms.
- 16) The parametric value of 5 µg/L shall be met, at the latest, by 12 January 2036. The parametric value for lead until that date shall be 10 µg/L.
- 17) The analysis of Mercury with photometric analysis is not sensitive enough. Better to use a AA-Hg system or ICP-MS
- 18) A parametric value of 30 µg/L shall be applied for regions where geological conditions could lead to high levels of selenium in groundwater.
- 19) Method of choice is the flame photometer
- 20) The measurement of TDS is done with a conductivity meter.
- 21) It is the sum of concentrations of the following specified compounds: chloroform, bromoform, dibromochloromethane and bromodichloromethane.
- 22) For the measurement of turbidity in drinking water it is required to use a turbidity meter
- 23) Turbidity: For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 Nephelometric Turbidity Unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTUs in at least 95 percent of the samples in any month. Systems that use filtration other than the conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTUs.
- 24) This citation form differs from the one in the product name. The measurement ranges mentioned in this table refer to this citation form.

AQA FROM A TO Z

Analytical Quality Assurance (AQA) is the practice of ensuring your results are reliable and conform to good laboratory practice (GLP) guidelines. This thorough process includes installation qualification (IQ), operational qualification (OQ), and performance qualification (PQ).

The Spectroquant® AQA concept covers all stages of internal quality control (IQC). We also provide complete IQ, OQ and PQ documentation for all Spectroquant® Prove instruments. Target values and tolerances are either supplied in certificates or pre-programmed in the instruments.

Spectroquant® AQA Concept - 3 steps to great quality

1 PHOTOMETER CHECK:

Operational qualification (OQ)

Easy to perform with certified color standards, or Certipur® UV/Vis standards

2 SYSTEM CHECK:

Performance qualification (PQ)

Recovery measurement using CombiCheck standard solution, certified reference material (CRM) standard solutions, or Certipur® standard solutions

3 MATRIX CHECK:

Performance qualification (PQ)

One-time spiking with CombiCheck R-2 solution, or multiple dilution/spiking with certified reference material (CRM) standard solutions or self-prepared solutions



PHOTOMETER CHECK AQA 1

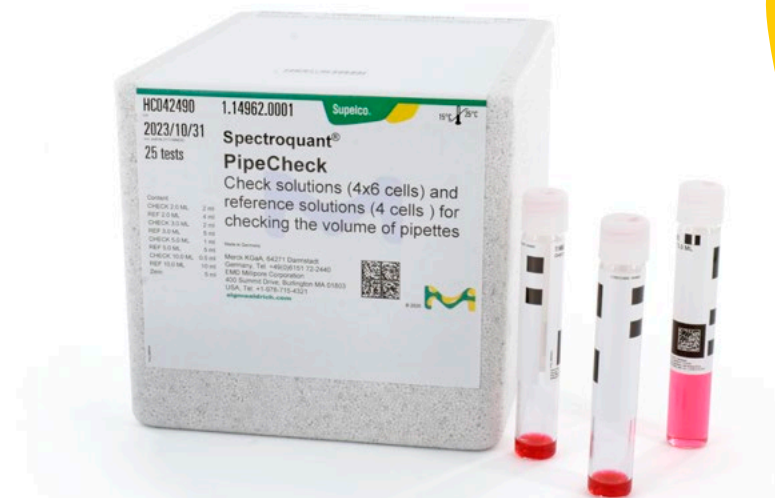
Installation qualification (IQ) and operational qualification (OQ)–checking the instrument

The purpose of IQ is to verify that instrument delivery matches the purchase order, and ensure that it is installed correctly.

OQ aims to assure the instrument's functionality over the entire operating range according to defined procedures. All Spectroquant® instruments are checked using certified color standards or Certipur® UV/Vis standards.

See **page 108**.

| Photometer check | Information | Content | Cat. No. | Prove 100 300 600 | NOVA 60A | Move 100 | Move DC |
|--------------------------------------|--|---|--------------|-----------------------|----------|----------|---------|
| Spectroquant® Zero Cell | We recommend replacing the zero cell every 2 years. | • One 16-mm cell filled with distilled water | 1.73503.0001 | • | • | | |
| Spectroquant® PhotoCheck | Secondary standards are compliant with ISO 9001, ISO 14001 and ISO 17205 guidelines, and calibrated with instrument qualified with NIST standards. | • Check solutions for 3 different wavelengths • 2 zero cells • 2 cells for checking the bar-code reader (only for Spectroquant® NOVA photometers) | 1.14693.0001 | • | • | | |
| Spectroquant® Verification Standards | Standards are supplied in sealed vials, which are individually calibrated on instruments traceable to NIST SRM 2032, 935a. | • 1 zero standard • 6 cells for checking 6 different wavelengths of the instrument | 1.19302.0001 | | | • | |
| Spectroquant® Reference Standards | Standards are supplied in sealed vials, which are individually calibrated on instruments traceable to NIST SRM 2032, 935a. | • 1 zero standard • 3 cells for checking 3 different concentrations for chlorine, chlorine dioxide and ozone method in the instrument | 1.19301.0001 | | | | • |
| Spectroquant® PipeCheck | For checking pipettes and documenting results, without the need for a precise balance. | • 24 cells with check solutions • 4 cells with corresponding reference solutions | 1.14962.0001 | • | • | • | • |



Spectroquant® Prove and Spectroquant® NOVA photometers

Certipur® UV/Vis standards

Certipur® UV/Vis standards can be used to verify the consistent and correct operation of your UV/Vis spectrophotometer.

Operations as per GLP, GMP, USP and ISO 9001 or ISO 45001 demand these regular controls. All standards are traceable to NIST.

The solutions are suitable for checking the following parameters as per Ph Eur:

- Absorption
- Stray light
- Wavelength accuracy

| Designation | Content | Cat. No. | Prove 100 | Prove 300 | Prove 600 |
|--------------------|--|--------------|-----------|-----------|-----------|
| UV/Vis Standard 1 | Potassium dichromate solution for absorbance acc. to DAB and Ph Eur Certipur® 2 x 10 mL K ₂ Cr ₂ O ₇ – 60.06 mg/L in H ₂ SO ₄ – 0.01 N and 6 x 10 mL H ₂ SO ₄ – 0.01 N | 1.08160.0001 | • | • | • |
| UV/Vis Standard 1A | Potassium dichromate solution for absorbance at 430 nm acc. to DAB and Ph Eur Certipur® 2 x 10 mL K ₂ Cr ₂ O ₇ – 600.06 mg/L in H ₂ SO ₄ – 0.01 N and 6 x 10 mL H ₂ SO ₄ – 0.01 N | 1.04660.0001 | • | • | • |
| UV/Vis Standard 2 | Sodium nitrite solution for stray light testing acc. to DAB and Ph Eur Certipur® 3 x 10 mL NaNO ₂ – 50 g/L in H ₂ O | 1.08161.0001 | • | • | • |
| UV/Vis Standard 3 | Sodium iodide solution for stray light testing acc. to DAB and Ph Eur Certipur® 3 x 10 mL NaI – 10 g/L in H ₂ O | 1.08163.0001 | | | • |
| UV/Vis Standard 4 | Potassium chloride solution for stray light testing acc. to DAB and Ph Eur Certipur® 3 x 10 mL KCl – 12 g/L in H ₂ O | 1.08164.0001 | | | • |
| UV/Vis Standard 5 | Toluene solution in n-hexane for testing the resolution power acc. to DAB and Ph Eur Certipur® 2 x 10 mL 0.02 % (v/v) toluene and 6 x 10 mL n-hexane | 1.08165.0001 | | | • |
| UV/Vis Standard 6 | Holmium oxide solution reference material for wavelength testing acc. to DAB and Ph Eur Certipur® 3 x 10 mL Ho ₂ O ₃ – 40 g/L in HClO ₄ (10 % v/v) | 1.08166.0001 | • | • | • |

SYSTEM CHECK AQA 2

Performance qualification [PQ]—checking the complete system and sample matrix

Verifying product-related functionalities is the most comprehensive step in the process, and involves the measurement of both method-specific standards and real samples. PQ consists of a system check (see below) and a matrix check (see next page).

System Check

The complete system can be checked using standard solutions of a known content and covers all components of the analysis: instrument, test kit, standard, pipette and/or cell, and operator.

Spectroquant® test kits are listed on **page 62–85**

Spectroquant® CombiCheck see **page 110–113**

Standard solutions (CRM) for photometric applications see **page 116–117**

Certipur® standard solutions see **page 118**

MATRIX CHECK AQA 3

Matrix Check

Identifies measurement errors due to interferences from foreign substances in the sample.

Because they can significantly interfere with results, we have tested a number of foreign compounds to determine the maximum concentration they may be present at without causing errors. These limits are defined in the package insert of each Spectroquant® test kit. However, for samples with very complex or unknown compositions, we recommend analysis of interferences based on recovery rates and rectification through appropriate countermeasures like sample pre-treatment.

How?

Depending on the sample concentration and the available test kit measuring range, there are two methods: spiking with standard solutions or diluting with water.

For ease of use, Spectroquant® CombiChecks provide a CombiCheck R-2 addition solution for one-time standard addition (spiking).

Spectroquant® CombiCheck product information page 110

When using self-prepared standard solutions or following listed, it is necessary to spike multiple times. To avoid changing the sample matrix, spiking solutions should be highly concentrated and used in small quantities relative to the sample. The AQA3 program in Spectroquant® Prove spectrophotometers will guide you through this procedure step-by-step.

Standard solutions (CRM) for photometric applications product information page 116

Certipur® standard solutions product information page 118

Comprehensive quality assurance using IQ, OQ, and PQ documents will transform your measurements into proven, verifiable analytical results. Please contact your local representative to learn more about our quality assurance service.

protect YOUR data

Password-protected control of the complete system

- Ensure AQA intervals are observed by issuing a password (NOVA photometers) or defining hierarchical user groups (Prove spectrophotometers)
- Measurements and methods are only possible if quality control checks and intervals are adhered to
- Documentation of AQA results are provided in the final report, proving GLP compliance and ensuring that the system is tested



The Combination for Simplicity

Convenient photometric system checking with one product. Spectroquant® CombiChecks have two standard solutions for multiple analytes of interest: one for direct measurement and the other for spiking your sample. The performance check covers test kits, instruments, and individual working procedures.

All analytes have specified concentration, are ready-to-use, and directly traceable to NIST primary standards. If you obtain a measurement result within the specified concentration range with your test kit and instrument, your system is working properly.

If you obtain outside the specified range, further investigation is needed to determine the reason. This may be due to interfering substances in the sample matrix, in which case an appropriate sample pre-treatment to remove the interfering compounds is necessary. Methods for this type of removal are described in various application notes. Another possibility is that it is a result of the uncertainty introduced by the test kit you are using.

CombiCheck 10

Spectroquant® CombiCheck 10 | Cat. No. 1.14676.0001

| | Parameter | Concentration and working tolerance | can be used for test kits Cat. No. | Standard solution [mL] | Number of quality checks |
|-------------------------------|--|--|--|------------------------|--------------------------|
| Standard Solution Reagent R-1 | Ammonium | 4.00 ±0.30 mg/L NH ₄ -N | 1.14558.0001 | 1.0 | 96 |
| | Chloride | 25 ±6 mg/L Cl | 1.14730.0001 | 1.0 | 96 |
| | COD | 80 ±12 mg/L COD | 1.14540.0001 | 3.0 | 32 |
| | | 80 ±12 mg/L COD | 1.18751.0001 | 2.0 | 48 |
| | Nitrate | 2.50 ±0.25 mg/L NO ₃ -N | 1.14556.0001 | 2.0 | 48 |
| | | 2.50 ±0.25 mg/L NO ₃ -N | 1.14773.0001 ²⁾ | 1.5 | 64 |
| | | 2.50 ±0.25 mg/L NO ₃ -N | 1.09713.0001 ³⁾ | 1.0 | 96 |
| | Phosphate ⁴⁾ | 0.80 ±0.08 mg/L PO ₄ -P | 1.00474.0001 | 5.0 | 19 |
| | | 0.80 ±0.08 mg/L PO ₄ -P | 1.14543.0001 | 5.0 | 19 |
| | | 0.80 ±0.08 mg/L PO ₄ -P | 1.14848.0001/ .0002 ²⁾ | 5.0 | 19 |
| | | 0.80 ±0.08 mg/L PO ₄ -P | 1.14848.0001 ³⁾ / .0002 ³⁾ | 10.0 | 9 |
| | Sulfate | 100 ±15 mg/L SO ₄ ²⁻ | 1.14548.0001 | 5.0 | 19 |
| | | 100 ±15 mg/L SO ₄ ²⁻ | 1.00617.0001 | 2.0 | 48 |
| | | 100 ±15 mg/L SO ₄ ²⁻ | 1.02537.0001 | 5.0 | 19 |
| | Addition Solution Reagent R-2 (for spiking of samples) | Ammonium | 3.00 ±0.25 mg/L NH ₄ -N | 1.14558.0001 | 0.10 |
| Chloride | | 25 ±6 mg/L Cl | 1.14730.0001 | 0.10 | 280 |
| COD | | 30 ±8 mg/L COD | 1.14540.0001 | 0.10 | 280 |
| | | 45 ±8 mg/L COD | 1.18751.0001 | 0.10 | 280 |
| Nitrate | | 1.50 ±0.20 mg/L NO ₃ -N | 1.14556.0001 | 0.10 | 280 |
| | | 2.00 ±0.40 mg/L NO ₃ -N | 1.14773.0001 ²⁾ | 0.10 | 280 |
| | | 3.00 ±0.50 mg/L NO ₃ -N | 1.09713.0001 ³⁾ | 0.10 | 280 |
| | | 6.0 ±1.0 mg/L NO ₃ -N | 1.09713.0001 ¹⁾ 2) | 0.10 | 280 |
| Phosphate ⁴⁾ | | 0.60 ±0.07 mg/L PO ₄ -P | 1.00474.0001 | 0.10 | 280 |
| | | 0.60 ±0.07 mg/L PO ₄ -P | 1.14543.0001 | 0.10 | 280 |
| | | 0.30 ±0.05 mg/L PO ₄ -P | 1.14848.0001/ .0002 ³⁾ | 0.10 | 280 |
| Sulfate | | 40 ±5 mg/L SO ₄ ²⁻ | 1.14548.0001 | 0.10 | 280 |
| | | 100 ±15 mg/L SO ₄ ²⁻ | 1.00617.0001 | 0.10 | 280 |
| | | 40 ±5 mg/L SO ₄ ²⁻ | 1.02537.0001 | 0.10 | 280 |

1) using a 10-mm rectangular cell, Cat. No. 1.14946.0001
 2) using a 20-mm rectangular cell, Cat. No. 1.14947.0001
 3) using a 50-mm rectangular cell, Cat. No. 1.14944.0001

4) only the determination of ortho-phosphate can be checked
 5) when using AutoSelector, measuring range 5 - 150 mg/L NH₄-N is used

CombiCheck 20

Spectroquant® CombiCheck 20 | Cat. No. 1.14675.0001

| | Parameter | Concentration and working tolerance | Can be used for test kits Cat. No. | Standard solution [mL] | Number of quality checks |
|--|--|--|------------------------------------|------------------------|--------------------------|
| Standard Solution Reagent R-1 | Ammonium | 12.0 ±1.0 mg/L NH ₄ -N | 1.14544.0001 | 0.50 | 192 |
| | Chloride | 60 ±10 mg/L Cl | 1.14730.0001 | 1.0 | 96 |
| | COD | 750 ±75 mg/L COD | 1.14541.0001 | 3.0 | 32 |
| | | 750 ±75 mg/L COD | 1.18752.0001 | 2.0 | 48 |
| | Nitrate | 9.0 ±0.9 mg/L NO ₃ -N | 1.14563.0001 | 1.0 | 96 |
| | | 9.0 ±0.9 mg/L NO ₃ -N | 1.14542.0001 | 1.5 | 64 |
| | | 9.0 ±0.9 mg/L NO ₃ -N | 1.09713.0001/ .0002 ¹⁾ | 0.50 | 192 ¹⁾ |
| | Nitrate | 9.0 ±0.9 mg/L NO ₃ -N | 1.14773.0001 ¹⁾ | 1.5 | 64 |
| | | 9.0 ±0.9 mg/L NO ₃ -N | 1.14942.0001 | 1.0 | 96 |
| | | 9.0 ±0.9 mg/L NO ₃ -N | 1.14942.0001 | 1.0 | 96 |
| | Phosphate ⁴⁾ | 8.0 ±0.7 mg/L PO ₄ -P | 1.00475.0001 | 1.0 | 96 |
| | | 8.0 ±0.7 mg/L PO ₄ -P | 1.14729.0001 | 1.0 | 96 |
| Sulfate | 500 ±75 mg/L SO ₄ ²⁻ | 1.14564.0001 | 1.0 | 96 | |
| Addition Solution Reagent R-2 (for spiking of samples) | Ammonium | 8.0 ±0.8 mg/L NH ₄ -N | 1.14544.0001 | 0.10 | 280 |
| | Chloride | 40 ±7 mg/L Cl | 1.14730.0001 | 0.10 | 280 |
| | COD | 200 ±40 mg/L COD | 1.14541.0001 | 0.10 | 280 |
| | | 300 ±40 mg/L COD | 1.18752.0001 | 0.10 | 280 |
| | Nitrate | 7.5 ±0.8 mg/L NO ₃ -N | 1.14563.0001 | 0.10 | 280 |
| | | 5.0 ±0.6 mg/L NO ₃ -N | 1.14542.0001 | 0.10 | 280 |
| | | 15.0 ±1.5 mg/L NO ₃ -N | 1.09713.0001/ .0002 | 0.10 | 280 |
| | Nitrate | 5.0 ±0.6 mg/L NO ₃ -N | 1.14773.0001 ¹⁾ | 0.10 | 280 |
| | | 7.5 ±0.8 mg/L NO ₃ -N | 1.14942.0001 ¹⁾ | 0.10 | 280 |
| | | 7.5 ±0.8 mg/L NO ₃ -N | 1.14942.0001 ¹⁾ | 0.10 | 280 |
| | Phosphate ⁴⁾ | 5.0 ±0.5 mg/L PO ₄ -P | 1.00475.0001 | 0.10 | 280 |
| | | 5.0 ±0.5 mg/L PO ₄ -P | 1.14729.0001 | 0.10 | 280 |
| | Sulfate | 150 ±30 mg/L SO ₄ ²⁻ | 1.14564.0001 | 0.10 | 280 |

CombiCheck 50

Spectroquant® CombiCheck 50 | Cat. No. 1.14695.0001

| | Parameter | Concentration and working tolerance | can be used for test kits Cat. No. | Standard solution [mL] | Number of quality checks | |
|-------------------------------|--|--------------------------------------|--------------------------------------|-----------------------------------|--------------------------|-----|
| Standard Solution Reagent R-1 | Ammonium | 1.000 ±0.100 mg/L NH ₄ -N | 1.14739.0001 | 5.0 | 19 | |
| | | 1.00 ±0.10 mg/L NH ₄ -N | 1.14752.0002/ .0001 ¹⁾ | 5.0 | 19 | |
| | COD | 20.0 ±4.0 mg/L COD | 1.14560.0001 | 3.0 | 32 | |
| | | 20.0 ±4.0 mg/L COD | 1.01796.0001 | 2.0 | 48 | |
| | | 20.0 ±4.0 mg/L COD | 1.18750.0001 | 2.0 | 48 | |
| | Nitrogen | 5.0 ±0.7 mg/L N | 1.00613.0001 | 10 | 9 | |
| | | 5.0 ±0.7 mg/L N | 1.14537.0001 | 10 | 9 | |
| | Addition Solution Reagent R-2 (for spiking of samples) | Ammonium | 1.000 ±0.100 mg/L NH ₄ -N | 1.14739.0001 | 0.10 | 280 |
| | | | 1.00 ±0.10 mg/L NH ₄ -N | 1.14752.0002/ .0001 ¹⁾ | 0.10 | 280 |
| COD | | 10.0 ±3.0 mg/L COD | 1.14560.0001 | 0.10 | 280 | |
| | | 15.0 ±3.0 mg/L COD | 1.01796.0001 | 0.10 | 280 | |
| | | 15.0 ±3.0 mg/L COD | 1.18750.0001 | 0.10 | 280 | |
| Nitrogen | | 3.0 ±0.5 mg/L N | 1.00613.0001 | 0.10 | 280 | |
| | | 3.0 ±0.5 mg/L N | 1.14537.0001 | 0.10 | 280 | |

1) using a 10-mm rectangular cell, Cat. No. 1.14946.0001
 2) using a 20-mm rectangular cell, Cat. No. 1.14947.0001
 3) using a 50-mm rectangular cell, Cat. No. 1.14944.0001

4) only the determination of ortho-phosphate can be checked
 5) when using AutoSelector, measuring range 5 - 150 mg/L NH₄-N is used

CombiCheck 60

Spectroquant® CombiCheck 60 | Cat. No. 1.14696.0001

| | Parameter | Concentration and working tolerance | can be used for test kits Cat. No. | Standard solution [mL] | Number of quality checks |
|--|-----------|-------------------------------------|------------------------------------|------------------------|--------------------------|
| Standard Solution Reagent R-1 | Chloride | 125 ±13 mg/L Cl ⁻ | 1.14897.0001/ .0002 | 1.0 | 96 |
| | COD | 250 ±25 mg/L COD | 1.14690.0001 | 2.0 | 48 |
| | | 250 ±20 mg/L COD | 1.14895.0001 | 2.0 | 48 |
| Addition Solution Reagent R-2 (for spiking of samples) | Chloride | 50 ±7 mg/L Cl ⁻ | 1.14897.0001/ .0002 | 0.10 | 280 |
| | COD | 75 ±15 mg/L COD | 1.14690.0001 | 0.10 | 280 |
| | | 75 ±10 mg/L COD | 1.14895.0001 | 0.10 | 280 |

CombiCheck 70

Spectroquant® CombiCheck 70 | Cat. No. 1.14689.0001

| | Parameter | Concentration and working tolerance | can be used for test kits Cat. No. | Standard solution [mL] | Number of quality checks |
|--|--------------------------|-------------------------------------|------------------------------------|------------------------|--------------------------|
| Standard Solution Reagent R-1 | Ammonium | 50.0 ±5.0 mg/L NH ₄ -N | 1.14559.0001 | 0.10 | 960 |
| | Ammonium (2.0-75.0 mg/L) | 50.0 ±5.0 mg/L NH ₄ -N | 1.00683.0001 ^{1) 5)} | 0.20 | 480 |
| | Ammonium (5-150 mg/L) | 50 ±5 mg/L NH ₄ -N | 1.00683.0001 ^{1) 5)} | 0.10 | 960 |
| | COD | 5,000 ±400 mg/L COD | 1.14555.0001 | 1.0 | 96 |
| | | 5,000 ±400 mg/L COD | 1.18753.0001 | 0.20 | 480 |
| | Nitrogen | 50 ±7 mg/L N | 1.14763.0001 | 1.0 | 96 |
| | | Ammonium | 20.0 ±2.0 mg/L NH ₄ -N | 1.14559.0001 | 0.10 |
| Addition Solution Reagent R-2 (for spiking of samples) | Ammonium (2.0-75.0 mg/L) | 10.0 ±1.0 mg/L NH ₄ -N | 1.00683.0001 ^{1) 5)} | 0.10 | 280 |
| | Ammonium (5-150 mg/L) | 20 ±2 mg/L NH ₄ -N | 1.00683.0001 ^{1) 5)} | 0.10 | 280 |
| | COD | 2,000 ±200 mg/L COD | 1.14555.0001 | 0.10 | 280 |
| | Nitrogen | 20 ±6 mg/L N | 1.14763.0001 | 0.10 | 280 |

CombiCheck 80

Spectroquant® CombiCheck 80 | Cat. No. 1.14738.0001

| | Parameter | Concentration and working tolerance | can be used for test kits Cat. No. | Standard solution [mL] | Number of quality checks |
|--|-------------------------|-------------------------------------|------------------------------------|------------------------|--------------------------|
| Standard Solution Reagent R-1 | COD | 1,500 ±150 mg/L COD | 1.14691.0001 | 2.0 | 48 |
| | Nitrate | 25.0 ±2.5 mg/L NO ₃ -N | 1.14764.0001 | 0.50 | 190 |
| | Phosphate ⁴⁾ | 15.0 ±1.0 mg/L PO ₄ -P | 1.00475.0001 | 1.0 | 96 |
| | | 15.0 ±1.0 mg/L PO ₄ -P | 1.14729.0001 | 1.0 | 96 |
| Addition Solution Reagent R-2 (for spiking of samples) | COD | 1,000 ±100 mg/L COD | 1.14691.0001 | 0.10 | 280 |
| | Nitrate | 10.0 ±1.5 mg/L NO ₃ -N | 1.14764.0001 | 0.10 | 280 |
| | Phosphate ⁴⁾ | 5.0 ±0.5 mg/L PO ₄ -P | 1.00475.0001 | 0.10 | 280 |
| | | 5.0 ±0.5 mg/L PO ₄ -P | 1.14729.0001 | 0.10 | 280 |

1) using a 10-mm rectangular cell, Cat. No. 1.14946.0001
2) using a 20-mm rectangular cell, Cat. No. 1.14947.0001
3) using a 50-mm rectangular cell, Cat. No. 1.14944.0001

4) only the determination of ortho-phosphate can be checked
5) when using AutoSelector, measuring range 5 - 150 mg/L NH₄-N is used

CombiCheck 90

Spectroquant® CombiCheck 90 | Cat. No. 1.18700.0001

| | Parameter | Concentration and working tolerance | can be used for test kits Cat. No. | Standard solution [mL] | Number of quality checks |
|--|-----------|-------------------------------------|------------------------------------|------------------------|--------------------------|
| Standard Solution Reagent R-1 | Cadmium | 0.250 ±0.030 mg/L Cd | 1.01745.0001 ¹⁾ | 10.0 | 9 |
| | | 0.250 ±0.030 mg/L Cd | 1.14834.0001 | 5.0 | 19 |
| | Iron | 1.00 ±0.15 mg/L Fe | 1.14549.0001 | 5.0 | 19 |
| | | 1.00 ±0.15 mg/L Fe | 1.14761.0001 ¹⁾ | 5.0 | 19 |
| | | 1.00 ±0.15 mg/L Fe | 1.00796.0001 ¹⁾ | 8.0 | 12 |
| | Copper | 2.00 ±0.20 mg/L Cu | 1.14553.0001 | 5.0 | 19 |
| | | 2.00 ±0.20 mg/L Cu | 1.14767.0001 ¹⁾ | 5.0 | 19 |
| | Manganese | 1.00 ±0.15 mg/L Mn | 1.00816.0001 | 7.0 | 13 |
| | | 1.00 ±0.15 mg/L Mn | 1.14770.0001 ³⁾ | 10.0 | 9 |
| 1.00 ±0.15 mg/L Mn | | 1.01846.0001 ¹⁾ | 8.0 | 12 | |
| Addition Solution Reagent R-2 (for spiking of samples) | Cadmium | 0.100 ±0.015 mg/L Cd | 1.01745.0001 ¹⁾ | 0.10 | 280 |
| | | 0.200 ±0.030 mg/L Cd | 1.14834.0001 | 0.10 | 280 |
| | Iron | 3.00 ±0.30 mg/L Fe | 1.14549.0001 | 0.10 | 280 |
| | | 3.00 ±0.30 mg/L Fe | 1.14761.0001 ¹⁾ | 0.10 | 280 |
| | | 1.88 ±0.20 mg/L Fe | 1.00796.0001 ¹⁾ | 0.10 | 280 |
| | Copper | 3.00 ±0.30 mg/L Cu | 1.14553.0001 | 0.10 | 280 |
| | | 3.00 ±0.30 mg/L Cu | 1.14767.0001 ¹⁾ | 0.10 | 280 |
| | Manganese | 1.43 ±0.15 mg/L Mn | 1.00816.0001 | 0.10 | 280 |
| | | 1.00 ±0.15 mg/L Mn | 1.14770.0001 ³⁾ | 0.10 | 280 |
| | | 1.25 ±0.15 mg/L Mn | 1.01846.0001 ¹⁾ | 0.10 | 280 |

CombiCheck 100

Spectroquant® CombiCheck 100 | Cat. No. 1.18701.0001

| | Parameter | Concentration and working tolerance | can be used for test kits Cat. No. | Standard solution [mL] | Number of quality checks |
|--|-----------|-------------------------------------|------------------------------------|------------------------|--------------------------|
| Standard Solution Reagent R-1 | Aluminium | 0.40 ±0.05 mg/L Al | 1.00594.0001 | 6.0 | 16 |
| | | 0.40 ±0.05 mg/L Al | 1.14825.0001 ¹⁾ | 5.0 | 19 |
| | Lead | 2.00 ±0.20 mg/L Pb | 1.14833.0001 | 5.0 | 19 |
| | | 2.00 ±0.20 mg/L Pb | 1.09717.0001 ¹⁾ | 8.0 | 11 |
| | Nickel | 2.00 ±0.20 mg/L Ni | 1.14554.0001 | 5.0 | 19 |
| | | 2.00 ±0.20 mg/L Ni | 1.14785.0001 ¹⁾ | 5.0 | 19 |
| | Zinc | 0.750 ±0.150 mg/L Zn | 1.00861.0001 | 10.0 | 9 |
| | | 0.75 ±0.15 mg/L Zn | 1.14832.0001 | 5.0 | 19 |
| Addition Solution Reagent R-2 (for spiking of samples) | Aluminium | 0.20 ±0.03 mg/L Al | 1.00594.0001 | 0.10 | 280 |
| | | 0.24 ±0.04 mg/L Al | 1.14825.0001 ¹⁾ | 0.10 | 280 |
| | Lead | 1.00 ±0.15 mg/L Pb | 1.14833.0001 | 0.10 | 280 |
| | | 0.63 ±0.10 mg/L Pb | 1.09717.0001 ¹⁾ | 0.10 | 280 |
| | Nickel | 2.00 ±0.20 mg/L Ni | 1.14554.0001 | 0.10 | 280 |
| | | 2.00 ±0.20 mg/L Ni | 1.14785.0001 ¹⁾ | 0.10 | 280 |
| | Zinc | 0.250 ±0.050 mg/L Zn | 1.00861.0001 | 0.10 | 280 |
| | | 0.50 ±0.10 mg/L Zn | 1.14832.0001 | 0.10 | 280 |

1) using a 10-mm rectangular cell, Cat. No. 1.14946.0001
2) using a 20-mm rectangular cell, Cat. No. 1.14947.0001
3) using a 50-mm rectangular cell, Cat. No. 1.14944.0001

4) only the determination of ortho-phosphate can be checked
5) when using AutoSelector, measuring range 5 - 150 mg/L NH₄-N is used

NO DILUTION. NO DOUBTS. NO DELAYS.

Experience **absolute precision** in photometric quality control with our ready-to-use, **reference material solutions**. As a result of their exact concentrations, expanded measurement uncertainty, and direct traceability to NIST primary reference materials, our standards ensure that your measurements are correct and comparable worldwide.

PRECISE
ANALYTICAL
QUALITY
CONTROL

DIRECTLY
TRACEABLE
TO NIST

NO DILUTION
NEEDED

Exact, batch-specific concentration, and expanded measurement uncertainty



Complete range of parameters for analytical quality control of wastewater, drinking water, and process water

Detailed Certificate of Analysis for each CRM simplifies accreditation

Compatible with Spectroquant® test kits or those from other suppliers

Ready-to-use, diluted CRMs save time and prevent dilution errors

Long shelf life of 24 months

Directly traceable to NIST primary measurement standards

Ideal for validating international norm methods: ISO, EN, EPHA, and EPA

EVEN BETTER TOGETHER

The perfect combination for water analysis: use our certified standard solutions with Spectroquant® Prove spectrophotometers.

Learn more about: Prove (page 38)

Definitions

Traceability

“Property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty.”¹

Certified reference material (CRM)

“Reference material (RM) characterized by a metrologically valid procedure for one or more specified properties, accompanied by an RM certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.”²

Primary measurement standard

“Measurement standard that is designated or widely acknowledged as having the highest metrological qualities and whose property value is accepted without reference to other standards of the same property or quantity, within a specified context.”²

Secondary measurement standard

“Measurement standard whose property value is assigned by comparison with a primary measurement standard of the same property or quantity.”²

¹ ISO Guide 99:2007; International Vocabulary of Metrology—Basic and General Concepts and Associated Terms (VIM)

² ISO/Guide 30:2015; Reference Materials—Selected Terms and Definitions

Standard Solutions (100 mL, in H₂O), traceable to SRM from NIST

| | Product | Concentration | Expanded Measurement Uncertainty | Cat. No. | |
|----------|-----------------------------|-------------------------------|----------------------------------|-------------------------------|--------------|
| A | Aluminium Standard Solution | 0.200 mg/L Al | ±0.006 mg/L Al | 1.32225.0100 | |
| | Ammonium Standard Solution | 0.250 mg/L NH ₄ | ±0.011 mg/L NH ₄ | 1.32227.0100 | |
| | Ammonium Standard Solution | 0.400 mg/L NH ₄ -N | ±0.012 mg/L NH ₄ -N | 1.25022.0100 | |
| | Ammonium Standard Solution | 1.00 mg/L NH ₄ -N | ±0.04 mg/L NH ₄ -N | 1.25023.0100 | |
| | Ammonium Standard Solution | 2.00 mg/L NH ₄ -N | ±0.07 mg/L NH ₄ -N | 1.25024.0100 | |
| | Ammonium Standard Solution | 6.00 mg/L NH ₄ -N | ±0.13 mg/L NH ₄ -N | 1.25025.0100 | |
| | Ammonium Standard Solution | 12.0 mg/L NH ₄ -N | ±0.4 mg/L NH ₄ -N | 1.25026.0100 | |
| | Ammonium Standard Solution | 50.0 mg/L NH ₄ -N | ±1.2 mg/L NH ₄ -N | 1.25027.0100 | |
| | Arsenic Standard Solution | 1.00 mg/L As | ±0.05 mg/L As | 1.33002.0250 ^{1) 2)} | |
| B | Boron Standard Solution | 1.00 mg/L B | ±0.06 mg/L B | 1.33005.0100 | |
| | Bromate Standard Solution | 0.0100 mg/L BrO ₃ | ±0.0006 mg/L BrO ₃ | 1.33006.0100 | |
| | Bromate Standard Solution | 0.1000 mg/L BrO ₃ | ±0.0040 mg/L BrO ₃ | 1.33007.0100 | |
| C | Cadmium Standard Solution | 0.00500 mg/L Cd | ±0.00020 mg/L Cd | 1.33008.0100 ¹⁾ | |
| | Chloride Standard Solution | 0.100 mg/L Cl | ±0.006 mg/L Cl | 1.33009.0100 | |
| | Chloride Standard Solution | 1.00 mg/L Cl | ±0.04 mg/L Cl | 1.33010.0100 | |
| | Chloride Standard Solution | 2.50 mg/L Cl | ±0.08 mg/L Cl | 1.33011.0100 | |
| | Chloride Standard Solution | 10.0 mg/L Cl | ±0.5 mg/L Cl | 1.32229.0100 | |
| | Chloride Standard Solution | 50 mg/L Cl | ±3 mg/L Cl | 1.32230.0100 | |
| | Chloride Standard Solution | 250 mg/L Cl | ±8 mg/L Cl | 1.32231.0100 | |
| | Chromium Standard Solution | 0.050 mg/L Cr(VI) | ±0.002 mg/L Cr(VI) | 1.33012.0100 | |
| | Chromium Standard Solution | 1.00 mg/L Cr(VI) | ±0.03 mg/L Cr(VI) | 1.33013.0100 | |
| | COD Standard Solution | 20.0 mg/L | ±0.7 mg/L | 1.25028.0100 | |
| | COD Standard Solution | 100 mg/L | ±3 mg/L | 1.25029.0100 | |
| | COD Standard Solution | 200 mg/L | ±4 mg/L | 1.25030.0100 | |
| | COD Standard Solution | 400 mg/L | ±5 mg/L | 1.25031.0100 | |
| | COD Standard Solution | 1,000 mg/L | ±11 mg/L | 1.25032.0100 | |
| | COD Standard Solution | 2,000 mg/L | ±32 mg/L | 1.25033.0100 | |
| | COD Standard Solution | 8,000 mg/L | ±68 mg/L | 1.25034.0100 | |
| | COD Standard Solution | 50,000 mg/L | ±894 mg/L | 1.25035.0100 | |
| | F | Fluoride Standard Solution | 0.200 mg/L F | ±0.012 mg/L F | 1.32234.0100 |
| | | Fluoride Standard Solution | 0.50 mg/L F | ±0.02 mg/L F | 1.32233.0100 |
| | | Fluoride Standard Solution | 1.00 mg/L F | ±0.03 mg/L F | 1.32235.0100 |
| | | Fluoride Standard Solution | 1.50 mg/L F | ±0.04 mg/L F | 1.32236.0100 |
| I | Iron Standard Solution | 0.0500 mg/L Fe | ±0.0015 mg/L Fe | 1.33014.0100 ¹⁾ | |
| | Iron Standard Solution | 0.1000 mg/L Fe | ±0.0030 mg/L Fe | 1.33018.0100 ¹⁾ | |
| | Iron Standard Solution | 0.300 mg/L Fe | ±0.009 mg/L Fe | 1.33019.0100 ¹⁾ | |
| | Iron Standard Solution | 1.00 mg/L Fe | ±0.04 mg/L Fe | 1.33020.0100 ¹⁾ | |
| L | Lead Standard Solution | 0.0500 mg/L Pb | ±0.0040 mg/L Pb | 1.33003.0100 ¹⁾ | |
| | Lead Standard Solution | 0.100 mg/L Pb | ±0.005 mg/L Pb | 1.33004.0100 ¹⁾ | |

1) 100 mL, in HNO₃ 2) 250 mL bottle 3) traceable to USP

Standard Solutions (100 mL, in H₂O), traceable to SRM from NIST

| | Product | Concentration | Expanded Measurement Uncertainty | Cat. No. |
|------------------------------|--|-------------------------------|----------------------------------|--------------------------------|
| M | Manganese Standard Solution | 0.050 mg/L Mn | ±0.004 mg/L Mn | 1.32237.0100 |
| | Manganese Standard Solution | 0.200 mg/L Mn | ±0.005 mg/L Mn | 1.32238.0100 |
| | Manganese Standard Solution | 1.00 mg/L Mn | ±0.03 mg/L Mn | 1.32239.0100 |
| N | Nitrate Standard Solution | 1.00 mg/L NO ₃ | ±0.03 mg/L NO ₃ | 1.32240.0100 |
| | Nitrate Standard Solution | 10.0 mg/L NO ₃ | ±0.3 mg/L NO ₃ | 1.32241.0100 |
| | Nitrate Standard Solution | 50.0 mg/L NO ₃ | ±2.0 mg/L NO ₃ | 1.32242.0100 |
| | Nitrate Standard Solution | 0.50 mg/L NO ₃ -N | ±0.05 mg/L NO ₃ -N | 1.25036.0100 |
| | Nitrate Standard Solution | 2.50 mg/L NO ₃ -N | ±0.06 mg/L NO ₃ -N | 1.25037.0100 |
| | Nitrate Standard Solution | 15.0 mg/L NO ₃ -N | ±0.4 mg/L NO ₃ -N | 1.25038.0100 |
| | Nitrate Standard Solution | 40.0 mg/L NO ₃ -N | ±1 mg/L NO ₃ -N | 1.25039.0100 |
| | Nitrate Standard Solution | 200 mg/L NO ₃ -N | ±5 mg/L NO ₃ -N | 1.25040.0100 |
| | Nitrite Standard Solution | 0.200 mg/L NO ₂ -N | ±0.009 mg/L NO ₂ -N | 1.25041.0100 |
| | Nitrite Standard Solution | 40.0 mg/L NO ₂ -N | ±1.3 mg/L NO ₂ -N | 1.25042.0100 |
| | Nitrogen (total) Standard Solution | 2.50 mg/L N | ±0.06 mg/L N | 1.25043.0100 |
| | Nitrogen (total) Standard Solution | 12.0 mg/L N | ±0.3 mg/L N | 1.25044.0100 |
| | Nitrogen (total) Standard Solution | 100 mg/L N | ±3 mg/L N | 1.25045.0100 |
| | P | Phosphorus Standard Solution | 0.400 mg/L PO ₄ -P | ±0.016 mg/L PO ₄ -P |
| Phosphorus Standard Solution | | 4.00 mg/L PO ₄ -P | ±0.08 mg/L PO ₄ -P | 1.25047.0100 |
| Phosphorus Standard Solution | | 15.0 mg/L PO ₄ -P | ±0.4 mg/L PO ₄ -P | 1.25048.0100 |
| Phosphorus Standard Solution | | 75.0 mg/L PO ₄ -P | ±1.6 mg/L PO ₄ -P | 1.25049.0100 |
| S | Silicate Standard Solution | 0.1000 mg/L SiO ₂ | ±0.0040 mg/L SiO ₂ | 1.32244.0100 |
| | Silicate Standard Solution | 0.500 mg/L SiO ₂ | ±0.025 mg/L SiO ₂ | 1.32243.0100 |
| | Silicate Standard Solution | 1.000 mg/L SiO ₂ | ±0.030 mg/L SiO ₂ | 1.32245.0100 |
| | Sulfate Standard Solution | 40 mg/L SO ₄ | ±6 mg/L SO ₄ | 1.25050.0100 |
| | Sulfate Standard Solution | 125 mg/L SO ₄ | ±6 mg/L SO ₄ | 1.25051.0100 |
| | Sulfate Standard Solution | 400 mg/L SO ₄ | ±20 mg/L SO ₄ | 1.25052.0100 |
| T | Surfactants (nonionic) Standard Solution ³⁾ | 1.00 mg/L Triton® X-100 | ±0.16 mg/L Triton® X-100 | 1.33022.0100 |
| | Surfactants (nonionic) Standard Solution ³⁾ | 5.00 mg/L Triton® X-100 | ±0.30 mg/L Triton® X-100 | 1.33023.0100 |
| | Surfactants (nonionic) Standard Solution ³⁾ | 10.00 mg/L Triton® X-100 | ±0.30 mg/L Triton® X-100 | 1.33024.0100 |
| | TOC Standard Solution | 5.00 mg/L TOC | ±0.10 mg/L TOC | 1.32246.0100 |
| | TOC Standard Solution | 10.0 mg/L TOC | ±0.2 mg/L TOC | 1.32247.0100 |
| | TOC Standard Solution | 25.0 mg/L TOC | ±0.5 mg/L TOC | 1.32248.0100 |
| T | TOC Standard Solution | 50.0 mg/L TOC | ±1.0 mg/L TOC | 1.32249.0100 |
| | TOC Standard Solution | 100 mg/L TOC | ±2 mg/L TOC | 1.32251.0100 |
| | TOC Standard Solution | 200 mg/L TOC | ±4 mg/L TOC | 1.32252.0100 |
| | TOC Standard Solution | 500 mg/L TOC | ±10 mg/L TOC | 1.32253.0100 |

1) 100 mL, in HNO₃ 2) 250 mL bottle 3) traceable to USP

Certipur® standard solutions, concentration 1,000 mg/L

Certipur® standard solutions are traceable to standard reference materials from NIST and accredited according to ISO/IEC 17025 guidelines. They can easily be diluted to whatever concentration you require.

| | Parameter | Volume | Cat. No. |
|----------|------------|----------|--------------|
| A | Aluminium | 100 mL | 1.19770.0100 |
| | Ammonium | 500 mL | 1.19812.0500 |
| | Antimony | 100 mL | 1.70204.0100 |
| | Arsenic | 100 mL | 1.19773.0100 |
| B | Boron | 100 mL | 1.19500.0100 |
| C | Cadmium | 100 mL | 1.19777.0100 |
| | Calcium | 100 mL | 1.19778.0100 |
| | Chloride | 500 mL | 1.19897.0500 |
| | Chromate | 500 mL | 1.19780.0500 |
| | Chromium | 100 mL | 1.19779.0100 |
| | Cobalt | 100 mL | 1.19785.0100 |
| | Copper | 100 mL | 1.19786.0100 |
| | Cyanide | 500 mL | 1.19533.0500 |
| F | Fluoride | 500 mL | 1.19814.0500 |
| G | Gold | 100 mL | 1.70216.0100 |
| I | Iron | 100 mL | 1.19781.0100 |
| L | Lead | 100 mL | 1.19776.0100 |
| | Lead | 100 mL | 1.19776.0100 |
| M | Magnesium | 100 mL | 1.19788.0100 |
| | Manganese | 100 mL | 1.19789.0100 |
| | Mercury | 100 mL | 1.70226.0100 |
| | Molybdenum | 100 mL | 1.70227.0100 |
| N | Nickel* | 1,000 mL | 1.09989.0001 |
| | Nitrate | 500 mL | 1.19811.0500 |
| | Nitrite | 500 mL | 1.19899.0500 |

* Titrisol®

| | Parameter | Volume | Cat. No. |
|----------|-----------|--------|--------------|
| P | Palladium | 100 mL | 1.14282.0100 |
| | Phosphate | 500 mL | 1.19898.0500 |
| | Platinum | 100 mL | 1.70219.0100 |
| | Potassium | 100 mL | 1.70230.0100 |
| S | Silicon | 100 mL | 1.70236.0100 |
| | Silver | 100 mL | 1.19797.0100 |
| | Sulfate | 500 mL | 1.19813.0500 |
| T | Tin | 100 mL | 1.70242.0100 |
| | TOC | 100 mL | 1.09017.0100 |
| V | Vanadium | 100 mL | 1.70245.0100 |
| Z | Zinc | 100 mL | 1.19806.0100 |



Proficiency testing (PT) process

- Registration & ordering:** prior to your first order, you must obtain a lab code by registering on the PT portal
- Delivery:** participating labs receive blind samples according to the pre-determined schedule
- Open study:** each lab analyzes the blind samples
- Reporting:** labs report results on the PT portal before the study closes
- Data processing:** data is processed to issue individual evaluation reports
- Evaluation report:** reports are sent via the PT portal, and a copy is sent to your accreditation body if requested

Proficiency testing products

Proficiency testing products accredited by ACLASS to ISO/IEC 17043:2010, Certificate No. AP-1469 and recognized by accreditation bodies worldwide

| Application fields | Metals and inorganics | Organics | Gases | Physical properties |
|---------------------------|-----------------------|----------|-------|---------------------|
| Drinking Water | • | • | | • |
| Wastewater | • | • | | • |
| Contaminated Land | • | • | | |
| Air Quality and Emissions | • | • | • | |
| Microbiology | | • | | |

Cross Reference per Test Kit Parameter (A–Z)

The following tables show you the most suitable test kits for different quality assurance parameters. In cases where a parameter is not stable (e.g. chlorine), we provide application instructions for preparing the standard. These can be found in the preface of our photometer and colorimeter manuals. A comprehensive overview of standard solutions and further information can be found on

Analytical Quality Assurance - Cross Reference per Test Kit Parameter (A–C)

| | Test kit | Cat. No. Test kit | Cat. No. CombiCheck | Cat. No. Standard solution, CRM | Alternative standard | Cat. No. Certipur® standard sol. | |
|----------|--|-------------------|---------------------|--|--------------------------------------|----------------------------------|--------------|
| A | Acid Capacity Cell Test to pH 4.3 (total alkalinity) | 1.01758.0001 | | | 2) | | |
| | Aluminium Cell Test | 1.00594.0001 | 1.18701.0001 | 1.32225.0100 | 1) | 1.19770.0100 | |
| | Aluminium Test | 1.14825.0001 | 1.18701.0001 | 1.32225.0100 | 1) | 1.19770.0100 | |
| | Ammonium Cell Test | 1.14739.0001 | 1.14695.0001 | 1.25022.0100 1.25023.0100 | 1) | 1.19812.0500 | |
| | Ammonium Cell Test | 1.14558.0001 | 1.14676.0001 | 1.25022.0100 1.25023.0100 1.25024.0100 1.25025.0100 | 1) | 1.19812.0500 | |
| | Ammonium Cell Test | 1.14544.0001 | 1.14675.0001 | 1.25023.0100 1.25024.0100 1.25025.0100 1.25026.0100 | 1) | 1.19812.0500 | |
| | Ammonium Cell Test | 1.14559.0001 | 1.14689.0001 | 1.25025.0100 1.25026.0100 1.25027.0100 | 1) | 1.19812.0500 | |
| | Ammonium Test | 1.14752.0002 | 1.14695.0001 | 1.25022.0100 1.25023.0100 1.25024.0100 | 1) | 1.19812.0500 | |
| | Ammonium Test | 1.00683.0001 | 1.14689.0001 | 1.25025.0100 1.25026.0100 1.25027.0100 | 1) | 1.19812.0500 | |
| | AOX Cell Test | 1.00675.0001 | | | 0.2–2.0 mg/L AOX 1.00680.0001 | | |
| | Arsenic Test | 1.01747.0001 | | 1.33002.0250 | 1) | 1.19773.0100 | |
| | BOD Cell Test | 1.00687.0001 | | | EN 1899, 210 mg/L 1.00718.0001 | | |
| | B | Boron Cell Test | 1.00826.0001 | | 1.33005.0100 | 1) | 1.19500.0100 |
| | | Boron Test | 1.14839.0001 | | | 1) | 1.19500.0100 |
| | | Bromate | - | | 1.33006.0100 1.33007.0100 | 2) | |
| | | Bromine Test | 1.00605.0001 | | | DIN EN ISO 7393 2) | |
| C | Cadmium Cell Test | 1.14834.0001 | 1.18700.0001 | | 1) | 1.19777.0100 | |
| | Cadmium Test | 1.01745.0001 | 1.18700.0001 | | | 1.19777.0100 | |
| | Calcium Cell Test | 1.00858.0001 | | | NIST3109A 2) | | |

1) Standard solution, ready-to-use, 1,000 mg/L analyt. Traceable to SRM of NIST (see column Cat. No. Certipur® standard solution)
2)
3) For photometers of other manufacturers

Analytical Quality Assurance - Cross Reference per Test Kit Parameter (C)

| | Test kit | Cat. No. Test kit | Cat. No. CombiCheck | Cat. No. Standard solution, CRM | Alternative standard | Cat. No. Certipur® standard sol. |
|----------|-------------------------------------|-------------------|------------------------------|--|----------------------|----------------------------------|
| C | Calcium Test | 1.00049.0001 | | | 1) | 1.19778.0100 |
| | Calcium Test | 1.14815.0001 | | | 1) | 1.19778.0100 |
| | Chloride Cell Test | 1.01804.0001 | | 1.33010.0100 | 1) | 1.19897.0500 |
| | Chloride Cell Test | 1.14730.0001 | 1.14676.0001 1.14675.0001 | 1.32229.0100 1.32230.0100 | 1) | 1.19897.0500 |
| | Chloride Test | 1.01807.0001 | | 1.33010.0100 | 1) | 1.19897.0500 |
| | Chloride Test | 1.14897.0002 | 1.14696.0001 | 1.32229.0100 1.32230.0100 | 1) | 1.19897.0500 |
| | Chlorine Cell test (free) | 1.00595.0001 | | | DIN EN ISO 7393 2) | |
| | Chlorine Test (free) | 1.00598.0001 | | | DIN EN ISO 7393 2) | |
| | Chlorine Test (total) | 1.00602.0002 | | | DIN EN ISO 7393 2) | |
| | Chlorine Cell Test (free and total) | 1.00597.0001 | | | DIN EN ISO 7393 2) | |
| | Chlorine Test (free and total) | 1.00599.0001 | | | DIN EN ISO 7393 2) | |
| | Chlorine Dioxide Test | 1.00608.0001 | | | DIN EN ISO 7393 2) | |
| | Chromate Cell Test | 1.14552.0001 | | 1.33013.0100 | 1) | 1.19780.0500 |
| | Chromate Test | 1.14758.0001 | | 1.33012.0100 | 1) | 1.19780.0500 |
| | Cobalt Cell Test | 1.17244.0001 | | | | |
| | COD Cell Test | 1.14560.0001 | 1.14695.0001 | 1.25028.0100 | 2) | |
| | COD Cell Test | 1.01796.0001 | 1.14695.0001 | 1.25028.0100 | 2) | |
| | COD Cell Test | 1.14540.0001 | 1.14676.0001 | 1.25029.0100 | 2) | |
| | COD Cell Test | 1.14895.0001 | 1.14696.0001 | 1.25029.0100 1.25030.0100 1.25031.0100 | 2) | |
| | COD Cell Test | 1.14690.0001 | 1.14696.0001 | 1.25029.0100 1.25030.0100 1.25031.0100 | 2) | |
| | COD Cell Test | 1.14541.0001 | 1.14675.0001 | 1.25029.0100 1.25031.0100 1.25030.0100 1.25032.0100 | 2) | |
| | COD Cell Test | 1.14691.0001 | 1.14738.0001 | 1.25031.0100 1.25032.0100 1.25033.0100 | 2) | |
| | COD Cell Test | 1.14555.0001 | 1.14689.0001 | 1.25032.0100 1.25033.0100 1.25034.0100 | 2) | |

1) Standard solution, ready-to-use, 1,000 mg/L analyt. Traceable to SRM of NIST (see column Cat. No. Certipur® standard solution)
2)
3) For photometers of other manufacturers

Analytical Quality Assurance - Cross Reference per Test Kit Parameter (C-L)

| | Test kit | Cat. No. Test kit | Cat. No. CombiCheck | Cat. No. Standard solution, CRM | Alternative standard | Cat. No. Certipur® standard sol. |
|------------------------|---|--------------------|---------------------|--|----------------------|----------------------------------|
| C | COD Cell Test | 1.01797.0001 | | 1.25035.0100 | 2) | |
| | COD Cell Test (Hg-free) | 1.09772.0001 | | 1.25028.0100 1.25029.0100 | 2) | |
| | COD Cell Test (Hg-free) | 1.09773.0001 | | 1.25030.0100 1.25031.0100 1.25032.0100 | 2) | |
| | COD Cell Test 3) | 1.18750.0001 | 1.14695.0001 | 1.25028.0100 | 2) | |
| | COD Cell Test 3) | 1.18751.0001 | 1.14676.0001 | 1.25029.0100 | 2) | |
| | COD Cell Test 3) | 1.18752.0001 | 1.14675.0001 | 1.25029.0100 | 2) | |
| | COD Cell Test 3) | 1.18753.0001 | 1.14689.0001 | 1.25032.0100 | 2) | |
| | COD Cell Test for seawater / high chloride contents | 1.17058.0001 | | | 2) | |
| | COD Cell Test for seawater / high chloride contents | 1.17059.0001 | | | 2) | |
| | Copper Cell Test | 1.14553.0001 | 1.18700.0001 | | 3) | 1.19786.0100 |
| | Copper Test | 1.14767.0001 | 1.18700.0001 | | | 1.19786.0100 |
| | Cyanide Cell Test | 1.14561.0001 | | | 3) | 1.19533.0500 |
| | Cyanide Test | 1.09701.0001 | | | 3) | 1.19533.0500 |
| | Cyanuric Acid Test | 1.19253.0001 | | | 2) | |
| | F | Fluoride Cell Test | 1.00809.0001 | | 1.32234.0100 | 3) |
| Fluoride Test | | 1.00822.0250 | | 1.32234.0100 | 3) | 1.19814.0500 |
| Fluoride Test | | 1.14598.0002 | | 1.32234.0100 | 3) | 1.19814.0500 |
| Formaldehyde Cell Test | | 1.14500.0001 | | | 2) | |
| Formaldehyde Test | | 1.14678.0001 | | | 2) | |
| G | Gold Test | 1.14821.0002 | | | 3) | 1.70216.0100 |
| H | Hydrazine Test | 1.09711.0001 | | | 2) | |
| | Hydrogen Peroxide Cell Test | 1.14731.0001 | | | 2) | |
| | Hydrogen Peroxide Test | 1.18789.0001 | | | 2) | |
| I | Iron Cell Test | 1.14549.0001 | 1.18700.0001 | 1.33018.0100 1.33019.0100 | 3) | 1.19781.0100 |
| | Iron Cell Test | 1.14896.0001 | | | 3) | 1.19781.0100 |
| | Iron Test | 1.14761.0002 | 1.18700.0001 | 1.33014.0100 1.33018.0100 | 3) | 1.19781.0100 |
| | Iron Test | 1.00796.0001 | 1.18700.0001 | 1.33014.0100 1.33018.0100 | 3) | 1.19781.0100 |
| L | Lead Cell Test | 1.14833.0001 | 1.18701.0001 | | 3) | 1.19776.0100 |
| | Lead Test | 1.09717.0001 | 1.18701.0001 | 1.33003.0100 1.33004.0100 | 3) | 1.19776.0100 |

1) Standard solution, ready-to-use, 1,000 mg/L analyt. Traceable to SRM of NIST (see column Cat. No. Certipur® standard solution)

2)

3) For photometers of other manufacturers

Analytical Quality Assurance - Cross Reference per Test Kit Parameter (M-N)

| | Test kit | Cat. No. Test kit | Cat. No. CombiCheck | Cat. No. Standard solution, CRM | Alternative standard | Cat. No. Certipur® standard sol. |
|-------------------------------|------------------------|-------------------|------------------------------|--|----------------------|----------------------------------|
| M | Magnesium Cell Test | 1.00815.0001 | | NIST3131A | 2) | |
| | Manganese Cell Test | 1.00816.0001 | 1.18700.0001 | 1.32238.0100 | 3) | 1.19789.0100 |
| | Manganese Test | 1.01846.0001 | 1.18700.0001 | | 3) | 1.19789.0100 |
| | Manganese Test | 1.14770.0002 | 1.18700.0001 | 1.32237.0100 1.32238.0100 | 3) | 1.19789.0100 |
| | Molybdenum Cell Test | 1.00860.0001 | | | 3) | 1.70227.0001 |
| | Monochloramine Test | 1.01632.0001 | | | 2) | |
| | N | Nickel Cell Test | 1.14554.0001 | 1.18701.0001 | | 3) |
| Nickel Test | | 1.14785.0001 | 1.18701.0001 | | 3) | 1.09989.0001 |
| Nitrate Cell Test | | 1.14542.0001 | 1.14675.0001 | 1.25037.0100 1.25038.0100 | 3) | 1.19811.0500 |
| Nitrate Cell Test | | 1.14563.0001 | 1.14675.0001 | 1.25037.0100 1.25038.0100 | 3) | 1.19811.0500 |
| Nitrate Cell Test | | 1.14764.0001 | 1.14738.0001 | 1.25037.0100 1.25038.0100 1.25039.0100 | 3) | 1.19811.0500 |
| Nitrate Cell Test | | 1.00614.0001 | | 1.25039.0100 1.25040.0100 | 3) | 1.19811.0500 |
| Nitrate Test | | 1.01842.0001 | | 1.32241.0100 1.32242.0100 | 3) | 1.19811.0500 |
| Nitrate Test | | 1.14773.0001 | 1.14676.0001 1.14675.0001 | 1.25036.0100 1.25037.0100 1.25038.0100 | 3) | 1.19811.0500 |
| Nitrate Test | | 1.09713.0002 | 1.14676.0001 1.14675.0001 | 1.25036.0100 1.25037.0100 1.25038.0100 | 3) | 1.19811.0500 |
| Nitrate Cell Test in seawater | | 1.14556.0001 | 1.14676.0001 | 1.25036.0100 1.25037.0100 | 3) | 1.19811.0500 |
| Nitrate Test in seawater | | 1.14942.0001 | 1.14675.0001 | 1.25036.0100 1.25037.0100 1.25038.0100 | 3) | 1.19811.0500 |
| Nitrite Cell Test | | 1.14547.0001 | | 1.25041.0100 | 3) | 1.19899.0500 |
| Nitrite Test | | 1.14776.0001 | | 1.25041.0100 | 3) | 1.19899.0500 |
| Nitrite Cell Test | | 1.00609.0001 | | 1.25042.0100 | 3) | 1.19899.0500 |
| Nitrogen (total) Cell Test | | 1.14537.0001 | 1.14695.0001 | 1.25043.0100 1.25044.0100 | 2) | |
| Nitrogen (total) Cell Test | 1.00613.0001 | 1.14695.0001 | 1.25043.0100 1.25044.0100 | 2) | | |
| Nitrogen (total) Cell Test | 1.14763.0001 | 1.14689.0001 | 1.25044.0100 1.25045.0100 | 2) | | |
| O | Oxygen Cell Test | 1.14694.0001 | | | 2) | |
| | Oxygen Scavengers Test | 1.19251.0001 | | | 2) | |
| | Ozone-Test | 1.00607.0002 | | | DIN EN ISO 7393 2) | |

1) Standard solution, ready-to-use, 1,000 mg/L analyt. Traceable to SRM of NIST (see column Cat. No. Certipur® standard solution)

2)

3) For photometers of other manufacturers

Analytical Quality Assurance - Cross Reference per Test Kit Parameter (O–S)

| | Test kit | Cat. No. Test kit | Cat. No. CombiCheck | Cat. No. Standard solution, CRM | Alternative standard | Cat. No. Certipur® standard sol. | |
|------------------------------|---------------------------------------|------------------------------|------------------------------|--|--|----------------------------------|--------------|
| P | pH Cell Test | 1.01744.0001 | | | Buffer solution pH 7.00 / 1.09439.1000 | | |
| | Phenol Cell Test | 1.14551.0001 | | | 1524806 ²⁾ | | |
| | Phenol Test | 1.00856.0001 | | | 1524806 ²⁾ | | |
| | Phosphate (ortho-phosphate) Cell Test | 1.00474.0001 | 1.14676.0001 | | ¹⁾ | 1.19898.0500 | |
| | Phosphate (ortho-phosphate) Cell Test | 1.14543.0001 | 1.14676.0001 | | ¹⁾ | 1.19898.0500 | |
| | Phosphorus (total) Cell Test | 1.14543.0001 | 1.14676.0001 | 1.25046.0100 1.25047.0100 | ¹⁾ | | |
| | Phosphate (ortho-phosphate) Cell Test | 1.14729.0001 | 1.14675.0001 1.14738.0001 | | ¹⁾ | 1.19898.0500 | |
| | Phosphorus (total) Cell Test | 1.14729.0001 | 1.14676.0001 | 1.25047.0100 1.25048.0100 | ¹⁾ | | |
| | Phosphate (ortho-phosphate) Cell Test | 1.00616.0001 | | | ¹⁾ | 1.19898.0500 | |
| | Phosphorus (total) Cell Test | 1.00673.0001 | | 1.25048.0100 1.25049.0100 | ¹⁾ | | |
| | Phosphate (ortho-phosphate) Cell Test | 1.00673.0001 | | | ¹⁾ | 1.19898.0500 | |
| | Phosphate (ortho-phosphate) Cell Test | 1.14546.0001 | | | ¹⁾ | 1.19898.0500 | |
| | Phosphate Test (ortho-phosphate) | 1.14848.0002 | 1.14676.0001 | | ¹⁾ | 1.19898.0500 | |
| | Phosphate Test (ortho-phosphate) | 1.00798.0001 | | | ¹⁾ | 1.19898.0500 | |
| | Phosphate Test (ortho-phosphate) | 1.14842.0001 | | | ¹⁾ | 1.19898.0500 | |
| | Potassium Cell Test | 1.14562.0001 | | | ¹⁾ | 1.70230.0100 | |
| | Potassium Cell Test | 1.00615.0001 | | | ¹⁾ | 1.70230.0100 | |
| | R | Residual Hardness Cell Test | 1.14683.0001 | | | ¹⁾ | 1.19778.0100 |
| | S | Silicate (silicic acid) Test | 1.01813.0001 | | 1.32244.0100 | ¹⁾ | 1.70236.0100 |
| | | Silicate (silicic acid) Test | 1.14794.0001 | | | ¹⁾ | 1.70236.0100 |
| Silicate (silicic acid) Test | | 1.00857.0001 | | | ¹⁾ | 1.70236.0100 | |
| Sodium Cell Test | | 1.00885.0001 | | | ²⁾ | 1.19897.0500 | |
| Sulfate Cell Test | | 1.14548.0001 | 1.14676.0001 | 1.25050.0100 1.25051.0100 | ¹⁾ | 1.19813.0500 | |
| Sulfate Cell Test | | 1.00617.0001 | 1.14676.0001 | 1.25051.0100 1.25052.0100 | ¹⁾ | 1.19813.0500 | |
| Sulfate Cell Test | | 1.14564.0001 | 1.14675.0001 | 1.25051.0100 1.25052.0100 1.25053.0100 | ¹⁾ | 1.19813.0500 | |
| Sulfate Cell Test | | 1.02532.0001 | | | ¹⁾ | 1.19813.0500 | |
| Sulfate Test | | 1.02537.0001 | 1.14676.0001 | 1.25050.0100 1.25051.0100 | ¹⁾ | 1.19813.0500 | |

1) Standard solution, ready-to-use, 1,000 mg/L analyt. Traceable to SRM of NIST (see column Cat. No. Certipur® standard solution)
2)
3) For photometers of other manufacturers

Analytical Quality Assurance - Cross Reference per Test Kit Parameter (S–Z)

| | Test kit | Cat. No. Test kit | Cat. No. CombiCheck | Cat. No. Standard solution, CRM | Alternative standard | Cat. No. Certipur® standard sol. | |
|--------------------------|----------------------------------|---------------------------------|---------------------|--|-------------------------|----------------------------------|--------------|
| S | Sulfate Test | 1.01812.0001 | | | ¹⁾ | 1.19813.0500 | |
| | Sulfide Test | 1.14779.0001 | | | ²⁾ | | |
| | Sulfite Cell Test | 1.14394.0001 | | | ²⁾ | | |
| | Sulfite Test | 1.01746.0001 | | | ²⁾ | | |
| | Surfactants (anionic) Cell Test | 1.02552.0001 | | | ²⁾ | | |
| | Surfactants (cationic) Cell Test | 1.01764.0001 | | | 1102974 ²⁾ | | |
| | Surfactants (nonionic) Cell Test | 1.01787.0001 | | 1.33022.0100 1.33023.0100 | ²⁾ | | |
| | T | Tin Cell Test | 1.17265.0001 | | | ²⁾ | 1.70242.0100 |
| TOC Cell Test | | 1.14878.0001 | | 1.32247.0100 1.32248.0100 1.32249.0100 | ¹⁾ | 1.09017.0100 | |
| TOC Cell Test | | 1.14879.0001 | | 1.32251.0100 1.32252.0100 1.32253.0100 | ¹⁾ | 1.09017.0100 | |
| Total Hardness Cell Test | | 1.00961.0001 | | | NIST3109A ²⁾ | | |
| Total Nitrogen Cell Test | | 1.00613.0001 | 1.14695.0001 | 1.25043.0100 1.25044.0100 | ²⁾ | | |
| Total Nitrogen Cell Test | | 1.14537.0001 | 1.14695.0001 | 1.25043.0100 1.25044.0100 | ²⁾ | | |
| Total Nitrogen Cell Test | | 1.14763.0001 | 1.14689.0001 | 1.25044.0100 1.25045.0100 | ²⁾ | | |
| V | | Volatile Organic Acid Cell Test | 1.01749.0001 | | | ²⁾ | |
| | | Volatile Organic Acid Test | 1.01809.0001 | | | ²⁾ | |
| Z | | Zinc Cell Test | 1.00861.0001 | 1.18701.0001 | | ¹⁾ | 1.19806.0100 |
| | Zinc Cell Test | 1.14566.0001 | | | ¹⁾ | 1.19806.0100 | |
| | Zinc Test | 1.14832.0001 | 1.18701.0001 | | ¹⁾ | 1.19806.0100 | |

1) Standard solution, ready-to-use, 1,000 mg/L analyt. Traceable to SRM of NIST (see column Cat. No. Certipur® standard solution)
2)
3) For photometers of other manufacturers



clear results in turbidity testing

How clear is your solution?

All solutions have some level of turbidity, and this can be an important measurement to track in a number of contexts. One application is to check the function of filtration units like those in pools and spas, or those in food and beverage production plants. Turbidity testing can also be a key part of process control, for example in monitoring coagulation in wastewater treatment to ensure solids are being efficiently removed.

Turbiquant™ turbidimeter is designed for simple and accurate analysis. It offers rapid, reliable measurements, and can be combined with our non-toxic calibration standards for safe and clear results. Turbiquant™ turbidimeter can be used both in the lab, or on-site: with a waterproof casing and durable carrying case, it is robust enough to handle the conditions wherever you need to conduct your analysis. The instrument is available with either an infrared (IR) or tungsten (T) light source to best suit your needs.

IR: Infrared lamp with light at 860 nm

- Required in Europe for ISO 7027 or DIN EN 27027
- Less prone to interference in intensely-colored solutions

T: Tungsten lamp with white light in the visible range

- Required in the US for Standard Methods 2130 B and USEPA
- Better for measuring turbidity from very small particles



Turbiquant™ Turbidimeters Quantifying turbidity

| | |
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| Turbiquant™ 1100 IR/T | 129 |



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Wastewater Workflow
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Turbiquant™ Turbidimeters

Quantifying turbidity

What is turbidity?

Turbidity is “the decrease in the transparency of a liquid caused by the presence of undissolved substances” (DIN EN 27027). Clear water has low turbidity; muddy water containing suspended particles like bacteria, sediments, or sewage, has high turbidity.

How is it measured?

During nephelometric turbidity measurement, light enters the turbidimeter, is scattered by the sample, and is detected at a 90° angle from where it entered. Measurements of turbidity are expressed in nephelometric turbidity units (NTU). Samples with high turbidity (e.g. untreated wastewater) scatter more light than less turbid solutions, so more signal reaches the detector placed at 90°. For confirmation of nephelometric measurements, attenuation of light transmitted through samples is also measured by a detector placed directly opposed to the light source: a more turbid sample results in less light reaching the detector because it is scattered in other directions. The combination of these two measurements is the “NTU ratio”.

Turbiquant™ calibration standards

Precise, stable, non-toxic and ready-to-use

| Description | Cat. No. |
|--|---------------------|
| Turbiquant™ 1100 IR / 1100 T Calibration Standard Set | 1.18335.0001 |
| 3 standards 0.02 – 10.0 – 1,000 NTU | |

Turbiquant™ calibration standards can be stored and transported without any precautionary measures. They are supplied with indexing rings for quick, repeatable indexing as recommended by USEPA.



NTU = Nephelometric Turbidity Units 90° scattered light measurement according to section 2130 of the “Standard Methods for the Examination of Water and Wastewater”, 21st edition, 2005.

FNU = Formazine Nephelometric Units 90° scattered light measurement that is only applicable if the instrument is calibrated with Formazine standards. It is used for measurements according to EN ISO 7027 (Conversion: 1 FNU = 1 NTU).

FAU = Formazine Attenuation Units transmission measurement unit for measurements according to EN ISO 7027 over 40 FNU.

EBC = European Brewery Commission 90° scattered light measurement used by the European Brewery Commission (Conversion: 0.245 EBC = 1 NTU).

Turbidity is a critical parameter in drinking- and wastewater, beverages, and chemical production

| Typical turbidity values: | |
|-----------------------------|------------------|
| Deionized water | 0.02 NTU |
| Drinking water | 0.02 to 0.5 NTU |
| Spring water | 0.05 to 10 NTU |
| Wastewater (untreated) | 70 to 2,000 NTU |
| Sift water (paper industry) | 60 to 800 NTU |
| USEPA | max. level 5 NTU |
| Japan | max. level 2 NTU |
| WHO | max. level 5 NTU |
| France | max. level 4 NTU |
| Germany | max. level 1 NTU |

IR OR T? YOU CHOOSE

Infrared (IR) measurements at 860 nm show no interference in colored solutions, and are required by EN ISO 7027. Tungsten (T) lamps emitting white light are more sensitive when measuring small particles, and are required by USEPA 180.1, APHA, AWWA and WPCF.



Mobility

Compact and portable turbidimeter for fast results

Compliance

Measure samples acc. to EN ISO 7027 or USEPA 180.1

Turbiquant™ 1100 - Portable instrument for on-the-spot analysis

| | Turbiquant™ 1100 IR | Turbiquant™ 1100 T |
|-----------------------|--|--|
| Cat. No. | 1.18324.0001 | 1.18325.0001 |
| Measuring principle | nephelometric – 90° scattered light, conform with EN ISO 7027 | nephelometric – 90° scattered light, follows USEPA recommendations |
| Light source | IR LED | white light tungsten lamp |
| Indication of units | NTU / FNU | NTU / FNU |
| Measuring range | 0.02–1,100 NTU | 0.02–1,100 NTU |
| Resolution | 0.01 within the range 0.01 < x < 99.99 NTU 0.1 within the range 100 < x < 999.9 NTU 1 within the range 1,000 < x < 1,100 NTU | |
| Accuracy | ±2 % of reading or ±0.1 NTU for range 0 – 500 NTU ±3 % of reading for range 500 – 1,100 NTU | |
| Reproducibility | – | – |
| Calibration | automatic 1 to 3 points | automatic 1 to 3 points |
| Response time | 14 seconds | 14 seconds |
| Cuvettes | 25 x 45 mm | 25 x 45 mm |
| Sample volume | 15 mL | 15 mL |
| Serial input / output | – | – |
| Protection type | designed to meet IP 67 | designed to meet IP 67 |
| Power requirements | 4 alkali manganese batteries, AAA / Micro | 4 alkali manganese batteries, AAA / Micro |
| Test certificates | CE | CE |
| Warranty | 2 years | 2 years |

Reflectoquant® System

Portable instrumental test strip readout

Accuracy on-the-go

How fresh is your honey?

Rapid quantitative detection of hydroxymethylfurfural (HMF) in honey

The Application

The freshness of honey is determined by measuring the content of HMF, an organic compound that arises from the dehydration of fructose (e.g. when honey is heated for easier filling). It is barely detectable in freshly-centrifuged honey, but increases, depending on storage temperature and pH. At 21 °C, HMF content can rise to 20 mg/kg in just one year.

Our Solution: Reflectoquant® Hydroxymethylfurfural (HMF) Test

The Reflectoquant® HMF Test is the first rapid test for the determination of HMF content, and is ideal for monitoring raw materials, as well as manufacturing and filling processes.

Benefits

- Accurate quantitative results just a few minutes after sample preparation
- Barcode calibration for reliability
- Small and portable instrument for on-the-spot analysis
- Cost-effective



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Food & Beverage Workflow
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Disinfection Control
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Reflectometry

Reflectoquant® System

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Reflectoquant® System

Portable instrumental test strip readout

Reflectometric measurements

Bring the lab to your samples with the portable Reflectoquant® system. Compact and easy-to-use, the system allows you to monitor raw materials in all stages of your production processes and obtain precise quantitative results directly on-site.

Consisting of test strips and reflectometers, this comprehensive system provides all the tools you need for high-quality, cost-effective analysis. It offers tests with a broad range of parameters, measuring ranges, and applications for the widest spectrum of sample materials.

ARE YOUR
vegetables
healthy?

Food & Beverage Workflow
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Accurate, on-the-spot determination of nitrate content

The Application

Humans ingest nitrate mostly through vegetables (70%), but also through drinking water (20%) and cured meats (10%). While nitrate itself is not harmful, its metabolic products can be. The World Health Organization recommends a daily limit of 3.65 mg nitrate per kg bodyweight.

Our Solution: Reflectoquant® Nitrate Test

The Reflectoquant® Nitrate Test is designed for rapid, accurate determination of nitrate content in a variety of food and beverage products such as vegetables, infant meals, and drinking water.

Benefits

- Fast analysis with reliable results
- Compact and portable instrument for on-site result determination
- Application notes available for over 15 different sample materials
- Cost-effective analysis
- Environmentally friendly

Fast
results
with barcode
calibration

Reliable
results
with ±10–15%
accuracy

Easy
disposal



Further Reflectoquant® applications

Test vitamin C content in food

Vitamin C (ascorbic acid) is found in many foods. Its depletion from those foods is monitored as it is often indicative of a decline in food quality and taste. See our Reflectoquant® Ascorbic Acid Test application notes for determinations of vitamin C in over 15 different sample materials.

Reflectoquant® Ascorbic Acid Test | Cat. No. 1.16981.0001

Monitor acrylamide formation

When starchy foods like fries are heated during their preparation, asparagine and reducing sugars (fructose, glucose, etc.) can react to create acrylamide, a toxic and carcinogenic compound. As a result, reducing sugars should be monitored and kept below a maximum limit in order to avoid dangerous acrylamide levels. View our application note, "Total Sugar in Potatoes" to see how the Reflectoquant® Total Sugar Test is used.

Reflectoquant® Total Sugar Test | Cat. No. 1.16136.0001

Reflectoquant® System

Portable instrumental test strip readout



RQflex® 20 reflectometer

RQflex® 20 reflectometer is designed for fast determination of more than 30 parameters using Reflectoquant® test strips. The instrument can store up to 50 different test methods and 200 measurement results.

| Product | Scope of Delivery | Cat. No. |
|------------|---|--------------|
| RQflex® 20 | Includes test strip adapter and recalibration set, double optical system (option for evaluation of two reaction zones), memory for five methods, memory slots for 50 results (with date, time, parameter, and result), batch-specific calibration function (barcode technology), battery operation with four 1.5 V batteries, quick guide for reflectometer and tests | 1.17246.0001 |

RQflex® accessories | sample preparation | quality assurance

| Product | Application | Cat. No. |
|--|-------------------------|--------------|
| Recalibration set for RQflex® 20 | | 1.16954.0001 |
| RQCheck set for RQflex® 20 | | 1.17247.0001 |
| Polyvinylpyrrolidone Divergan® RS, 100 g | Decolorization | 1.07302.0100 |
| Sodium azide tablets, 5,000 tabs | Preserving milk samples | 1.06687.0001 |

Equipment validation documents

Installation qualification (IQ), operational qualification (OQ) and performance qualification (PQ) are essential parts of quality assurance, achieved through equipment validation. We provide IQ, OQ and PQ document templates for your Reflectoquant® instrument.



Analytical application

Is your diet drink really sugar free?

To produce diet beverages, your entire production system must be free of sugar. If you use the same production line for both diet and non-diet beverages, this needs to be monitored closely. We offer a fast and easy solution: Check your production line with RQflex® test strips for glucose and total sugar, and you'll have precise results within minutes.

Reflectoquant® Glucose Test | Cat. No. 1.16720.0001

Reflectoquant® Total Sugar Test | Cat. No. 1.16136.0001



Food & Beverage Workflow
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Reflectoquant® System

Portable instrumental test strip readout

Reflectoquant® Tests Parameter A-Z

| Parameter | Graduation | No. of tests | Cat. No. | Method | Type | Beer processing | Food testing | Juices | Milk products | Mineral water | Soft drinks | Aquaculture | Boiler water, cooling water | Drinking water | Ground-water, surface water | Industrial water | Process water | Seawater | Swimming pools | Wastewater | Agriculture | Disinfection control | Electro-plating | |
|--|--|--------------|--------------|-------------------------------------|----------------|------------------|--------------|--------|---------------|---------------|-------------|-------------|-----------------------------|----------------|-----------------------------|------------------|---------------|----------|----------------|------------|-------------|----------------------|-----------------|---|
| | | | | | | Food & Beverages | | | | | | Water | | | | | | | | | | Others | | |
| A Ammonium Test | 0.2 – 7.0 mg/L NH ₄ | 50 | 1.16892.0001 | Indophenol blue | Reagent, incl. | | | | | | | • | | • | • | | | | • | | • | | | |
| Ammonium Test | 5.0 – 20.0 mg/L NH ₄ | 50 | 1.16899.0001 | Indophenol blue | Reagent, incl. | | | | | | | • | | • | • | | | | • | | • | | | |
| Ammonium Test | 20 – 180 mg/L NH ₄ | 50 | 1.16977.0001 | Nessler | Reagent, incl. | | | | | | | | | | | | | | | • | • | | | |
| Ascorbic Acid Test | 25 – 450 mg/L ascorbic acid | 50 | 1.16981.0001 | Phosphormolybd. blue | | • | • | • | • | | • | | | | | | | | | | | | | |
| B Blank Strip | | 50 | 1.16730.0001 | | | • | • | • | | | • | | | | | | | | | | | | | |
| C Calcium Test for RQflex® 10 / 10 plus | 2.5 – 45.0 mg/L Ca | 50 | 1.16993.0001 | Glyoxal-bis-(2-hydroxyanil) | Reagent, incl. | • | • | • | • | • | • | | • | • | • | • | | | | | • | | | |
| Calcium Test | 5 – 125 mg/L Ca | 50 | 1.16125.0001 | Phthalein complexone | | • | • | • | • | • | • | | • | • | • | | | | | | | | | |
| Chlorine Test (free chlorine) | 0.5 – 10.0 mg/L Cl ₂ | 50 | 1.16896.0001 | Redox reaction | Reagent, incl. | | | | | | | | | • | | | | | | | • | | • | |
| F Formaldehyde Test | 1.0 – 45.0 mg/L HCHO | 50 | 1.16989.0001 | Triazole | Reagent, incl. | | | | | | | | | | | | | | | | • | | • | |
| G Glucose Test | 1 – 100 mg/L glucose | 50 | 1.16720.0001 | Enzymatic reaction | | • | • | • | • | | • | | | | | | | | | | | | | |
| H Hydroxymethylfurfural Test | 1.0 – 60.0 mg/L HMF | 50 | 1.17952.0001 | Enzymatic reaction | | | • | • | | | | | | | | | | | | | | | | |
| I Iron Test | 0.5 – 20.0 mg/L Fe(II) | 50 | 1.16982.0001 | Triazine | | | • | • | | • | | | | | • | • | | | | • | | | | • |
| L Lactic Acid Test | 3.0 – 60.0 mg/L lactic acid | 50 | 1.16127.0001 | Enzymatic reaction | | • | • | • | • | | • | | | | | | | | | | | | | |
| M Magnesium Test | 5 – 100 mg/L Mg | 50 | 1.16124.0001 | Phthalein complexone | | | • | | | • | | | • | • | • | | | | | | | • | | |
| Malic Acid Test | 5.0 – 60.0 mg/L malic acid | 50 | 1.16128.0001 | Enzymatic reaction | | | • | • | | | • | | | | | | | | | | | | | |
| N Nitrate Test | 3 – 90 mg/L NO ₃ | 50 | 1.16995.0001 | Modified Griess' reaction | | | • | • | | • | • | • | | • | • | • | | | | • | | • | • | |
| Nitrate Test | 5 – 225 mg/L NO ₃ | 50 | 1.16971.0001 | Modified Griess' reaction | | | • | • | | • | • | • | | • | • | • | | | | • | | • | • | |
| Nitrate Test RQeasy® | 5 – 250 mg/L NO ₃ | 50 | 1.17961.0001 | Modified Griess' reaction | | | • | • | | • | • | • | | • | • | • | | | | • | | • | • | |
| Nitrite Test | 0.5 – 25.0 mg/L NO ₂ | 50 | 1.16973.0001 | Griess' reaction | | | • | | | | • | | | | • | | | | | • | | • | | |
| Nitrite Test | 0.03 – 1.00 g/L NO ₂ | 50 | 1.16732.0001 | Aromatic amine | | | | | | | | | • | | | • | | | | • | | • | | |
| P Peracetic Acid Test | 1.0 – 22.5 mg/L peracetic acid | 50 | 1.16975.0001 | Redox reaction | | | | | | | | | | | | | | | | | | | | • |
| Peracetic Acid Test | 20.0 – 100 mg/L peracetic acid | 50 | 1.17956.0001 | Redox reaction | | | | | | | | | | | | | | | | | | | | • |
| Peracetic Acid Test | 75 – 400 mg/L peracetic acid | 50 | 1.16976.0001 | Redox reaction | | | | | | | | | | | | | | | | | | | | • |
| Peroxide Test | 0.2 – 20.0 mg/L H ₂ O ₂ | 50 | 1.16974.0001 | Enzymatic reaction | | | | | | | | | | | | | | | | | | | | • |
| Peroxide Test | 20.0 – 100 mg/L H ₂ O ₂ | 50 | 1.17968.0001 | Enzymatic reaction | | | | | | | | | | | | | | | | | | | | • |
| Peroxide Test | 100 – 1,000 mg/L H ₂ O ₂ | 50 | 1.16731.0001 | Enzymatic reaction | | | | | | | | | | | | | | | | | | | | • |
| pH Test | pH 4.0 – 9.0 | 50 | 1.16996.0001 | Mixed indicator | | | • | • | | • | • | • | | • | • | • | • | | | • | | • | • | |
| pH Test for Cooling Lubricants | pH 7.0 – 10.0 | 50 | 1.16898.0001 | Mixed indicator | | | | | | | | | | | | | | | | | | | | • |
| Phosphate Test RQflex® plus | 0.1 – 5.0 mg/L PO ₄ | 100 | 1.17942.0001 | Phosphormolybd. blue | | | • | | | | | • | | • | • | | | | | • | | • | • | |
| Phosphate Test | 5 – 120 mg/L PO ₄ | 50 | 1.16978.0001 | Phosphormolybd. blue | Reagent, incl. | | • | | | | | | | | | | | | | | • | • | | |
| Potassium Test RQflex® plus | 1.0 – 25.0 mg/L K | 100 | 1.17945.0001 | Kalignost®, turbidimetric | | | | • | | | | | | • | • | | | | | | | | • | |
| Potassium Test | 0.25 – 1.20 g/L K | 50 | 1.16992.0001 | Dipicrylamine | Reagent, incl. | • | | • | | • | • | | | • | • | • | | | | | | • | • | |
| S Sucrose Test | 0.25 – 2.50 g/L | 50 | 1.16141.0001 | Enzymatic reaction | Reagent, incl. | • | • | • | • | | • | | | | | | | | | | | | | |
| Sulfite Test | 10 – 200 mg/L SO ₃ | 50 | 1.16987.0001 | Nitroprusside / Zn-hexacyanoferrate | | | • | | | | | | • | | | | | | | | • | | | |
| T Total Hardness Test | 0.1 – 30.0 °d | 50 | 1.16997.0001 | Phthalein complexone | | | | | | • | | | • | • | • | | | | | | | | | |
| Total Sugar Test (glucose and fructose) | 65 – 650 mg/L total sugar | 50 | 1.16136.0001 | Enzymatic reaction | Reagent, incl. | • | • | • | | | • | | | | | | | | | | | | | |
| U Urea Test in Milk Application | 0.2 – 7.0 mg/L NH ₄ | 50 | 1.16892.0001 | Indophenol blue | Reagent, incl. | | | | • | | | | | | | | | | | | | | | |

Brilliant colors, brilliant results

What is the phosphate content of your water?

Detecting phosphate in water samples from different sources

The Application

Phosphate levels in water are often regulated and must be kept within established limits for both environmental and safety concerns. From measuring phosphate in environmental water to prevent eutrophication, to measuring phosphate added to drinking water as a part of corrosion control, there are many reasons phosphate monitoring may be an important part of your water analysis.

Our Solution: MQuant® liquid tests for phosphate with color comparators

The MQuant® liquid phosphate tests are designed for sensitive, fast analysis of a range of water sample types. For drinking water, groundwater, freshwater, mineral water, process water, or even seawater, there is an MQuant® liquid test available which can perform the appropriate testing. These tests include a color comparator, allowing you to judge the sample reaction color against a high-quality color scale for accurate evaluation. They are also available for a wide range of phosphate concentrations to meet your specific needs.

Benefits

- Easy-to-use visual tests with fast results
- Unique brilliance and fine color graduation for precise analysis
- Excellent sensitivity from very low (ppb range) to medium concentrations
- Traceable to primary reference materials from NIST and PTB
- Shelf life of up to 3 years at 15-25 °C



MQuant® Liquid

Colorimetric and titrimetric test kits

| | |
|---|-----|
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Cooling & Boiler Water Workflow
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Wastewater Workflow
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Water Workflow
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MQuant® Liquid

Colorimetric and titrimetric tests

High to medium concentrations, especially for turbid solutions

MQuant® liquid tests with disk comparator

These tests evaluate the color reaction based on transmitted light, so even turbid and slightly colored water samples can be analyzed without further preparation. The ten-tier color disk is made of durable plastic that will not fade with light exposure, and is suitable for industrial areas and wet environments. Almost all vessels are break-proof for safer handling.

Application areas:

- Wastewater
- Industrial water
- Groundwater
- Bottled water
- Boiler water
- Swimming pool water
- Industrial applications



All reagents and the disk comparator are included in the MQuant® liquid test with disk comparator

Medium concentrations

MQuant® liquid tests - titrimetric

The sample is titrated until its color changes. The number of drops consumed to the turning point is counted, or the scale value is read from a pipette to determine the concentration of the tested parameter.

MQuant® liquid tests - colorimetric

Reagents are added to the sample, resulting in a colored reaction product. The concentration is determined by assigning the color to a value on a reference scale.

Application areas:

- Aquaculture for freshwater and seawater
- Surface water
- Swimming pool water
- Classroom demonstrations



Quality assurance

We check and calibrate our tests using certified buffer solutions which can be traced directly to primary reference materials from NIST and PTB

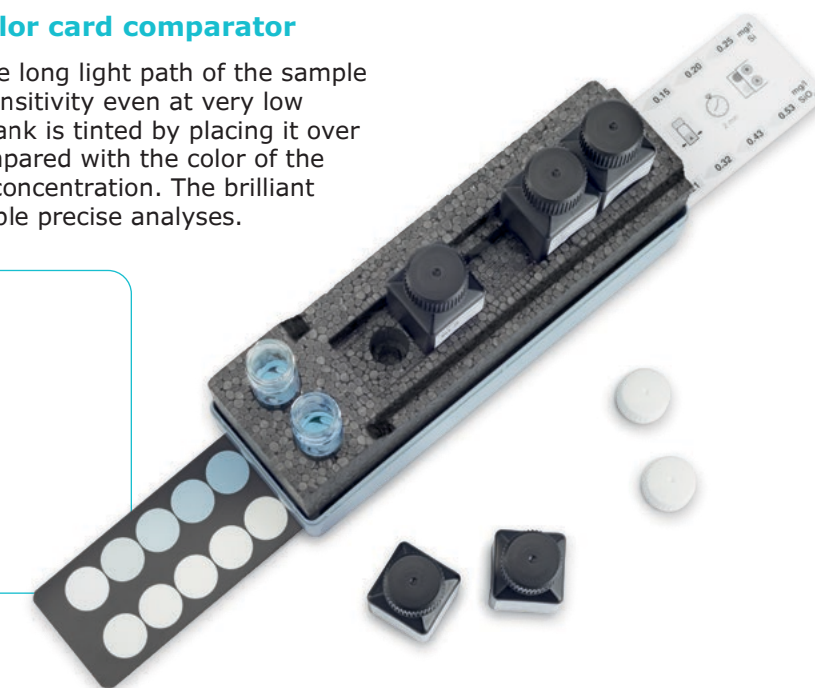
Very low to medium concentrations

MQuant® liquid tests with color card comparator

The build of the comparator and the long light path of the sample tubes ensure high measurement sensitivity even at very low (ppb range) concentrations. The blank is tinted by placing it over the color card so that it can be compared with the color of the reaction product to determine the concentration. The brilliant print and fine color graduation enable precise analyses.

Application areas:

- Drinking water
- Bottled water
- Boiler water
- Cooling water
- Industrial applications



MQuant® liquid test with color card comparator offer unparalleled reliability!

Accessories for MQuant® Liquid

| Product | Cat. No. |
|---|--------------|
| Flat-bottomed long tubes with screw caps for MQuant® tests with color card comparator | 1.14901.0001 |
| Flat-bottomed tubes with screw caps for titrimetric and colorimetric MQuant® tests | 1.14902.0001 |
| Flat-bottomed tubes with screw caps for MQuant® tests with color disk comparator | 1.17988.0001 |
| Test vessels with 5-ml and 10-ml graduation for MQuant® tests | 1.17989.0001 |

MQuant® Liquid

Colorimetric and titrimetric tests

MQuant® Compact Laboratory for Water Testing

This compact laboratory allows you to quickly measure all major parameters of standing or flowing surface water, and accurately assess the current water quality. The convenient carrying case provides everything you need in order to measure ammonium, carbonate hardness (acid-binding capacity), nitrate, nitrite, oxygen and oxygen consumption (biological oxygen demand after n days; BODn), total and residual hardness, pH, and temperature. The portability of the MQuant® Compact Laboratory is ideal for on-site environmental testing of ground- and surface water.

Kit content | Cat. No. 1.11151.0001

| Parameter | Measuring range | No. of tests | Cat. No. Refill pack |
|---|---|--------------------------------|----------------------|
| MQuant® Ammonium Test | 0.2 – 5 mg/L NH ₄ | 50 | 1.08024.0001 |
| MQuant® Carbonate Hardness Test / Acid cap. to pH 4.3 (ANC) | 0.25 – 25 °e ANC: 0.1 – 7.2 mmol/L | 150 at 12.5 °e | 1.08048.0001 |
| MQuant® Total Hardness Test | 0,2 - 20 °d (10 - 360 mg/l CaCO ₃) | 150 at 12.5 °e | 1.08039.0001 |
| MQuant® Nitrate Test | 10 – 150 mg/L NO ₂ | 100 | 1.11170.0001 |
| MQuant® Nitrite Test | 0.025 – 0.5 mg/L NO ₂ | 200 | 1.08025.0001 |
| MQuant® pH Test | pH 4.5 – 9 | 200 | 1.08027.0001 |
| MQuant® Phosphate Test in freshwater and seawater | 0.25 – 3.0 mg/L PO ₄ | 100 | 1.14661.0001 |
| MQuant® Oxygen Test | 0,1-10 mg/l O ₂ | 100 at 8.5 mg/L O ₂ | 1.11107.0001 |
| Flat-bottomed tubes including screw caps for MQuant® Tests | | 3 pcs | Part of kit |

All necessary accessories such as vessels, color cards and a thermometer are included in the case solution



Economical
refill packs



Easy, fast,
and direct
readout of
color cards

Is the ammonium level of your water sample safe for aquatic life?

Sensitive measurement of ammonium in freshwater and seawater

The Application

Ammonium is a common water pollutant and can be toxic to aquatic life. Measuring ammonium in water is required by many international authorities, and levels must be kept within maximum limits.

Our Solution: MQuant® Ammonium Test | Cat. No. 1.14657.0001

We offer test kits for fast, reliable measurement of ammonium ions and unionized ammonium in fresh- or seawater. Kits are designed for use with the MQuant® liquid system, and have measurement sensitivity in the range of 0.5–10 mg/L NH₄.

Benefits

- Easy-to-use with illustrated instructions
- Color card included in test kit for precise comparison
- Fast reaction times: get results within 10 minutes
- Waste disposal advice available

MQuant® Liquid

Colorimetric and titrimetric tests

MQuant® Liquid Test Parameter

| Parameter | Graduation | No. of tests | Cat. No. | Cat. No. Refill pack | Method | Type | Beer processing | Food testing | Juices | Milk products | Mineral water | Soft drinks | Aquaculture | Boiler water, cooling water | Drinking water | Ground-water, surface water | Industrial water | Process water | Seawater | Swimming pools | Wastewater | Agriculture | Disinfection control | Electro-plating |
|--|---|---|--------------|----------------------|-------------------------|--------------------------------|------------------|--------------|--------|---------------|---------------|-------------|-------------|-----------------------------|----------------|-----------------------------|------------------|---------------|----------|----------------|------------|-------------|----------------------|-----------------|
| | | | | | | | Food & Beverages | | | | | | Water | | | | | | | | | | | Others |
| A Alkalinity Test | 0.1 mmol/L | 200 at 8.5 mmol/L | 1.11109.0001 | | Acidimetric | Titration with pipette | | | | | • | | • | • | • | • | • | • | • | • | • | | | |
| Aluminium Test | 0.07-0.12-0.20-0.35-0.50-0.65-0.80 mg/L Al | 185 | 1.14413.0001 | 1.18452.0002 | Chromazurol S | Color-card comparator | • | | | | • | | • | • | • | • | • | • | • | • | • | | | • |
| Aluminium Test | 0.10-0.20-0.35-0.50-0.75-1-2-3-6 mg/L Al | 150 | 1.18386.0001 | 1.18452.0002 | Chromazurol S | Disk comparator | • | | | | • | | • | • | • | • | • | • | • | • | • | | | • |
| Ammonium Test | 0.025-0.050-0.075-0.10-0.15-0.20-0.25-0.30-0.40 mg/L NH ₄ | 70 | 1.14428.0002 | | Indophenol blue | Color-card comparator | | • | | | • | | • | • | • | • | | | | • | • | • | | |
| Ammonium Test | 0.05-0.10-0.15-0.2-0.3-0.4-0.5-0.6-0.8 mg/L NH ₄ | 100 | 1.14400.0001 | | Neßler | Color-card comparator | | | | | | | • | • | • | • | | | | • | • | • | | |
| Ammonium Test | 0.2-0.4-0.6-1-2-3-5 mg/L NH ₄ | 50 | 1.08024.0001 | | Indophenol blue | Sliding comparator | | • | | | • | | • | • | • | • | | | • | | • | • | • | |
| Ammonium Test | 0.2-0.5-0.8-1.2-1.6-2-3-5-8 mg/L NH ₄ | 200 | 1.14423.0002 | | Indophenol blue | Color-card comparator | | • | | | • | | • | • | • | • | | | • | | • | • | • | • |
| Ammonium Test | 0.2-0.5-0.8-1.3-2.0-3.0-4.5-6.0-8.0 mg/L NH ₄ | 200 | 1.14750.0002 | | Indophenol blue | Disk comparator | | • | | | • | | • | • | • | • | | | • | | • | • | • | • |
| Ammonium Test | 0.5-1-3-5-10 mg/L NH ₄ | 150 | 1.11117.0001 | | Neßler | Color-card comparator | | | | | | | • | • | • | • | • | • | • | • | • | | | |
| Ammonium Test in freshwater and seawater | 0.5-1-3-5-10 mg/L NH ₄ | 50 | 1.14657.0001 | | Indophenol blue | Color-card | | | | | | | • | | • | • | | | • | | • | | | |
| C Calcium Test | 2 mg/L Ca | 200 at 170 mg/L Ca | 1.11110.0001 | | Titriplex® III | Titration with pipette | | | | | • | | • | • | • | • | | | | | | | | |
| Carbon Dioxide Test | 1.25 mg/L CO ₂ 2.5 mg/L CO ₂ 5 mg/L CO ₂ | 100 at 30 mg/L 100 at 60 mg/L 100 at 120 mg/L | 1.17179.0001 | | Phenolphthalein | Titration with dropping bottle | | | | | | | | • | • | • | • | | | • | | | | |
| Carbonate Hardness Test/ Acid cap. to pH 4.3 (ANC) | 0.25 °e and 0.1 mmol/L | 300 at 12.5 °e | 1.08048.0001 | | Acidimetric | Titration with pipette | | | | | • | | • | • | • | • | • | • | • | • | • | | | |
| Carbonate Hardness Test in freshwater and seawater | 1.25 °e | 50 at 1.25 °e | 1.14653.0001 | | Acidimetric | Titration with dropping bottle | | | | | • | | • | • | • | • | • | • | • | • | • | | | |
| Chloride Test | 2 mg/L Cl | 200 at 170 mg/L Cl | 1.11106.0001 | | Mercury(II)-nitrate | Titration with pipette | | • | | | • | | • | • | • | • | • | • | • | • | • | • | | |
| Chloride Test | 3-6-10-18-30-60-100-180-300 mg/L Cl | 200 | 1.14753.0001 | 1.18322.0002 | Mercury(II)-thiocyanate | Disk comparator | | • | | | • | | • | • | • | • | • | • | • | • | • | • | | |
| Chloride Test | 5-10-20-40-75-150-300 mg/L Cl | 400 | 1.14401.0001 | 1.18322.0002 | Mercury(II)-thiocyanate | Color-card comparator | | • | | | • | | • | • | • | • | • | • | • | • | • | • | | |
| Chloride Test | 25 mg/L Cl | 100 at 150 mg/L Cl | 1.11132.0001 | | Mercury(II)-nitrate | Titration with dropping bottle | | • | | | • | | • | • | • | • | • | • | • | • | • | • | | |
| Chlorine Test (free chlorine) | 0.01-0.025-0.045-0.06-0.08-0.1-0.15-0.2-0.3 mg/L Cl ₂ | 400 free chlorine | 1.14434.0001 | 1.14977.0002 | DPD | Color-card comparator | | | | | • | | • | | • | | | | | | • | | • | • |
| Chlorine Test (free chlorine) in freshwater and seawater | 0.10-0.25-0.5-1.0-2.0 mg/L Cl ₂ | 100 free chlorine | 1.14670.0001 | | TMB | Color-card | | | | | • | | • | | • | • | | | • | | • | | | |
| Chlorine Test (free chlorine) | 0.1-0.2-0.3-0.4-0.6-0.8-1.0-1.5-2.0 mg/L Cl ₂ | 600 free chlorine | 1.14978.0001 | 1.14979.0002 | DPD Liquid | Disk comparator | | | | | • | | • | | • | • | | | | | • | | • | • |

MQuant® Liquid

Colorimetric and titrimetric tests

MQuant® Liquid Test Parameter

| C | Parameter | Graduation | No. of tests | Cat. No. | Cat. No. Refill pack | Method | Type | Beer processing | Food testing | Juices | Milk products | Mineral water | Soft drinks | Aquaculture | Boiler water, cooling water | Drinking water | Ground-water, surface water | Industrial water | Process water | Seawater | Swimming pools | Wastewater | Agriculture | Disinfection control | Electro-plating | | |
|----------|---|---|--|--------------|---------------------------|----------------------------|-----------------------|------------------|--------------|--------|---------------|---------------|-------------|-------------|-----------------------------|----------------|-----------------------------|------------------|---------------|----------|----------------|------------|-------------|----------------------|-----------------|---|---|
| | | | | | | | | Food & Beverages | | | | | | Water | | | | | | Others | | | | | | | |
| | Chlorine Test (free and total chlorine) | 0.1-0.2-0.3-0.4-0.6-0.8-1.0-1.5-2.0 mg/L Cl ₂ | 400 free chlorine + 400 total chlorine | 1.14801.0001 | 1.14803.0002 | DPD Liquid | Disk comparator | | | | | • | | • | | • | • | | | | • | • | | • | • | | |
| | Chlorine Test (free chlorine) | 0.25-0.50-0.75-1-2-4-8-10-15 mg/L Cl ₂ | 1,000 free chlorine | 1.14976.0001 | 1.14977.0002 | DPD | Disk comparator | | | | | • | | • | | • | • | | | | | • | | • | • | | |
| | Chlorine Test (free and total chlorine) | 0.25-0.50-0.75-1-2-4-7-10-15 mg/L Cl ₂ | 400 free chlorine + 400 total chlorine | 1.14826.0001 | 1.18326.0002 | DPD | Disk comparator | | | | | | | | | • | | | | | | • | • | | • | • | |
| | Chlorine- and pH Test (free chlorine) | 0.10-0.20-0.30-0.60-1.0-1.5 mg/L Cl ₂ / pH 6.5-6.8-7.0-7.2-7.4-7.6-7.9 | 150 (chlorine) 150 (pH) | 1.11160.0001 | | DPD Phenol red | Sliding comparator | | | | | | | | | | | | | | | • | | | | | |
| | Chlorine- and pH Test (free and total chlorine) | 0.1-0.3-0.6-1.0-1.5 mg/L Cl ₂ pH 6.8-7.1-7.4-7.6-7.8 | 200 (chlorine) 200 (pH) | 1.11174.0001 | 1.11157.0001 1.11143.0001 | DPD Phenol red | Color-matching vessel | | | | | | | | | | | | | | | | • | | | | |
| | Chlorine Dioxide Test | 0.020-0.050-0.075-0.10-0.15-0.20-0.30-0.40-0.55 mg/L ClO ₂ | 300 | 1.18754.0001 | | DPD | Color-card comparator | | | | | | | | • | • | | | | | | | | • | | | |
| | Chromate Test | 0.011-0.022-0.045-0.07-0.09-0.11-0.13-0.18-0.22 mg/L CrO ₄ | 150 | 1.14402.0001 | | Diphenyl-carbazide | Color-card comparator | | | | | | | | | • | • | • | | | • | | • | | • | • | |
| | Chromate Test | 0.22-0.45-0.67-1.0-1.3-1.8-2.2-2.9-3.6 mg/L CrO ₄ | 300 | 1.14441.0001 | | Diphenyl-carbazide | Color-card comparator | | | | | | | | | • | • | • | | | • | | • | | • | • | |
| | Chromate Test | 0.22-0.45-0.8-1.3-2.2-4.0-6.7-13-22 mg/L CrO ₄ | 300 | 1.14756.0001 | | Diphenyl-carbazide | Disk comparator | | | | | | | | | • | • | • | | | • | | • | | • | • | |
| | Copper Test | 0.05-0.08-0.12-0.16-0.2-0.25-0.3-0.4-0.5 mg/L Cu | 125 | 1.14414.0001 | 1.18459.0002 | Cuprizone | Color-card comparator | • | • | • | | | • | | • | • | • | | | | • | • | • | | • | • | |
| | Copper Test in freshwater and seawater | 0.15-0.3-0.45-0.6-0.8-1.2-1.6 mg/L Cu | 50 | 1.14651.0001 | | Cuprizone | Color-card | | | | | | | • | • | • | • | | | | • | • | • | | • | • | |
| | Copper Test | 0.3-0.6-1.0-1.5-2.0-2.5-3-5 mg/L Cu | 125 | 1.14418.0001 | 1.18459.0002 | Cuprizone | Color-card comparator | | • | | | | | | • | • | • | | | | • | • | • | | • | • | |
| | Copper Test | 0.3-0.6-1.0-1.5-2-3-5-7-10 mg/L Cu | 125 | 1.14765.0001 | 1.18459.0003 | Cuprizone | Disk comparator | | • | | | | | | • | • | • | | | | • | • | • | | • | • | |
| | Cyanide Test | 0.002-0.004-0.007-0.010-0.013-0.016-0.020-0.025-0.030 mg/L CN | 65 | 1.14417.0001 | 1.18457.0002 | König reaction | Color-card comparator | | • | | | • | | • | | • | • | • | | | | • | | • | | • | • |
| | Cyanide Test | 0.03-0.06-0.10-0.15-0.2-0.3-0.4-0.5-0.7 mg/L CN | 200 | 1.14429.0001 | 1.18457.0002 | König reaction | Color-card comparator | | | | | • | | • | | • | • | • | | | | • | | • | | • | • |
| | Cyanide Test | 0.03-0.07-0.13-0.2-0.3-0.5-1-2-5 mg/L CN | 200 | 1.14798.0001 | 1.18457.0002 | König reaction | Disk comparator | | | | | • | | • | | • | • | • | | | | • | | • | | • | • |
| F | Fluoride Test | 0.15-0.3-0.5-0.8 mg/L F | 100 | 1.18771.0001 | | Alizarin complexone | Color-card | | | | | • | | | • | • | | | | | | | | | | | |
| | Formaldehyde Test | 0.10-0.25-0.4-0.6-0.8-1.0-1.5 mg/L HCHO | 100 | 1.08028.0001 | | Triazole derivative | Sliding comparator | | • | | | | | | | | | | | • | | | | • | | • | |
| H | Hydrazine Test | 0.10-0.25-0.5-1.0 mg/L N ₂ H ₂ | 100 | 1.08017.0001 | necessary 1.08018.0001 | Dimethylamino-benzaldehyde | Color-matching vessel | | | | | | | | • | | | | | | | | | | | | |

MQuant® Liquid

Colorimetric and titrimetric tests

MQuant® Liquid Test Parameter

| Parameter | Graduation | No. of tests | Cat. No. | Cat. No. Refill pack | Method | Type | Beer processing | Food testing | Juices | Milk products | Mineral water | Soft drinks | Aquaculture | Boiler water, cooling water | Drinking water | Ground-water, surface water | Industrial water | Process water | Seawater | Swimming pools | Wastewater | Agriculture | Disinfection control | Electro-plating | |
|-------------------------|---|--|--------------|------------------------------|-------------------------|-------------------------------|-----------------------|--------------|--------|---------------|---------------|-------------|-------------|-----------------------------|----------------|-----------------------------|------------------|---------------|----------|----------------|------------|-------------|----------------------|-----------------|---|
| | | | | | | | Food & Beverages | | | | | | Water | | | | | | Others | | | | | | |
| I Iron Test | 0.01-0.02-0.03-0.04-0.06-0.08-0.10-0.15-0.20 mg/L Fe | 300 | 1.14403.0001 | 1.18458.0002 | Triazine | Color-card comparator | | • | | | • | | • | • | • | • | • | | • | | • | | | | |
| | Iron Test in freshwater and seawater | 0.05-0.1-0.2-0.4-0.6-0.8-1.0 mg/L Fe | 50 | 1.14660.0001 | | Triazine | Color-card | | | | | • | | • | • | • | • | | • | | • | | | | |
| | Iron Test | 0.1-0.2-0.5-0.8-1.2-2-3-5 mg/L Fe | 500 | 1.14759.0001 | 1.18458.0002 | Triazine | Disk comparator | | | | | • | | • | • | • | • | • | | • | | • | | | |
| | Iron Test | 0.1-0.3-0.5-1.0-2.5-5.0-7.5-12.5-25-50 mg/L Fe | 200 | 1.11136.0001 | 1.08023.0001 | 2,2'-Bipyridine | Color-matching vessel | | • | | | • | | • | • | • | • | • | | | | • | | | |
| | Iron Test | 0.2-0.4-0.6-0.8-1.0-1.3-1.6-2.0-2.5 mg/L Fe | 500 | 1.14438.0001 | 1.18458.0002 | Triazine | Color-card comparator | | • | | | • | | • | • | • | • | • | | • | | • | | | |
| | Iron Test | 0.25-0.5-1.0-2.0-3.0-5.0-7.5-10-15 mg/L Fe | 300 | 1.14404.0001 | | 1,10-phenanthroline | Color-card comparator | | • | | | • | | • | • | • | • | • | | • | | • | | | |
| M Magnesium Test | 100-200-300-500-1,000-1,500 mg/L Mg | 50 | 1.11131.0001 | | Xylidyl blue | Color-card | | | | | | | | | • | • | | | | | | | | | |
| | Manganese Test | 0.03-0.06-0.10-0.15-0.20-0.25-0.3-0.4-0.5 mg/L Mn | 120 | 1.14406.0001 | 1.18460.0002 | Oxime | Color-card comparator | | | | | • | | • | • | • | • | | • | | • | • | | • | |
| | Manganese Test | 0.3-0.7-1.3-2-3-4-5-7-10 mg/L Mn | 120 | 1.14768.0001 | 1.18460.0002 | Oxime | Disk comparator | | | | | • | | • | • | • | • | | • | | • | • | | • | |
| N Nickel Test | 0.02-0.04-0.07-0.10-0.15-0.2-0.3-0.4-0.5 mg/L Ni | 125 | 1.14420.0001 | 1.18461.0002 | Dimethyl-glyoxime | Color-card comparator | | | | | | | | | • | • | • | | | | • | | | • | |
| | Nickel Test | 0.5-1.0-1.5-2-3-4-6-8-10 mg/L Ni | 500 | 1.14783.0001 | 1.18461.0002 | Dimethyl-glyoxime | Disk comparator | | | | | | | | • | • | • | | | | • | | | • | |
| | Nitrate Test | 5-10-20-30-40-50-60-70-90 mg/L NO ₃ | 90 | 1.18387.0001 | | Nitrospectral / sulfuric acid | Disk comparator | • | • | | • | • | | • | • | • | • | | | • | • | • | | | |
| | Nitrate Test | 10-25-50-75-100-125-150 mg/L NO ₃ | 200 | 1.11170.0001 | | Sulfanilic acid | Sliding comparator | | • | | | | | • | • | • | • | | | | • | • | • | | |
| | Nitrate Test in freshwater | 10-25-50-75-100-125-150 mg/L NO ₃ | 100 | 1.11169.0001 | | Sulfanilic acid | Color-card | | • | | | | | • | • | • | • | | | | • | • | | | |
| | Nitrite Test | 0.005-0.012-0.02-0.03-0.04-0.05-0.06-0.08-0.10 mg/L NO ₂ | 110 | 1.14408.0001 | 1.18463.0002 | Griess' reaction | Color-card comparator | | • | | | • | | • | • | • | • | | | • | | • | • | | • |
| | Nitrite Test in freshwater and seawater | 0.05-0.15-0.25-0.50-1.0 mg/L NO ₂ | 100 | 1.14658.0001 | | Griess' reaction | Color-card | | | | | • | | • | • | • | • | • | | • | | • | | | |
| | Nitrite Test | 0.025-0.05-0.075-0.1-0.15-0.2-0.3-0.5 mg/L NO ₂ | 200 | 1.08025.0001 | | Griess' reaction | Sliding comparator | | • | | | • | | • | • | • | • | | | • | | • | • | | • |
| | Nitrite Test | 0.1-0.2-0.3-0.4-0.6-0.8-1.0-1.3-2.0 mg/L NO ₂ | 400 | 1.14424.0001 | 1.18463.0002 | Griess' reaction | Color-card comparator | | • | | | • | | • | • | • | • | | | • | | • | • | | • |
| Nitrite Test | 0.1-0.2-0.4-0.6-1.0-1.8-3.0-6.0-10 mg/L NO ₂ | 400 | 1.14774.0001 | 1.18463.0002 | Griess' reaction | Disk comparator | | • | | | • | | • | • | • | • | | | • | | • | • | | • | |
| O Oxygen Test | 0.1 mg/L O ₂ | 100 at 8.5 mg/L O ₂ | 1.11107.0001 | 1.11152.0001 1.14663.0001 | modified Winkler method | Titration with pipette | • | | | | • | • | • | • | • | • | • | | • | | • | | | | |
| | Oxygen Test in freshwater and seawater | 1-3-5-7-9-12 mg/L O ₂ | 50 | 1.14662.0001 | necessary: 1.14663.0001 | modified Winkler method | Color-card | | | | | | | • | • | • | | | • | | • | | | | |
| | Ozone Test | 0.007-0.017-0.030-0.040-0.055-0.070-0.10-0.14-0.20 mg/L O ₃ | 300 | 1.18755.0001 | | DPD | Color-card comparator | | | | | | | | • | | | | • | | • | | • | | |
| | Ozone Test | 0.15-0.35-0.5-0.7-1.4-2.7-5.0-7.0-10 mg/L O ₃ | 300 | 1.18758.0001 | | DPD | Disk comparator | | | | | | | | • | | | | • | | • | | • | | |

MQuant® Liquid

Colorimetric and titrimetric tests

MQuant® Liquid Test Parameter

| Parameter | Graduation | No. of tests | Cat. No. | Cat. No. Refill pack | Method | Type | Beer processing | Food testing | Juices | Milk products | Mineral water | Soft drinks | Aquaculture | Boiler water, cooling water | Drinking water | Ground-water, surface water | Industrial water | Process water | Seawater | Swimming pools | Wastewater | Agriculture | Disinfection control | Electro-plating | |
|-----------|---|---|--|----------------------|--|-------------------------------|--------------------------------|--------------|--------|---------------|---------------|-------------|-------------|-----------------------------|----------------|-----------------------------|------------------|---------------|----------|----------------|------------|-------------|----------------------|-----------------|---|
| | | | | | | | Food & Beverages | | | | | | Water | | | | | | | | | | Others | | |
| P | pH Universal indicator, liquid | pH 4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0-9.5-10.0 | 100 mL | 1.09175.0100 | | Mixed indicator | Color-card | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| | pH Universal indicator, liquid | pH 4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0-9.5-10.0 | 1 L | 1.09175.1000 | | Mixed indicator | Color-card | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| | pH Indicator liquid | pH 9.0-10.0-11.0-12.0-13.0 | 100 mL | 1.09176.0100 | | Mixed indicator | Color-card | | | | | | | | | | | | | | | • | | • | |
| | pH Test | pH 4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0 | 400 | 1.08027.0001 | | Mixed indicator | Sliding comparator | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Phosphate Test | 0.046-0.092-0.14-0.18-0.25-0.34-0.43 mg/L PO ₄ | 200 | 1.18394.0001 | 1.18465.0002 | Phosphomolybdenum blue | Color-card comparator | | • | | | | | | • | • | | | | • | | • | | • | |
| | Phosphate Test in freshwater and seawater | 0.25-0.50-0.75-1.0-1.5-2.0-3.0 mg/L PO ₄ | 100 | 1.14661.0001 | | Phosphomolybdenum blue | Color-card | | | | | | | • | • | • | • | • | • | • | | • | | | |
| | Phosphate Test | 0.6-1.2-1.8-2.5-3.1-4.6-6.1-7.7-9.2 mg/L PO ₄ | 200 | 1.14846.0001 | 1.18465.0002 | Phosphomolybdenum blue | Disk comparator | | • | | | • | | | • | • | • | • | • | • | | • | • | • | |
| | Phosphate Test | 1.3-3.3-6.7-10-13 mg/L PO ₄ | 200 | 1.11138.0001 | 1.08046.0001 | Phosphomolybdenum blue | Color-matching vessel | | • | | | • | | | • | • | • | • | • | • | | • | • | • | |
| | Phosphate Test | 3.1-6.1-11-18-31-61-123 mg/L PO ₄ | 190 | 1.14449.0001 | 1.18466.0002 | Vanadium molybdate | Color-card comparator | | | | | • | | | • | • | • | • | • | • | | • | • | • | |
| | Phosphate Test | 4.6-9.2-18-28-37-49-61-123-307 mg/L PO ₄ | 300 | 1.18388.0001 | 1.18466.0002 | Vanadium molybdate | Disk comparator | | | | | • | | | • | • | • | • | • | • | | • | • | • | |
| R | Residual Hardness Test | 0.05-0.10-0.19 °e | 400 | 1.11142.0001 | | Mixed indicator | Color-card | | | | | | | • | | | | | | | | | | | |
| S | Silicate (Silicic Acid) Test | 0.021-0.043-0.086-0.13-0.17-0.21-0.32-0.43-0.53 mg/L SiO ₂ | 150 | 1.14410.0001 | 1.18323.0002 | Silico-molybdenum blue | Color-card comparator | | | | | | | • | • | • | • | • | • | | • | | | | |
| | Silicate (Silicic Acid) Test | 0.64-1.3-2.1-3.2-4.3-6.4-11-15-21 mg/L SiO ₂ | 150 | 1.14792.0001 | 1.18323.0002 | Silico-molybdenum blue | Disk comparator | | | | | | | • | • | • | • | • | • | | • | | | | |
| | Sulfate Test | 25-50-75-100-130-160-190-240-300 mg/L SO ₄ | 75 | 1.18389.0001 | | Tannic acid | Disk comparator | | | | | • | | | • | • | | | | | | • | | | |
| | Sulfate Test | 25-50-80-110-140-200-300 mg/L SO ₄ | 90 | 1.14411.0001 | | Tannic acid | Color-card comparator | | | | | • | | | • | • | | | | | | • | | | |
| | Sulfide Test | 0.02-0.04-0.06-0.08-0.10-0.13-0.16-0.20-0.25 mg/L S | 100 | 1.14416.0001 | | Dimethyl-p-phenyldiamine | Color-card comparator | | | | | • | | • | • | • | • | | | | | • | • | | |
| | Sulfide Test | 0.1-0.3-0.5-0.7-1-2-3-4-5 mg/L S | 200 | 1.14777.0001 | | Dimethyl-p-phenyldiamine | Disk comparator | | | | | • | | • | • | • | • | | | | | • | • | | |
| | Sulfite Test | 0.5 mg/L Na ₂ SO ₃ (0.32 mg/L SO ₃) | 200 at 40 mg/L Na ₂ SO ₃ | 1.11148.0001 | | Iodate / Starch | Titration with pipette | • | • | • | • | • | • | | • | • | • | | | | | • | | | |
| T | Total Hardness Test | 0.13 °e and 1 mg/L CaCO ₃ | 300 at 3.8 °e | 1.08047.0001 | 1.08040.0001 | Titriplex® III | Titration with pipette | | | | | | | • | • | • | • | | | • | • | | | | |
| | Total Hardness Test | 0.25 °e and 10 mg/L CaCO ₃ | 300 at 12.5 °e | 1.08039.0001 | 1.08033.0001 1.11122.0001 1.08203.0001 | Titriplex® III | Titration with pipette | | | | | | | • | • | • | • | | | • | • | | | | |
| | Total Hardness Test | 1.25 °e | 100 at 12.5 °e | 1.11104.0001 | | Titriplex® III | Titration with dropping bottle | | | | | | | • | • | • | • | | | • | • | | | | |
| | Total Hardness Test | 20 mg/L CaCO ₃ | 200 at 200 mg/L | 1.08312.0001 | | Titriplex® III | Titration with dropping bottle | | | | | | | • | • | • | • | • | | • | • | | | | |
| | Total Hardness Test in freshwater | 1.25 °e | 50 at 1.25 °e | 1.14652.0001 | | Titriplex® III | Titration with dropping bottle | | | | | | | • | • | • | • | | | | | • | | | |
| Z | Zinc Test | 0.1-0.2-0.3-0.4-0.5-0.7-1-2-5 mg/L Zn | 120 | 1.14780.0001 | 1.14782.0002 | Thiocyanate / Brilliant green | Disk comparator | • | | • | | • | • | • | • | • | • | | | | • | | • | | |
| | Zinc Test | 0.1-0.2-0.3-0.4-0.5-0.7-1-2-5 mg/L Zn | 120 | 1.14412.0001 | 1.14782.0002 | Thiocyanate / Brilliant green | Color-card comparator | • | | • | | • | • | • | • | • | • | | | | • | | • | | |

Just a
quick dip



What is the quality of your milk?

Detect peroxidase activity in milk

The Application

Milk pasteurization is the process of gently heating milk in order to inactivate or destroy the enzymes and microorganisms that contribute to spoilage or risk of disease. The enzyme lactoperoxidase (POD) is naturally present in milk and is inactivated if heated to temperatures higher than 85 °C. Its activity can be used to check that milk has not been heated too harshly, and therefore that pasteurization was performed correctly. For dairies, a yes/no statement in terms of POD is usually sufficient.

Our Solution: MQuant® Peroxidase Test strips

With the qualitative MQuant® Peroxidase Test strips, you can now determine POD in your milk sample much more quickly than traditional photometry with comparable reliability to the photometric reference method (DIN 10483-1). The simplicity of the method allows for it to be performed directly at the sampling site, and makes it more cost-effective because no additional equipment is required.

Benefits

- Simple and fast determination of peroxidase activity
- Reliable
- Flexible – can be used on-site
- Low cost
- Easy evaluation with a color scale and no additional instrumentation



MQuant® Test Strips

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Disinfection Control
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MQuant® Test Strips

Rapid visual analysis

Test strips

Highly reliable and portable, MQuant® test strips are designed for semi-quantitative determination of ions and other compounds. These versatile strips can be used in concentration ranges from <1 mg/L up to the g/L range. The test strips save you considerable time and costs during analyses, quality checks, and in-process controls. The PET film backing material and the low reagent content also make the test strips easy to dispose of.



What is the glucose content of your food?

Semi-quantitative glucose measurement

The Application

Glucose is an important parameter in many foods and beverages, and is regularly tested in raw materials and final products. Traditional glucose analysis involves time-consuming enzymatic determination in laboratories.

Our Solution: MQuant® Glucose Test strips

MQuant® Glucose Test strips allow fast, cost-effective analysis anywhere. They deliver reliable semi-quantitative results, and are ideal for quick on-the-spot screening of samples when there is no time for lab analysis.

Benefits

- Pocket-sized tests for on-site or laboratory use
- Simple analysis with pictogram instructions on label
- Fast, accurate results in minutes
- Cost-effective
- Easy disposal

Fast results,
easy usage,
safe disposal

Brilliant
color scales
for exact
results

Many
Measuring
ranges
available



Further MQuant® applications

Check the quality of frying oils

Deep-frying causes oils and fats to decompose over time, producing free fatty acids. When these acids exceed an acceptable limit, they affect the quality of fried food. With MQuant® Free Fatty Acids test strips, you can easily monitor the quality of your oil and determine the right time for a change.

MQuant® Free Fatty Acids | Cat. No. 1.17046.0001

Ensure safe disinfections

Disinfection is critical in many different sectors such as food production, hospitals, biotech, and pharmaceutical. It is necessary to determine both that the correct concentration of a given disinfectant is used, and that residues do not remain when the process is complete to not be passed on to the final product. MQuant® test strips help you monitor these steps of cleaning by checking concentrations of disinfectants including chlorine, formaldehyde, peracetic acid, peroxide and quaternary ammonium compounds.



MQuant® Test Strips

Rapid visual analysis

It's that simple!



1 Sample preparation

MQuant® test strips tolerate a range of interferences and most can be used without any sample pre-treatment. For challenging samples, we offer special reagents and a range of application notes for your convenience.

2 Testing



Remove one MQuant® test strip from the protective tube.



Dip strip into the test solution to wet reaction zones and remove excess liquid.



After the specified reaction time (maximum one minute), compare the color of the reaction zone with the color scale printed on the tube label to determine the concentration.

3 Disposal

MQuant® test strips can be safely and easily disposed of with regular waste. *Take note of any regional regulations to dispose of/recycle the aluminium tube and other packaging material.*

Shelf-life and storage

When stored in a cool and dry area (refrigeration is necessary in some cases), test strips can be used for up to three years (details provided on the package). The tube must be closed immediately after removal of each strip to ensure the remaining test strips are protected from moisture and air.

Quality assurance

We check and calibrate all MQuant® tests and comparison colors using certified standard solutions. These solutions can be traced directly to primary reference materials from NIST and PTB.

Don't guess, measure!

Accurate chemical analyses and digital documentation with a NEW smartphone test strip reader

The Application

Quick and easy testing for laboratory and in-process control of water, food, and beverage samples without compromising accuracy and reproducibility.

Our Solution: The MQuant® StripScan App

Digital readouts of pH and chemical analytes are now at your fingertips with the MQuant® StripScan app. A camera readout of MQuant® test strips on a reference card provides instant results on your smartphone. You can synchronize your data to the StripScan web platform to compare, graph, and share your results.

Benefits

- Get reliable results faster
- Acquire and manage your data digitally
- Ensure traceability and allow collaboration

pH Reference Card | Cat. No. 1.03736.0001

Nitrate Reference Card | Cat. No. 1.03733.0001



MQuant® Test Strips

Rapid visual analysis

MQuant® Test Strips Parameter A-Z

| Parameter | Graduation | No. of tests | Cat. No. | Method | Type | Beer processing | Food testing | Juices | Milk products | Mineral water | Soft drinks | Aquaculture | Boiler water, cooling water | Drinking water | Ground-water, surface water | Industrial water | Process water | Seawater | Swimming pools | Wastewater | Agriculture | Disinfection control | Electro-plating |
|-------------------------------|--|--------------|--------------|---------------------------|---------------------|------------------|--------------|--------|---------------|---------------|-------------|-------------|-----------------------------|----------------|-----------------------------|------------------|---------------|----------|----------------|------------|-------------|----------------------|-----------------|
| | | | | | | Food & Beverages | | | | | | Water | | | | | | | | | | Others | |
| A Aluminium Test | 10-25-50-100-250 mg/L Al | 100 | 1.10015.0001 | Aurintricarboxylic acid | Reagent, incl. | • | • | • | | • | • | | | | | • | | | | • | | | |
| Ammonium Test | 10-30-60-100-200-400 mg/L NH ₄ | 100 | 1.10024.0001 | Neßler | Reagent, incl. | | | | | | | | | | • | | • | | | • | • | | |
| Arsenic Test | 0.005-0.010-0.025-0.05-0.10-0.25-0.5 mg/L As | 100 | 1.17927.0001 | modified Gutzeit test | Reagent, incl. | | | | | • | | | | • | • | | | | | | | • | |
| Arsenic Test | 0.02-0.05-0.1-0.2-0.5 mg/L As 0.1-0.5-1.0-1.7-3.0 mg/L As | 100 | 1.17917.0001 | modified Gutzeit test | Reagent, incl. | | | | | • | | | | • | • | | | | | | | | |
| Ascorbic Acid Test | 50-100-200-300-500-700-1,000-2,000 mg/L ascorbic acid | 100 | 1.10023.0001 | Phosphomolybdenum blue | | • | • | • | | | • | | | | | | | | | | | | |
| B Blank strip | | 100 | 1.11860.0001 | | | • | • | • | | | • | | | | | | | | | | | | |
| C Calcium Test | 10-25-50-100 mg/L Ca | 60 | 1.10083.0001 | Glyoxal-bis-hydroxyanil | Reagent, incl. | • | • | • | • | • | • | | • | • | | • | | | | | • | | |
| Carbonate Hardness Test | 5-10-15-20-30 °e | 100 | 1.10648.0001 | Mixed indicator | | | | | • | | • | | • | • | • | • | | | | | | | |
| Chloride Test | 500-1,000-1,500-2,000-≥3,000 mg/L Cl | 100 | 1.10079.0001 | Silver chromate | | | • | | | | | | | | • | | | | | | • | | |
| Chlorine Test (free chlorine) | 0.5-1-2-5-10-20 mg/L Cl ₂ | 75 | 1.17925.0001 | Redox reaction | | | | | | | | | | | | | | | | | • | • | |
| Chlorine Test (free chlorine) | 25-50-100-200-500 mg/L Cl ₂ | 100 | 1.17924.0001 | Redox reaction | | | | | | | | | | | | | | | | | • | • | |
| Chromate Test | 3-10-30-100 mg/L CrO ₄ | 100 | 1.10012.0001 | Diphenylcarbazide | Reagent, incl. | | | | | | | | | | | | | | | | • | | • |
| Cobalt Test | 10-30-100-300-1,000 mg/L Co | 100 | 1.10002.0001 | Rhodanide | | | | | | | | | | | | | | | | | • | | • |
| Copper Test | 10-30-100-300 mg/L Cu | 100 | 1.10003.0001 | 2,2'-Biquinoline | | | | | | | | | | • | | | | | • | • | | | • |
| Cyanide Test | 1-3-10-30 mg/L CN | 100 | 1.10044.0001 | König reaction | Reagent, incl. | | | | | | | | | | | | | | | | • | | • |
| F Formaldehyde Test | 10-20-40-60-100 mg/L HCHO | 100 | 1.10036.0001 | Triazole | Reagent, incl. | | | | | | | | | | | | • | | | | | • | |
| Free Fatty Acids | 0.5-1.0-2.0-3.0 mg/g KOH | 100 | 1.17046.0001 | pH indicator | | | • | | | | | | | | | | | | | | | | |
| G Glucose Test | 10-25-50-100-250-500 mg/L Glucose | 50 | 1.17866.0001 | Enzymatic reaction | | • | • | • | • | | • | | | | | | | | | | | | |
| I Iron Test | 3-10-25-50-100-250-500 mg/L Fe(II) | 100 | 1.10004.0001 | 2,2'-Bipyridine | | | • | • | • | | • | | | • | • | • | | | | | • | | |
| L Lead Test | 20-40-100-200-500 mg/L Pb | 100 | 1.10077.0001 | Rhodizonic acid | Reagent, incl. | | | | | | | | | | • | | | | | | • | • | |
| M Manganese Test | 2-5-20-50-100 mg/L Mn | 100 | 1.10080.0001 | Oxidation/Redox indicator | Reagent, incl. | | | | | | | | | • | • | • | | | | | • | | |
| Molybdenum Test | 5-20-50-100-250 mg/L Mo | 100 | 1.10049.0001 | Toluene-3,4-dithiol | Reagent, incl. | | | | | | | • | | | | | | | | | | | |
| N Nickel Test | 10-25-100-250-500 mg/L Ni | 100 | 1.10006.0001 | Dimethylglyoxime | | | | | | | | | | | | | | | | | • | | • |
| Nitrate Test | 10-25-50-100-250-500 mg/L NO ₃ | 100 | 1.10020.0001 | modified Griess' reaction | | | • | • | | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| Nitrate Test | 10-25-50-100-250-500 mg/L NO ₃ | 25 | 1.10020.0002 | modified Griess' reaction | | | • | • | | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| Nitrate Test | 10-25-50-100-250-500 mg/L NO ₃ | 1,000 | 1.10092.0021 | modified Griess' reaction | Individually sealed | | • | • | | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| Nitrite Test | 0.5-1-2-5-10 mg/L NO ₂ | 75 | 1.10057.0001 | Griess' reaction | | | • | | | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| Nitrite Test | 2-5-10-20-40-80 mg/L NO ₂ | 100 | 1.10007.0001 | Griess' reaction | | | • | | | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| Nitrite Test | 2-5-10-20-40-80 mg/L NO ₂ | 25 | 1.10007.0002 | Griess' reaction | | | • | | | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| Nitrite Test | 0.1-0.3-0.6-1-2-3 g/L NO ₂ | 100 | 1.10022.0001 | Griess' reaction | | | | | | | | • | | | | | | | | | | | |

MQuant® Test Strips

Rapid visual analysis

MQuant® Test Strips Parameter A-Z

| Parameter | Graduation | No. of tests | Cat. No. | Method | Type | Beer processing | Food testing | Juices | Milk products | Mineral water | Soft drinks | Aquaculture | Boiler water, cooling water | Drinking water | Ground-water, surface water | Industrial water | Process water | Seawater | Swimming pools | Wastewater | Agriculture | Disinfection control | Electro-plating | | |
|----------------|--------------------------------|--|--------------|---------------|------------------------------------|---------------------|--------------|--------|---------------|---------------|-------------|-------------|-----------------------------|----------------|-----------------------------|------------------|---------------|----------|----------------|------------|-------------|----------------------|-----------------|---|---|
| | | | | | | Food & Beverages | | | | | | Water | | | | | | | | | | Others | | | |
| P | Peracetic Acid Test | 5-10-20-30-50 mg/L Peracetic acid | 100 | 1.10084.0001 | Redox reaction | | | | | | | | | | | | | | | | | | | • | |
| | Peracetic Acid Test | 20-40-80-120-160 mg/L Peracetic acid | 100 | 1.17976.0001 | Redox reaction | | | | | | | | | | | | | | | | | | | | • |
| | Peracetic Acid Test | 100-150-200-250-300-400-500 mg/L Peracetic acid | 100 | 1.10001.0001 | Redox reaction | | | | | | | | | | | | | | | | | | | | • |
| | Peracetic Acid Test | 500-1,000-1,500-2,000 mg/L Peracetic acid | 100 | 1.17922.0001 | Redox reaction | | | | | | | | | | | | | | | | | | | | • |
| | Peroxidase Test | yes/no result | 100 | 1.17828.0001 | Enzymatic reaction | | • | | • | | | | | | | | | | | | | | | | |
| | Peroxide Test | 0.5-2-5-10-25 mg/L H ₂ O ₂ | 100 | 1.10011.0001 | Enzymatic reaction | | | | • | | | | | | | | | | | • | • | | | | • |
| | Peroxide Test | 0.5-2-5-10-25 mg/L H ₂ O ₂ | 25 | 1.10011.0002 | Enzymatic reaction | | | | • | | | | | | | | | | | • | • | | | | • |
| | Peroxide Test | 1-3-10-30-100 mg/L H ₂ O ₂ | 100 | 1.10081.0001 | Enzymatic reaction | | | | • | | | | | | | | | | | • | • | | | | • |
| | Peroxide Test | 100-200-400-600-800-1,000 mg/L H ₂ O ₂ | 100 | 1.10337.0001 | Enzymatic reaction | | | | | | | | | | | | | | | | • | | | | • |
| | Phosphate Test | 10-25-50-100-250-500 mg/L PO ₄ | 100 | 1.10428.0001 | Molybdate ion | Reagent, incl. | | • | | | | | | | | | | | | | • | • | | | |
| Potassium Test | 250-450-700-1,000-1,500 mg/L K | 100 | 1.17985.0001 | Dipicrylamine | Reagent, incl. | | | | | • | | | | • | | • | | | | • | • | | | | |
| Q | Quaternary Ammonium Compounds | 10-25-50-100-250-500 mg/L Benzalkonium chloride | 100 | 1.17920.0001 | Indicator | | | | | | | | | | | | | | | | | | | • | |
| S | Sulfate Test | <200->400->800->1200->1600 mg/L SO ₄ | 100 | 1.10019.0001 | Ba-thorin complex | | | | | | | | | • | • | • | | | | | • | | | | |
| | Sulfite Test | 10-40-80-180-400 mg/L SO ₃ | 100 | 1.10013.0001 | Nitroprusside/ Zn-hexacyanoferrate | | • | • | | • | • | | • | | | | | | | | • | | | | |
| T | Tin Test | 10-25-50-100-200 mg/L Sn | 50 | 1.10028.0001 | Toluene-3,4-dithiol | Reagent, incl. | | • | • | • | | | | | | | | | | | • | • | | • | |
| | Total Hardness Test | <4->5->9->18->26 °e | 100 | 1.10025.0001 | EDTA | | | | | • | | | | • | • | | | | | | | | | | |
| | Total Hardness Test | <4->5->9->18->26 °e | 1,000 | 1.10032.0001 | EDTA | Individually sealed | | | | | • | | | • | • | | | | | | | | | | |
| | Total Hardness Test | >6->13->19->25->31 °e | 100 | 1.10046.0001 | EDTA | | | | | • | | | | • | • | | | | | | | | | | |
| Z | Zinc Test | 0-4-10-20-50 mg/L Zn | 100 | 1.17953.0001 | Dithizone | | | | | | | | | • | • | | | | | | | | | • | |

Your brand - Merck quality

Want to add your branding to our test strips or papers for pH or chemical parameters?

Choose from the following options:

- **Individually-sealed and branded test strips**
Ideal for inserting in books, magazines, and brochures, or for adhering to products.
- **Branded tubes with either our catalog items or customized strips/papers**
Provide your customers with consistent, high-quality Merck products with your branding on the packaging or modify the appearance of the test strips/papers and color card as well.
- **Innovative customized products**
If the test you need is not offered, we can discuss solutions for your individual requirements.

MQuant® Reagent Papers

| Description | Cat. No. |
|---|--------------|
| Lead(II) acetate paper, 3 rolls, each 4.8 meters, for the determination of sulfide & hydrogen sulfide | 1.09511.0003 |
| Potassium iodide-starch paper, grade value Reag. Ph. Eur., 3 rolls, each 4.8 meters for the determination of oxidizing agents | 1.09512.0003 |



Testing colored samples?

MQuant® blank strips have a reagent-free test field. This allows you to check whether the sample solution changes the test field's color significantly, potentially leading to mis-matches with the color scale and inaccurate results.

pH Testing so basic



Need to measure pH in a challenging solution?

Quick and clear pH measurements of turbid or colored samples

The application

Analyzing turbid or colored liquids with conventional pH-indicator strips can be extremely difficult. Suspended particles accumulate on the reaction zone and can obscure the color, making the pH impossible to read. Using pH electrodes requires extensive cleaning and maintenance.

Our solution: MQuant® transparent-back, non-bleeding pH-indicator strips and papers

Our pH-indicator strips and papers for turbid or colored solutions eliminate the need for sample preparation steps like filtration or clarification. The pH reaction zone is backed by a transparent carrier film, so you can easily read the pH on the back without interference from suspended particulates or colored sample solution.

Benefits

- Non-bleeding strips prevent contamination of the medium
- Transparent strips for clear results in lightly colored or turbid liquids
- Quick and easy method with no sample preparation
- Brilliant color scales for reliable results
- SafetyEdge box for security and convenience



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MQuant® pH Test strips and papers

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MQuant® pH

Test strips and papers

pH test strips and papers

MQuant® pH-indicator strips and papers make pH measurement easier than ever: no instruments, sample preparation, maintenance, or cleaning electrodes. Simply read the color. This rapid method offers an accurate color scale for clear, reliable results. It's suitable for all types of media in environmental analysis and industrial in-process controls, even highly turbid liquids. With our broad range of pH tests, you'll always have the optimal solution for your application.

safetyedge box



Performing pH measurements?

Enjoy the ultimate in security and simplicity with our SafetyEdge box. Its innovative flip-top corner allows easy removal of pH-indicator strips, but prevents them from falling out.

Do you have special applications?

Simplify your workflow with our pH-indicator strips for special requirements like testing turbid samples or meat.

Fast and easy Method

Non-bleeding strips

Brilliant colors



With our broad range of pH tests, you'll always have the optimal solution for your application.

Premium pH-indicator papers

Our pH-indicator papers come in a roll format that protects the high-quality impregnated filter papers from external factors such as moisture, light, and ambient gases. This also ensures that they can be stored for longer.

MQuant® pH non-bleeding pH-indicator strips

Special indicator dyes are covalently bound to the paper on the test strips, preventing the indicator from bleeding, and allowing the strips to be left in the measurement medium indefinitely without contaminating the sample.

pH-indicator strips (non-bleeding)

| Parameter | pH measuring range | Graduation | No. of test strips | Cat. No. |
|---|--------------------|--|--------------------|--------------|
| pH-indicator strips Universal indicator | 0 – 14 | 0-1-2-3-4-5-6-7-8-9-10-11-12-13-14 | 100 | 1.09535.0001 |
| pH-indicator strips | 0 – 6.0 | 0-0.5-1.0-1.5-2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0 | 100 | 1.09531.0001 |
| pH-indicator strips | 5.0 – 10.0 | 5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0-9.5-10.0 | 100 | 1.09533.0001 |
| pH-indicator strips | 7.5 – 14.0 | 7.5-8.0-8.5-9.0-9.5-10.0-10.5-11.0-11.5-12.0-12.5-13.0-13.5-14.0 | 100 | 1.09532.0001 |
| pH-indicator strips | 2.0 – 9.0 | 2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0 | 100 | 1.09584.0001 |
| pH-indicator strips, individually sealed | 2.0 – 9.0 | 2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0 | 1,000 | 1.09450.0010 |
| pH-indicator strips | 0 – 2.5 | 0-0.5-1.0-1.3-1.6-1.9-2.2-2.5 | 100 | 1.09540.0001 |
| pH-indicator strips | 2.5 – 4.5 | 2.5-3.0-3.3-3.6-3.9-4.2-4.5 | 100 | 1.09541.0001 |
| pH-indicator strips | 4.0 – 7.0 | 4.0-4.4-4.7-5.0-5.3-5.5-5.8-6.1-6.5-7.0 | 100 | 1.09542.0001 |
| pH-indicator strips | 6.5 – 10.0 | 6.5-6.8-7.1-7.4-7.7-7.9-8.1-8.3-8.5-8.7-9.0-9.5-10.0 | 100 | 1.09543.0001 |
| pH-indicator strips | 11.0 – 13.0 | 11.0-11.5-11.8-12.1-12.3-12.5-12.8-13.0 | 100 | 1.09545.0001 |
| pH-indicator strips Special indicator for pH-measurements in turbid solutions (suspensions) | 2.0 – 9.0 | 2.0-3.0-4.0-5.0-6.0-7.0-8.0-9.0 | 100 | 1.09502.0001 |
| pH-indicator strips Special indicator for pH-measurements in meat | 5.2 – 7.2 | 5.2-5.6-6.0-6.4-6.8-7.2 | 100 | 1.09632.0001 |

Shelf-life and storage of pH strips and papers

- Store at 10-25 °C to maintain top condition for 3-5 years
- Protect from light and moisture
- Close box immediately after removing each pH strip or paper

pH-indicator papers

| Parameter | pH measuring range | Graduation | Number of rolls x roll length | Cat. No. |
|--|----------------------------------|--|-------------------------------|--------------|
| pH-Box | 0.5 – 13.0 | 0.5-1.0-1.5-2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0-9.5-10.0-10.5-11.0-11.5-12.0-12.5-13.0 | 3 x 4.8 m | 1.09565.0001 |
| pH-indicator paper Universal indicator | 1 – 14 | 1.0-2.0-3.0-4.0-5.0-6.0-7.0-8.0-9.0-10.0-12.0-14.0 | 3 x 4.8 m | 1.10962.0003 |
| pH-indicator paper Replacement rolls* | 1 – 14 | 1.0-2.0-3.0-4.0-5.0-6.0-7.0-8.0-9.0-10.0-12.0-14.0 | 6 x 4.8 m | 1.10232.0001 |
| pH-indicator paper Universal indicator | 1 – 10 | 1.0-2.0-3.0-4.0-5.0-6.0-7.0-8.0-9.0-10.0 | 3 x 4.8 m | 1.09526.0003 |
| pH-indicator paper Replacement rolls* | 1 – 10 | 1.0-2.0-3.0-4.0-5.0-6.0-7.0-8.0-9.0-10.0 | 6 x 4.8 m | 1.09527.0001 |
| pH-indicator paper Acilit® | 0.5 – 5.0 | 0.5-1.0-1.5-2.0-2.5-3.0-3.5-4.0-4.5-5.0 | 3 x 4.8 m | 1.09560.0003 |
| pH-indicator paper Neutralit® | 5.5 – 9.0 | 5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0 | 3 x 4.8 m | 1.09564.0003 |
| pH-indicator paper Alkalit® | 9.5 – 13.0 | 9.5-10.0-10.5-11.0-11.5-12.0-12.5-13.0 | 3 x 4.8 m | 1.09562.0003 |
| pH-indicator paper Special indicator | 3.8 – 5.4 | <3.8-3.8-4.1-4.4-4.6-4.8-5.1-5.4 | 3 x 4.8 m | 1.09555.0003 |
| pH-indicator paper Special indicator | 5.4 – 7.0 | <5.4-5.4-5.8-6.2-6.4-6.7-7.0->7.0 | 3 x 4.8 m | 1.09556.0003 |
| pH-indicator paper Special indicator | 6.4 – 8.0 | 6.4-6.7-7.0-7.2-7.5-7.7-8.0->8.0 | 3 x 4.8 m | 1.09557.0003 |
| Litmus paper, blue Reag. Ph Eur | pH <4 red / >9 blue | - | 3 x 4.8 m | 1.09486.0003 |
| Litmus paper, red Reag. Ph Eur | pH <4 red / >9 blue | - | 3 x 4.8 m | 1.09489.0003 |
| Congo red paper Reag. Ph Eur | pH <2 blue-violet/ >5 red-orange | - | 3 x 4.8 m | 1.09514.0003 |
| Phenolphthalein paper | <8 colorless / >9 red | - | 3 x 4.8 m | 1.09521.0003 |

*Replacement roll without color scale

Individually sealed strips

Upon request, we offer individually packed and sealed test strips for both standard and special pH ranges. They are customizable with your branding, making them ideal for inserting into magazines, into brochures, or for adhering to your products.



Be ready for anything

All the tools you need for analysis and monitoring

One trusted source.

We have everything you need for your workflow – from unique solutions for microbiological monitoring and chromatography to ultrapure water and a complete range of reagents and solvents, our high-quality products ensure consistently accurate results.

But that's not all we offer.

By combining our analytical and regulatory expertise, we ensure your results are also supported by solid documentation. And by creating products and solutions that lower costs, increase efficiency, and make optimal use of resources, we help you boost productivity.



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Complementary Products

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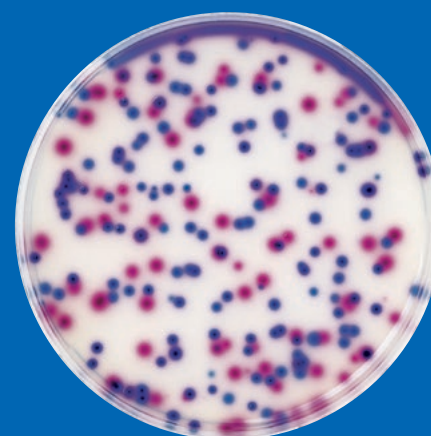


Microbiological Testing



Rapidly verify the presence or absence of coliforms and *E. coli* with ReadyCult®

- USEPA approved for presence/absence detection of coliforms and *E. coli* in drinking water
- Optional 30-second indole test for accurate positive confirmation of *E. coli*
- **ReadyCult® Coliforms 100**
Cat. No. **1.01298.0001**
- **ReadyCult® Enterococci 100**
Cat. No. **1.01299.0001**



Easy, rapid, and reliable tools to ensure your production facilities are free from microbiological contaminants

Screen any type of microbiological contamination

- **ChromoCult® coliform agar:** different colors for *E. coli* and Coliforms colonies enable easy quantification and confirmation
Cat. No. **1.10426.0500**
- **Ready-to-use agar plates:** no additional steps required
Cat. No. **1.46757.0200, 1.46689.0020, 1.46757.0020**

Bioburden Analysis

Simple tests for liquid sample bioburden with optimal microbiological recovery

- Comply with international standards (EP/USP) and water testing regulations
- **EZ-Fit® Manifold, 1-, 3-, or 6-place**
Cat. No. **EZFITSAM1, EZFITSAM3, EZFITSAM6**
- **EZ-Fit® single-use filtration units**
Cat. No. **EFHAW10MS, EFHAW100I, EFHAW100B, EFHAW250I, EFHAB10MS, EFHVW10IS**
- **EZ-Stream™ Pump** | Cat. No. **EZSTREAM1**
- **EZ-Pak® Membranes** | Cat. No. **EZAAGW474**
for use with **EZ-Pak® Dispenser Curve**
Cat. No. **EZCURVE01**



Surface Monitoring

Reduce quality risks and ensure hygienic conditions through rapid cleaning verification tests

- Adenosine triphosphate (ATP) monitoring systems for detection of biological residues on surfaces and in process water
- **MVP ICON® System:** multi-parameter HACCP & Hygiene Monitoring system | Cat. No. **78300BC**
- **HY-LiTE® 2 System:** hygiene monitoring system for production and industrial applications | Cat. No. **1.30100.0001**
- **Equipment-free tests for surface hygiene monitoring:**
FLASH® Allergen-indicator Total Protein Test: colorimetric swab test for presence/absence of total protein residue including allergens | Cat. No. **63003BC**
- **HY-RiSE® Test:** Colorimetric strip test for surface and hand hygiene monitoring | Cat. No. **1.31200.0001**

Microbial Air Monitoring

Use our robust and high-precision microbial air samplers to easily and effectively monitor ambient air. They can all be used with a broad range of microbial culture media in 90 mm Petri dishes for total count, yeast, mold, as well as specified microorganisms.

- **MAS-100 NT** is a high-precision microbial air sampler with flow rate controlled by a mass flow sensor to achieve a flow rate accuracy of 100 L/min +/- 2.5%. The instrument is validated acc. ISO 14698 / EN 17141. | Cat. No. **1.09191.0001**
- **MAS-100 VF** is compact, battery operated and validated acc. ISO 14698 / EN 17141 | Cat. No. **1.17103.0001**
- **MAS-100 ECO** for food and beverage industries is robust and easy to use | Cat. No. **1.09227.0001**



Analytical Chromatography

HPLC Columns

We offer a wide selection of HPLC and UHPLC columns based on fully porous particles (FPP), superficially porous particles (SPP), and monolithic column materials. They meet today's challenging needs of fast HPLC and LC-MS in many application fields including environmental testing.



Superficially Porous Particles (SPP)

Fast results with maximum resolution on any U/HPLC system

- Ascentis® Express Fused-Core® U/HPLC columns with superior column efficiency.
- Ascentis® Express PAH for fast PAH Analysis
- Ascentis® Express PFAS and PFAS delay column for superior LC-MS testing of PFAS

Fully Porous Particles (FPP)

HPLC columns from nano capillary, UHPLC, and analytical dimensions to semi-preparative LC

- Purospher™ STAR HPLC and UHPLC columns for peak symmetry and extended pH stability.
- Discovery® and Ascentis® columns provide a broad range of selectivities.
- SeQuant® ZIC-HILIC for separation of polar compounds.
- Titan™ monodisperse UHPLC columns.

Monolithic Silica UHPLC Columns

Rapid and cost-efficient analysis of matrix-rich samples

- Chromolith® and Chromolith® HR monolithic silica HPLC columns for extended column lifetime at very low column back-pressure.
- Matrix-rich samples can be analyzed without the need for sophisticated and time-consuming sample preparation for substantial cost savings.



reliable & reproducible separations

quantitation & identification of compounds

Highest quality

Lowest impurities

Compliant with ACS & Reag. Ph Eur

Inorganic Reagents

Classical inorganic analysis



Salts



Acids



Caustic alkalis and bases



Metals and metal oxides

Instrumental inorganic analysis



Volumetric solutions



Karl Fischer reagents and standards



Reference materials



Fluxes for XRF



High purity acids and bases



High purity salts

Instrumental inorganic analysis



Absorption and filtration



Absorbents for spilled liquids



Drying agents



Auxiliaries for purification and sample preparation



Indicators



Cleaning applications

Classical Photometry

Inorganic analysis typically involves enrichment and isolation of trace elements prior to photometric determination. For both process steps, we offer an extensive range of high-quality reagents to make your analysis more efficient and economical from the start.

- **Carrez Clarification Kit for sample preparation in food analysis:** precipitate proteins, eliminate turbidity, break emulsions in meat or milk samples | Cat. No. **1.10537.0001**
- **Charcoal activated:** for de-colorization | Cat. No. **1.02005.0010**



Efficient & economical analysis

Pesticide Standards

Pesticides are released into the environment in order to kill pests, but residues from these toxic chemicals also end up in the air, water, and even in food. International regulations require regular analysis of soil and water using accurate standards to ensure that they are free of pesticides.

We offer more than 1700 high-purity pesticide standards and certified reference materials, including:

- Pesticides, neat and in solution
- Certified reference materials (CRMs): *TraceCERT*® and matrix standards
- Matrix standards for proficiency testing (PT)
- Isotope-labeled pesticides and pesticide metabolite standards



Flavors & Fragrances

Do you want to enhance the flavor and fragrance of your food? Or need to test these features? With our high-quality **aroma chemicals** and documentation, you can ensure your customers' safety and satisfaction.



Nutrient Analysis

Accurate information on protein and fiber content is needed for all food products. To simplify your work, we offer reliable kits for testing dietary fiber, and special reagents for Kjeldahl nitrogen analysis, the official method for determining protein content in food.

- **Reagent test kits for easy determination of total dietary fiber** | Cat. No. **1.12979.0001**
- **Kjeldahl tablets for nitrogen determination**, also offered in micro-scale
Cat. No. **1.15348.0250, 1.17958.0250, 1.16469.0250, 1.18348.0250, 1.10958.0250, 1.18469.0250**



Brewery Workflow
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Food & Beverage Workflow
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Karl Fischer Reagents & Standards for Water Determination

It is important to measure water contents in products and raw materials because it can affect their quality, shelf life, texture, chemical stability, and reactivity. Karl Fischer titration is a universally-recognized method to determine exactly water content in all types of substances like chemicals, oils, fats, pharmaceutical, foods, beverages and polymers.

We offer all the products required for a precise water determination with Karl Fischer titration

- Volumetric Karl Fischer reagents:
 - One- and two-component reagents
 - Special reagents for aldehydes and ketones, or oils and fats
- Coulometric Karl Fischer reagents:
 - For cells with and without a diaphragm
- Water standards for:
 - Titer determination
 - Results verification
 - Instrument checks

Bioburden Analysis



Food & Beverage Workflow
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Water Purification Systems



Milli-Q® IQ 7003/05/10/15 pure and ultrapure water systems

We offer a broad range of pure and ultrapure water systems for all lab applications. Our innovative Milli-Q® systems combine the most advanced purification technologies, accurate monitoring, and final polishing cartridges for best-in-class water purity.

- **Water at your fingertips**
Compact and ergonomic Q-POD® and E-POD® dispensers simplify use and display essential data on a large touchscreen.
- **Work more efficiently**
Convenient POD functions enable rapid, intuitive, and precise dispensing. Enjoy walk-away filling with a volumetric dispense mode, and hands-free filling with a foot pedal option.
- **Save bench space**
Only the POD is needed for daily use. The system can be conveniently placed under the bench or wall-mounted.
- **Tailor water quality to your application**
Application POD-Paks provide final polishing to match water quality to your specific needs.
- **Sustainable solutions**
Technologies such as Advanced RO, Elix® EDI and mercury-free UV lamps reduce water and electricity consumption, as well as chemical waste, helping you reach your sustainability targets. Look for our "Greener Alternative Product" label on certain Milli-Q® benchtop systems.



Milli-Q®
Lab Water Solutions

Millex® Syringe Filters

- Superior quality and convenience for sensitive instrumental analyses like gas, liquid, or ion chromatography
- Low extractables and low analyte-binding membranes
- High chemical compatibility for use with almost any sample



Millipore®
Preparation, Separation,
Filtration & Monitoring Products

Hazard Information Supplement

Hazard and Precautionary Phrases

H Phrases

| | |
|----------------|---|
| H200 | Unstable explosive |
| H201 | Explosive: mass explosion hazard |
| H202 | Explosive: severe projection hazard |
| H203 | Explosive: fire, blast or projection hazard |
| H204 | Fire or projection hazard |
| H205 | May mass explode in fire |
| H206 | Fire, blast or projection hazard: increased risk of explosion if desensitizing agent is reduced |
| H207 | Fire or projection hazard; increased risk of explosion if desensitizing agent is reduced |
| H208 | Fire hazard; increased risk of explosion if desensitizing agent is reduced |
| H209 | Explosive |
| H210 | Very explosive |
| H211 | May be sensitive |
| H220 | Extremely flammable gas |
| H221 | Flammable gas |
| H222 | Extremely flammable material |
| H223 | Flammable material |
| H224 | Extremely flammable liquid and vapour |
| H225 | Highly flammable liquid and vapour |
| H226 | Flammable liquid and vapour |
| H227 | Combustible liquid |
| H228 | Flammable solid |
| H230 | May react explosively even in the absence of air |
| H231 | May react explosively even in the absence of air at elevated pressure and/or temperature |
| H240 | Heating may cause an explosion |
| H241 | Heating may cause a fire or explosion |
| H242 | Heating may cause a fire |
| H250 | Catches fire spontaneously if exposed to air |
| H251 | Self-heating: may catch fire |
| H252 | Self-heating in large quantities: may catch fire |
| H260 | In contact with water releases flammable gases which may ignite spontaneously |
| H261 | In contact with water releases flammable gas |
| H270 | May cause or intensify fire: oxidizer |
| H271 | May cause fire or explosion: strong oxidizer |
| H272 | May intensify fire: oxidizer |
| H280 | Contains gas under pressure: may explode if heated |
| H281 | Contains refrigerated gas: may cause cryogenic burns or injury |
| H282 | Extremely flammable chemical under pressure: May explode if heated |
| H283 | Flammable chemical under pressure: May explode if heated |
| H284 | Chemical under pressure: May explode if heated |
| H290 | May be corrosive to metals |
| H300 | Fatal if swallowed |
| H300+H310 | Fatal if swallowed or in contact with skin |
| H300+H310+H330 | Fatal if swallowed, in contact with skin or if inhaled |
| H300+H330 | Fatal if swallowed or if inhaled |
| H301 | Toxic if swallowed |
| H301+H311 | Toxic if swallowed or in contact with skin |
| H301+H311+H331 | Toxic if swallowed, in contact with skin or if inhaled |
| H301+H331 | Toxic if swallowed or if inhaled |
| H302 | Harmful if swallowed |
| H302+H312 | Harmful if swallowed or in contact with skin |
| H302+H312+H332 | Harmful if swallowed, in contact with skin or if inhaled |
| H302+H332 | Harmful if swallowed or inhaled |
| H303 | May be harmful if swallowed |
| H303+H313 | May be harmful if swallowed or in contact with skin |
| H303+H313+H333 | May be harmful if swallowed, in contact with skin or if inhaled |
| H303+H333 | May be harmful if swallowed or if inhaled |
| H304 | May be fatal if swallowed and enters airways |
| H305 | May be harmful if swallowed and enters airways |
| H310 | Fatal in contact with skin |
| H310+H330 | Fatal in contact with skin or if inhaled |
| H311 | Toxic in contact with skin |
| H311+H331 | Toxic in contact with skin or if inhaled |
| H312 | Harmful in contact with skin |
| H312+H332 | Harmful in contact with skin or if inhaled |
| H313 | May be harmful in contact with skin |
| H313+H333 | May be harmful in contact with skin or if inhaled |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H315+H320 | Causes skin and eye irritation |
| H316 | Causes mild skin irritation |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H320 | Causes eye irritation |
| H330 | Fatal if inhaled |
| H331 | Toxic if inhaled |
| H332 | Harmful if inhaled |
| H333 | May be harmful if inhaled |

| | |
|--------|---|
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H335 | May cause respiratory irritation |
| H336 | May cause drowsiness or dizziness |
| H340 | May cause genetic defects |
| H341 | Suspected of causing genetic defects |
| H350 | May cause cancer |
| H350i | May cause cancer by inhalation |
| H351 | Suspected of causing cancer |
| H360 | May damage fertility or the unborn child |
| H360Df | May damage the unborn child. Suspected of damaging fertility. |
| H360F | May damage fertility |
| H360FD | May damage fertility. May damage the unborn child. |
| H360Fd | May damage fertility. Suspected of damaging the unborn child. |
| H361 | Suspected of damaging fertility or the unborn child |
| H361d | Suspected of damaging the unborn child |
| H361F | Suspected of damaging fertility |
| H361Fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H362 | May cause harm to breast-fed children |
| H370 | Causes damage to organs |
| H371 | May cause damage to organs |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |
| H401 | Toxic to aquatic life |
| H402 | Harmful to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| H411 | Toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |
| H413 | May cause long lasting harmful effects to aquatic life |
| H420 | Harms public health and the environment by destroying ozone in the upper atmosphere |
| H441 | Very toxic to terrestrial invertebrates |

EU Additional

| | |
|---------|--|
| EUH006 | Explosive with or without contact with air, deleted in the fourth adaptation to technical progress of CLP. |
| EUH014 | Reacts violently with water |
| EUH018 | In use may form flammable/explosive vapour-air mixture |
| EUH019 | May form explosive peroxides |
| EUH044 | Risk of explosion if heated under confinement |
| EUH029 | Contact with water liberates toxic gas |
| EUH031 | Contact with acids liberates toxic gas |
| EUH032 | Contact with acids liberates very toxic gas |
| EUH066 | Repeated exposure may cause skin dryness or cracking |
| EUH070 | Toxic by eye contact |
| EUH071 | Corrosive to the respiratory tract |
| EUH059 | Hazardous to the ozone layer, superseded by GHS Class 5.1 in the second adaptation to technical progress of CLP. |
| EUH201 | Contains lead. Should not be used on surfaces liable to be chewed or sucked by children. Warning! Contains lead. |
| EUH201A | Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. |
| EUH202 | Contains chromium(VI). May produce an allergic reaction. |
| EUH203 | Contains isocyanates. May produce an allergic reaction. |
| EUH204 | Contains epoxy constituents. May produce an allergic reaction. |
| EUH205 | Warning! Do not use together with other products. May release dangerous gases (chlorine). |
| EUH206 | Warning! Contains cadmium. Dangerous fumes are formed during use. See information supplied by the manufacturer. Comply with the safety instructions. |
| EUH207 | Contains <name of sensitising substance>. May produce an allergic reaction. |
| EUH208 | Can become highly flammable in use. |
| EUH209 | Can become flammable in use. |
| EUH209A | Safety data sheet available on request. |
| EUH210 | Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. |
| EUH211 | To avoid risks to human health and the environment, comply with the instructions for use. |
| EUH401 | |

P Phrases

| | |
|-----------|--|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |
| P103 | Read label before use. |
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P211 | Do not spray on an open flame or other ignition source. |
| P220 | Keep/Store away from clothing/.../combustible materials. |
| P221 | Take any precaution to avoid mixing with combustibles. |
| P222 | Do not allow contact with air. |
| P223 | Do not allow contact with water. |
| P230 | Keep wetted with ... |
| P231 | Handle and store contents under inert gas/... |
| P231+P232 | Handle and store contents under inert gas. Protect from moisture |

| | |
|----------------|---|
| P232 | Protect from moisture. |
| P233 | Keep container tightly closed. |
| P234 | Keep only in original container/packaging. |
| P235 | Keep cool. |
| P235+P410 | Keep cool. Protect from sunlight. |
| P240 | Ground and bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ventilating/light/.../equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take action to prevent static discharges. |
| P244 | Keep valves and fittings free from grease and oil |
| P250 | Do not subject to grinding/shock/.../friction. |
| P251 | Pressurized container – Do not pierce or burn, even after use. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P262 | Do not get in eyes, on skin, or on clothing. |
| P263 | Avoid contact during pregnancy and while nursing. |
| P264 | Wash ... thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P281 | Use personal protective equipment as required. |
| P282 | Wear cold insulating gloves and either face shield or eye protection. |
| P283 | Wear fire resistant or flame retardant clothing. |
| P284 | Wear respiratory protection. |
| P285 | In case of inadequate ventilation wear respiratory protection. |
| P301 | IF SWALLOWED: |
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P302 | IF ON SKIN: |
| P302+P334 | IF ON SKIN: Immerse in cool water or wrap in wet bandages. |
| P302+P350 | IF ON SKIN: Gently wash with soap and water. |
| P302+P352 | IF ON SKIN: Wash with soap and water. |
| P303 | IF ON SKIN (or hair): |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P304 | IF INHALED: |
| P304+P312 | IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell. |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P304+P341 | IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P305 | IF IN EYES: |
| P305+P351+P338 | IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P306 | IF ON CLOTHING: |
| P306+P360 | IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. |
| P307 | IF exposed: |
| P307+P311 | IF exposed: Call a POISON CENTER or doctor/physician. |
| P308 | IF exposed or concerned: |
| P308+P311 | IF exposed or concerned: Call a POISON CENTER or doctor/physician. |
| P308+P313 | IF exposed or concerned: Get medical advice/attention. |
| P309 | IF exposed or you feel unwell: |
| P309+P311 | IF exposed or you feel unwell: Call a POISON CENTER or doctor/physician. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |
| P311 | Call a POISON CENTER or doctor/physician. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P313 | Get medical advice/attention. |
| P314 | Get Medical advice/attention if you feel unwell. |
| P315 | Get immediate medical advice/attention. |
| P320 | Specific treatment is urgent (see ... on this label). |
| P321 | Specific treatment (see ... on this label). |
| P322 | Specific measures (see ... on this label). |
| P330 | Rinse mouth. |
| P331 | Do NOT induce vomiting. |

| | |
|----------------|---|
| P332 | If skin irritation occurs: |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P333 | If skin irritation or a rash occurs: |
| P333+P313 | If skin irritation or a rash occurs: Get medical advice/attention. |
| P334 | Immerse in cool water [or wrap in wet bandages]. |
| P335 | Brush off loose particles from skin. |
| P335+P334 | Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. |
| P336 | Thaw frosted parts with lukewarm water. Do not rub affected areas. |
| P337 | If eye irritation persists: |
| P337+P313 | Get medical advice/attention. |
| P338 | Remove contact lenses if present and easy to do. Continue rinsing. |
| P340 | Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P341 | If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P342 | If experiencing respiratory symptoms: |
| P342+P311 | If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. |
| P350 | Gently wash with soap and water. |
| P351 | Rinse cautiously with water for several minutes. |
| P352 | Wash with plenty of water. |
| P353 | Rinse skin with water [or shower]. |
| P360 | Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. |
| P361 | Remove/Take off immediately all contaminated clothing. |
| P361+P364 | Take off immediately all contaminated clothing and wash it before reuse. |
| P362 | Take off contaminated clothing. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P363 | Wash contaminated clothing before reuse. |
| P364 | And wash it before reuse. |
| P370 | In case of fire: |
| P370+P376 | In case of fire: Stop leak if safe to do so. |
| P370+P378 | In case of fire: Use ... to extinguish. |
| P370+P380 | In case of fire: Evacuate area. |
| P370+P380+P375 | In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. |
| P371 | In case of major fire and large quantities: |
| P371+P380+P375 | In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. |
| P372 | Explosion risk. |
| P373 | DO NOT fight fire when fire reaches explosives. |
| P374 | Fight fire with normal precautions from a reasonable distance. |
| P375 | Fight fire remotely due to the risk of explosion. |
| P376 | Stop leak if safe to do so. |
| P377 | Leaking gas fire – do not extinguish unless leak can be stopped safely. |
| P378 | Use ... to extinguish. |
| P380 | Evacuate area. |
| P381 | In case of leakage, eliminate all ignition sources. |
| P391 | Collect spillage. |
| P401 | Store in accordance with ... |
| P402 | Store in a dry place. |
| P402+P404 | Store in a dry place. Store in a closed container. |
| P403 | Store in a well ventilated place. |
| P403+P233 | Store in a well ventilated place. Keep container tightly closed. |
| P403+P235 | Store in a well ventilated place. Keep cool. |
| P404 | Store in a closed container. |
| P405 | Store locked up. |
| P406 | Store in a corrosive resistant/... container with a resistant inner liner. |
| P407 | Maintain air gap between stacks or pallets. |
| P410 | Protect from sunlight. |
| P410+P403 | Protect from sunlight. Store in a well ventilated place. |
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. |
| P411 | Store at temperatures not exceeding ... °C/... °F. |
| P411+P235 | Store at temperatures not exceeding ... °C/... °F. Keep cool. |
| P412 | Do not expose to temperatures exceeding 50 °C/122 °F. |
| P413 | Store bulk masses greater than ... kg/... lbs at temperatures not exceeding ... °C/... °F. |
| P420 | Store separately/away from other materials. |
| P422 | Store contents under ... |
| P501 | Dispose of contents/container to ... |
| P502 | Refer to manufacturer or supplier for information on recovery or recycling. |

| Cat No. | Pictograms | Signal Word | H Codes | P Codes |
|---------|--------------|-------------|---------------------------|---|
| 1.00049 | — | | | |
| 1.00086 | — | | | |
| 1.00087 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.00088 | GHS08 | Warning | H373 | P260 - P314 - P501 |
| 1.00089 | — | | | |
| 1.00474 | — | | | |
| 1.00475 | — | | | |
| 1.00594 | — | | | |
| 1.00595 | — | | | |
| 1.00597 | — | | | |
| 1.00598 | — | | | |
| 1.00599 | — | | | |
| 1.00602 | — | | | |
| 1.00605 | — | | | |
| 1.00607 | — | | | |
| 1.00608 | — | | | |
| 1.00609 | — | | | |
| 1.00613 | — | | | |
| 1.00614 | — | | | |
| 1.00615 | — | | | |
| 1.00616 | — | | | |
| 1.00617 | — | | | |
| 1.00673 | — | | | |
| 1.00675 | — | | | |
| 1.00677 | — | | | |
| 1.00678 | — | | | |
| 1.00680 | — | | | |
| 1.00683 | — | | | |
| 1.00687 | — | | | |
| 1.00688 | — | | | |
| 1.00718 | — | | | |
| 1.00731 | GHS05 | Danger | H290 - H314 | P234 - P280 - P301 + P330 + P331 - P303 + P361 + P353 - P304 + P340 + P310 - P305 + P351 + P338 |
| 1.00784 | — | | | |
| 1.00796 | — | | | |
| 1.00798 | — | | | |
| 1.00809 | — | | | |
| 1.00815 | — | | | |
| 1.00816 | — | | | |
| 1.00822 | — | | | |
| 1.00826 | — | | | |
| 1.00856 | — | | | |
| 1.00857 | — | | | |
| 1.00858 | — | | | |
| 1.00860 | — | | | |
| 1.00861 | — | | | |
| 1.00885 | — | | | |
| 1.00961 | — | | | |
| 1.01298 | — | | | |
| 1.01299 | GHS06, GHS09 | Danger | H302 + H332 - H311 - H411 | P261 - P273 - P280 - P301 + P312 - P302 + P352 + P312 - P304 + P340 + P312 |
| 1.01632 | — | | | |
| 1.01744 | — | | | |
| 1.01745 | — | | | |
| 1.01746 | — | | | |
| 1.01747 | — | | | |
| 1.01749 | — | | | |
| 1.01758 | — | | | |
| 1.01764 | — | | | |
| 1.01787 | — | | | |
| 1.01796 | — | | | |
| 1.01797 | — | | | |
| 1.01804 | — | | | |
| 1.01807 | — | | | |
| 1.01809 | — | | | |
| 1.01812 | — | | | |
| 1.01813 | — | | | |
| 1.01842 | — | | | |
| 1.01846 | — | | | |
| 1.02005 | — | | | |
| 1.02532 | — | | | |
| 1.02537 | — | | | |
| 1.02552 | — | | | |
| 1.03733 | — | | | |
| 1.03736 | — | | | |
| 1.04660 | — | | | |
| 1.06146 | GHS02, GHS07 | Danger | H225 - H319 - H332 - H335 | P210 - P233 - P240 - P241 - P304 + P340 + P312 - P305 + P351 + P338 |
| 1.06687 | GHS06, GHS09 | Danger | H302 - H311 + H331 - H411 | P261 - P273 - P280 - P301 + P312 - P302 + P352 + P312 - P304 + P340 + P311 |

| Cat No. | Pictograms | Signal Word | H Codes | P Codes |
|---------|---------------------|-------------|---|---|
| 1.06733 | GHS05, GHS07 | Danger | H290 - H314 - H335 | P234 - P260 - P271 - P280 - P303 + P361 + P353 - P305 + P351 + P338 |
| 1.07302 | — | | | |
| 1.08017 | — | | | |
| 1.08018 | — | | | |
| 1.08023 | — | | | |
| 1.08024 | — | | | |
| 1.08025 | — | | | |
| 1.08027 | — | | | |
| 1.08028 | — | | | |
| 1.08033 | — | | | |
| 1.08039 | — | | | |
| 1.08040 | — | | | |
| 1.08046 | — | | | |
| 1.08047 | — | | | |
| 1.08048 | — | | | |
| 1.08160 | — | | | |
| 1.08161 | — | | | |
| 1.08163 | — | | | |
| 1.08164 | — | | | |
| 1.08165 | — | | | |
| 1.08166 | — | | | |
| 1.08203 | — | | | |
| 1.08312 | — | | | |
| 1.08780 | GHS09 | Warning | H410 | P273 - P391 - P501 |
| 1.09017 | — | | | |
| 1.09175 | GHS02, GHS07 | Danger | H225 - H319 | P210 - P233 - P240 - P241 - P242 - P305 + P351 + P338 |
| 1.09176 | GHS02, GHS07 | Danger | H225 - H319 | P210 - P233 - P240 - P241 - P242 - P305 + P351 + P338 |
| 1.09191 | — | | | |
| 1.09227 | — | | | |
| 1.09439 | — | | | |
| 1.09450 | — | | | |
| 1.09486 | — | | | |
| 1.09489 | — | | | |
| 1.09502 | — | | | |
| 1.09511 | GHS05, GHS08, GHS09 | Danger | H318 - H360Df - H373 - H410 | P201 - P202 - P273 - P280 - P305 + P351 + P338 - P308 + P313 |
| 1.09512 | — | | | |
| 1.09514 | — | | | |
| 1.09521 | — | | | |
| 1.09526 | — | | | |
| 1.09527 | — | | | |
| 1.09531 | — | | | |
| 1.09532 | — | | | |
| 1.09533 | — | | | |
| 1.09535 | — | | | |
| 1.09540 | — | | | |
| 1.09541 | — | | | |
| 1.09542 | — | | | |
| 1.09543 | — | | | |
| 1.09545 | — | | | |
| 1.09555 | — | | | |
| 1.09556 | — | | | |
| 1.09557 | — | | | |
| 1.09560 | — | | | |
| 1.09562 | — | | | |
| 1.09564 | — | | | |
| 1.09565 | — | | | |
| 1.09584 | — | | | |
| 1.09632 | — | | | |
| 1.09701 | — | | | |
| 1.09711 | — | | | |
| 1.09713 | — | | | |
| 1.09717 | — | | | |
| 1.09734 | — | | | |
| 1.09749 | — | | | |
| 1.09752 | — | | | |
| 1.09769 | — | | | |
| 1.09772 | — | | | |
| 1.09773 | — | | | |
| 1.09779 | — | | | |
| 1.09989 | GHS08, GHS09 | Danger | H317 - H334 - H341 - H350i - H360D - H372 - H373 - H411 | P201 - P273 - P280 - P302 + P352 - P304 + P340 + P312 - P308 + P313 |
| 1.10001 | — | | | |
| 1.10002 | GHS07 | Warning | H332 | P261 - P271 - P304 + P340 + P312 |
| 1.10003 | — | | | |
| 1.10004 | — | | | |
| 1.10006 | — | | | |

| Cat No. | Pictograms | Signal Word | H Codes | P Codes |
|---------|----------------------------|-------------|---------------------------|---|
| 1.10007 | GHS07 | Warning | H319 | P264 - P280 - P305 + P351 + P338 - P337 + P313 |
| 1.10011 | — | | | |
| 1.10012 | — | | | |
| 1.10013 | — | | H412 | P273 - P501 |
| 1.10015 | — | | | |
| 1.10019 | — | | | |
| 1.10020 | — | | | |
| 1.10022 | — | | H412 | P273 - P501 |
| 1.10023 | — | | | |
| 1.10024 | — | | | |
| 1.10025 | — | | | |
| 1.10028 | — | | | |
| 1.10032 | — | | | |
| 1.10036 | — | | | |
| 1.10044 | — | | | |
| 1.10046 | — | | | |
| 1.10047 | — | | | |
| 1.10049 | — | | | |
| 1.10057 | — | | | |
| 1.10077 | — | | | |
| 1.10079 | GHS08, GHS09 | Danger | H350 - H411 | P202 - P273 - P280 - P308 + P313 - P391 - P405 |
| 1.10080 | GHS07, GHS05 | Danger | H290 - H314 - H315 - H319 | P280 - P301 + P330 + P331 - P302 + P352 - P305 + P351 + P338 - P308 + P310 |
| 1.10081 | — | | | |
| 1.10083 | — | | | |
| 1.10084 | — | | | |
| 1.10092 | GHS05 | Danger | H318 | P280 - P305 + P351 + P338 |
| 1.10232 | — | | | |
| 1.10306 | GHS02, GHS05, GHS07, GHS08 | Danger | H225 - H290 - H302 - H371 | P210 - P233 - P234 - P240 - P301 + P312 - P308 + P311 |
| 1.10307 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.10337 | — | | | |
| 1.10426 | GHS05 | Danger | H315 - H318 | P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 - P362 + P364 |
| 1.10428 | — | | | |
| 1.10537 | — | | | |
| 1.10648 | — | | | |
| 1.10958 | — | | H412 | P273 - P501 |
| 1.10962 | — | | | |
| 1.11104 | — | | | |
| 1.11106 | — | | | |
| 1.11107 | — | | | |
| 1.11109 | — | | | |
| 1.11110 | — | | | |
| 1.11117 | — | | | |
| 1.11122 | — | | | |
| 1.11131 | — | | | |
| 1.11132 | — | | | |
| 1.11136 | — | | | |
| 1.11138 | — | | | |
| 1.11142 | — | | | |
| 1.11143 | — | | | |
| 1.11148 | — | | | |
| 1.11151 | — | | | |
| 1.11152 | — | | | |
| 1.11157 | — | | | |
| 1.11160 | — | | | |
| 1.11169 | — | | | |
| 1.11170 | — | | | |
| 1.11174 | — | | | |
| 1.11860 | — | | | |
| 1.12979 | — | | | |
| 1.14282 | GHS05 | Danger | H290 - H315 - H318 - H412 | P234 - P264 - P273 - P280 - P302 + P352 - P305 + P351 + P338 |
| 1.14394 | — | | | |
| 1.14400 | — | | | |
| 1.14401 | — | | | |
| 1.14402 | — | | | |
| 1.14403 | — | | | |
| 1.14404 | — | | | |
| 1.14406 | — | | | |
| 1.14408 | — | | | |
| 1.14410 | GHS05, GHS07, GHS09 | Danger | H290 - H314 - H318 | P273 - P280 - P301 + P330 + P331 - P302 + P352 - P305 + P351 + P338 - P308 + P310 |
| 1.14411 | — | | | |
| 1.14412 | — | | | |
| 1.14413 | — | | | |
| 1.14414 | — | | | |

| Cat No. | Pictograms | Signal Word | H Codes | P Codes |
|---------|----------------------------|-------------|---|--|
| 1.14416 | — | | | |
| 1.14417 | — | | | |
| 1.14418 | — | | | |
| 1.14420 | GHS02, GHS05, GHS07, GHS08 | Danger | H225 - H226 - H314 - H319 - H335 - H373 - H400 - H412 | P210 - P240 - P280 - P301 + P330 + P331 - P305 + P351 + P338 - P308 + P310 - P403 + P233 |
| 1.14423 | — | | | |
| 1.14424 | — | | | |
| 1.14428 | — | | | |
| 1.14429 | — | | | |
| 1.14434 | — | | | |
| 1.14438 | — | | | |
| 1.14441 | — | | | |
| 1.14449 | — | | | |
| 1.14500 | GHS05 | Danger | H290 - H314 - H315 - H319 - H335 | P280 - P301 + P330 + P331 - P305 + P351 + P338 - P308 + P310 |
| 1.14537 | — | | | |
| 1.14540 | — | | | |
| 1.14541 | — | | | |
| 1.14542 | — | | | |
| 1.14543 | GHS03, GHS05, GHS07, GHS08 | Danger | H272 - H290 - H314 - H315 - H319 - H315 - H317 - H319 - H334 - H335 | P280 - P302 + P352 - P304 + P340 - P305 + P351 + P338 |
| 1.14544 | — | | | |
| 1.14546 | — | | | |
| 1.14547 | — | | | |
| 1.14548 | — | | | |
| 1.14549 | — | | | |
| 1.14551 | — | | | |
| 1.14552 | — | | | |
| 1.14553 | — | | | |
| 1.14554 | — | | | |
| 1.14555 | — | | | |
| 1.14558 | — | | | |
| 1.14559 | — | | | |
| 1.14560 | GHS05, GHS06, GHS08, GHS09 | Danger | H290 - H311 - H314 - H332 - H373 - H410 | P273 - P280 - P301 + P330 + P331 - P302 + P352 - P304 + P305 + P351 + P338 - P308 + P310 |
| 1.14561 | — | | | |
| 1.14562 | — | | | |
| 1.14563 | — | | | |
| 1.14564 | — | | | |
| 1.14566 | — | | | |
| 1.14598 | — | | | |
| 1.14651 | — | | | |
| 1.14652 | — | | | |
| 1.14653 | — | | | |
| 1.14657 | — | | | |
| 1.14658 | — | | | |
| 1.14660 | GHS05, GHS06 | Danger | H290 - H301 + H331 - H312 - H314 - H317 - H402 | P280 - P301 + P330 + P331 - P302 + P352 - P304 + P340 - P305 + P351 + P338 - P308 + P310 |
| 1.14661 | — | | | |
| 1.14662 | — | | | |
| 1.14663 | — | | | |
| 1.14667 | — | | | |
| 1.14670 | — | | | |
| 1.14675 | — | | | |
| 1.14676 | — | | | |
| 1.14678 | — | | | |
| 1.14683 | — | | | |
| 1.14687 | — | | | |
| 1.14688 | — | | | |
| 1.14689 | — | | | |
| 1.14690 | GHS05, GHS06, GHS08 | Danger | H290 - H314 - H373 - H410 | P273 - P280 - P301 + P330 + P331 - P302 + P352 - P305 + P351 + P338 - P308 + P310 |
| 1.14691 | — | | | |
| 1.14693 | — | | | |
| 1.14694 | GHS05, GHS07 | Danger | | P273 - P280 - P301 + P330 + P331 - P305 + P351 + P338 - |

| Cat No. | Pictograms | Signal Word | H Codes | P Codes |
|---------|---------------------|-------------|--|---|
| 1.14753 | — | | | |
| 1.14756 | — | | | |
| 1.14758 | — | | | |
| 1.14759 | — | | | |
| 1.14761 | — | | | |
| 1.14763 | — | | | |
| 1.14764 | — | | | |
| 1.14765 | — | | | |
| 1.14767 | — | | | |
| 1.14768 | — | | | |
| 1.14770 | GHS05, GHS07, GHS08 | Danger | H290 - H314 - H315 - H317 - H319 - H341 - H350 - H351 - H373 - H400 - H410 | P201 - P280 - P301 + P330 + P331 - P302 + P352 - P305 + P351 + P338 - P308 + P310 |
| 1.14773 | — | | | |
| 1.14774 | — | | | |
| 1.14776 | — | | | |
| 1.14777 | — | | | |
| 1.14779 | — | | | |
| 1.14780 | — | | | |
| 1.14782 | — | | | |
| 1.14783 | — | | | |
| 1.14785 | — | | | |
| 1.14792 | — | | | |
| 1.14794 | — | | | |
| 1.14798 | GHS02, GHS05 | Danger | | P210 - P273 - P280 - P305 + P351 + P338 - P313 |
| 1.14801 | — | | | |
| 1.14803 | — | | | |
| 1.14815 | — | | | |
| 1.14821 | — | | | |
| 1.14825 | — | | | |
| 1.14826 | — | | | |
| 1.14832 | — | | | |
| 1.14833 | — | | | |
| 1.14834 | — | | | |
| 1.14839 | — | | | |
| 1.14842 | — | | | |
| 1.14846 | — | | | |
| 1.14848 | — | | | |
| 1.14878 | — | | | |
| 1.14879 | — | | | |
| 1.14895 | — | | | |
| 1.14896 | — | | | |
| 1.14897 | — | | | |
| 1.14901 | — | | | |
| 1.14902 | — | | | |
| 1.14942 | — | | | |
| 1.14944 | — | | | |
| 1.14946 | — | | | |
| 1.14947 | — | | | |
| 1.14962 | — | | | |
| 1.14964 | — | | | |
| 1.14976 | — | | | |
| 1.14977 | — | | | |
| 1.14978 | — | | | |
| 1.14979 | — | | | |
| 1.15348 | — | | H412 | P273 - P501 |
| 1.15955 | — | | | |
| 1.16124 | — | | | |
| 1.16125 | — | | | |
| 1.16127 | — | | | |
| 1.16128 | — | | | |
| 1.16136 | — | | | |
| 1.16141 | — | | | |
| 1.16469 | — | | H412 | P273 - P501 |
| 1.16720 | — | | | |
| 1.16730 | — | | | |
| 1.16731 | — | | | |
| 1.16732 | GHS09 | | H411 | P273 - P391 - P501 |
| 1.16892 | GHS05 | Danger | | P273 - P280 - P301 + P330 + P331 - P305 + P351 + P338 - P308 + P311 |
| 1.16896 | — | | | |
| 1.16898 | — | | | |
| 1.16899 | GHS05, GHS09 | Danger | | P273 - P280 - P301 + P330 + P331 - P305 + P351 + P338 - P308 + P311 |
| 1.16954 | — | | | |
| 1.16971 | GHS05 | Danger | H318 - H412 | P273 - P280 - P305 + P351 + P338 - P501 |
| 1.16973 | GHS07 | Warning | H319 | P264 - P280 - P305 + P351 + P338 - P337 + P313 |
| 1.16974 | — | | | |
| 1.16975 | — | | | |
| 1.16976 | — | | | |

| Cat No. | Pictograms | Signal Word | H Codes | P Codes |
|---------|---------------------|-------------|--|---|
| 1.16977 | — | | | |
| 1.16978 | — | | | |
| 1.16981 | — | | | |
| 1.16982 | — | | | |
| 1.16987 | GHS07 | Warning | H319 - H412 | P264 - P273 - P280 - P305 + P351 + P338 - P337 + P313 - P501 |
| 1.16989 | — | | | |
| 1.16992 | — | | | |
| 1.16993 | — | | | |
| 1.16995 | — | | | |
| 1.16996 | — | | | |
| 1.16997 | — | | | |
| 1.17046 | — | | | |
| 1.17048 | GHS05 | Danger | H290 - H314 | P234 - P280 - P301 + P330 + P331 - P303 + P361 + P353 - P304 + P340 + P310 - P305 + P351 + P338 |
| 1.17058 | — | | | |
| 1.17059 | — | | | |
| 1.17103 | — | | | |
| 1.17179 | — | | | |
| 1.17236 | — | | | |
| 1.17243 | — | | | |
| 1.17244 | — | | | |
| 1.17246 | — | | | |
| 1.17247 | — | | | |
| 1.17828 | — | | | |
| 1.17866 | — | | | |
| 1.17917 | — | | | |
| 1.17920 | — | | | |
| 1.17922 | — | | | |
| 1.17924 | — | | | |
| 1.17925 | — | | H412 | P273 - P501 |
| 1.17927 | — | | | |
| 1.17942 | — | | | |
| 1.17945 | — | | | |
| 1.17952 | — | | | |
| 1.17953 | — | | | |
| 1.17956 | — | | | |
| 1.17958 | — | | H412 | P273 - P501 |
| 1.17961 | GHS07 | Warning | H319 | P264 - P280 - P305 + P351 + P338 - P337 + P313 |
| 1.17968 | — | | | |
| 1.17976 | — | | | |
| 1.17985 | — | | | |
| 1.17988 | — | | | |
| 1.17989 | — | | | |
| 1.18322 | — | | | |
| 1.18323 | — | | | |
| 1.18324 | — | | | |
| 1.18325 | — | | | |
| 1.18326 | — | | | |
| 1.18335 | — | | | |
| 1.18348 | — | | H412 | P273 - P501 |
| 1.18386 | — | | | |
| 1.18387 | — | | | |
| 1.18388 | — | | | |
| 1.18389 | — | | | |
| 1.18394 | — | | | |
| 1.18452 | — | | | |
| 1.18457 | — | | | |
| 1.18458 | — | | | |
| 1.18459 | — | | | |
| 1.18460 | GHS05, GHS07, GHS08 | Danger | H290 - H314 - H315 - H317 - H319 - H341 - H350 - H351 - H373 - H400 - H410 | P201 - P280 - P301 + P330 + P331 - P302 + P352 - P305 + P351 + P338 - P308 + P310 |
| 1.18461 | — | | | |
| 1.18463 | — | | | |
| 1.18465 | — | | | |
| 1.18466 | — | | | |
| 1.18469 | — | | | |
| 1.18700 | — | | H412 | P273 - P501 |
| 1.18701 | — | | | |
| 1.18750 | — | | | |
| 1.18751 | — | | | |
| 1.18752 | — | | | |
| 1.18753 | — | | | |
| 1.18754 | — | | | |
| 1.18755 | — | | | |
| 1.18758 | — | | | |
| 1.18771 | — | | | |
| 1.18789 | — | | | |
| 1.19251 | — | | | |
| 1.19253 | — | | | |
| 1.19254 | — | | | |

| Cat No. | Pictograms | Signal Word | H Codes | P Codes |
|---------|--------------|-------------|---|---|
| 1.19301 | — | | | |
| 1.19302 | — | | | |
| 1.19500 | — | | | |
| 1.19533 | GHS07 | Warning | H332 - H412 | P261 - P271 - P273 - P304 + P340 + P312 - P501 |
| 1.19770 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.19773 | GHS05, GHS08 | Danger | H290 - H315 - H319 - H350 | P202 - P234 - P264 - P302 + P352 - P305 + P351 + P338 - P308 + P313 |
| 1.19776 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.19777 | GHS05, GHS08 | Danger | H290 - H315 - H319 - H340 - H350 - H373 | P202 - P234 - P260 - P302 + P352 - P305 + P351 + P338 - P308 + P313 |
| 1.19778 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.19779 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.19780 | GHS08 | Danger | H340 - H350i | P201 - P202 - P280 - P308 + P313 - P405 - P501 |
| 1.19781 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.19785 | GHS05, GHS08 | Danger | H290 - H315 - H319 - H350 - H360FD - H412 | P202 - P234 - P273 - P302 + P352 - P305 + P351 + P338 - P308 + P313 |
| 1.19786 | GHS05 | Warning | H290 - H315 - H319 - H412 | P234 - P264 - P273 - P280 - P302 + P352 - P305 + P351 + P338 |
| 1.19788 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.19789 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.19797 | GHS05, GHS09 | Warning | H290 - H315 - H319 - H410 | P234 - P264 - P273 - P280 - P302 + P352 - P305 + P351 + P338 |
| 1.19806 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.19811 | — | | | |
| 1.19812 | — | | | |
| 1.19813 | — | | | |
| 1.19814 | — | | | |
| 1.19897 | — | | | |
| 1.19898 | — | | | |
| 1.19899 | — | | | |
| 1.20097 | — | | | |
| 1.25022 | — | | | |
| 1.25023 | — | | | |
| 1.25024 | — | | | |
| 1.25025 | — | | | |
| 1.25026 | — | | | |
| 1.25027 | — | | | |
| 1.25028 | — | | | |
| 1.25029 | — | | | |
| 1.25030 | — | | | |
| 1.25031 | — | | | |
| 1.25032 | — | | | |
| 1.25033 | — | | | |
| 1.25034 | — | | | |
| 1.25035 | — | | | |
| 1.25036 | — | | | |
| 1.25037 | — | | | |
| 1.25038 | — | | | |
| 1.25039 | — | | | |
| 1.25040 | — | | | |
| 1.25041 | — | | | |
| 1.25042 | — | | | |
| 1.25043 | — | | | |
| 1.25044 | — | | | |
| 1.25045 | — | | | |
| 1.25046 | — | | | |
| 1.25047 | — | | | |
| 1.25048 | — | | | |
| 1.25049 | — | | | |
| 1.25050 | — | | | |
| 1.25051 | — | | | |
| 1.25052 | — | | | |
| 1.25053 | — | | | |
| 1.30100 | — | | | |
| 1.31200 | — | | | |
| 1.33002 | — | | | |
| 1.33003 | — | | | |
| 1.33004 | — | | | |

| Cat No. | Pictograms | Signal Word | H Codes | P Codes |
|-----------|----------------------------|-------------|--|---|
| 1.33005 | — | | | |
| 1.33006 | — | | | |
| 1.33007 | — | | | |
| 1.33008 | — | | | |
| 1.33009 | — | | | |
| 1.33010 | — | | | |
| 1.33011 | — | | | |
| 1.33012 | — | | | |
| 1.33013 | — | | | |
| 1.33014 | — | | | |
| 1.33018 | — | | | |
| 1.33019 | — | | | |
| 1.33020 | — | | | |
| 1.33022 | — | | | |
| 1.33023 | — | | | |
| 1.33024 | — | | | |
| 1.46689 | — | | | |
| 1.46757 | — | | | |
| 1.70204 | GHS05 | Warning | H290 | P234 - P390 |
| 1.70216 | GHS05 | Warning | H290 | P234 - P390 |
| 1.70219 | GHS05, GHS08 | Danger | H290 - H334 | P234 - P261 - P284 - P304 + P340 + P312 - P390 - P501 |
| 1.70226 | GHS05, GHS08 | Danger | H290 - H314 - H373 - H412 | P234 - P273 - P280 - P303 + P361 + P353 - P305 + P351 + P338 - P314 |
| 1.70227 | — | | | |
| 1.70230 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.70236 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.70242 | GHS05 | Warning | H290 | P234 - P390 |
| 1.70245 | GHS05 | Warning | H290 - H315 - H319 | P234 - P264 - P280 - P302 + P352 - P305 + P351 + P338 - P332 + P313 |
| 1.71200 | — | | | |
| 1.71201 | — | | | |
| 1.71202 | — | | | |
| 1.71203 | — | | | |
| 1.71204 | — | | | |
| 1.73020 | — | | | |
| 1.73500 | — | | | |
| 1.73501 | — | | | |
| 1.73502 | — | | | |
| 1.73503 | — | | | |
| 1.73633 | — | | | |
| 1.73634 | — | | | |
| 1.73635 | — | | | |
| 1.73650 | — | | | |
| 1.74011 | — | | | |
| 1102974 | GHS05, GHS07, GHS08, GHS09 | Danger | H302 - H315 - H318 - H335 - H373 - H410 | P273 - P280 - P301 + P312 - P302 + P352 - P305 + P351 + P338 - P314 |
| 1524806 | GHS05, GHS06, GHS08, GHS09 | Danger | H301 + H311 + H331 - H314 - H341 - H373 - H411 | P260 - P273 - P280 - P303 + P361 + P353 - P304 + P340 + P310 - P305 + P351 + P338 |
| 630038C | — | | H412 | P273 |
| 783008C | — | | | |
| C5291 | — | | | |
| C5416 | — | | | |
| EFHAB10MS | — | | | |
| EFHAW100 | — | | | |
| EFHAW10MS | — | | | |
| EFHAW250 | GHS02 | Warning | H228 | P210 - P240 - P241 - P280 - P370 + P378 |
| EZAAGW474 | GHS02, GHS07, GHS09 | Danger | H228 - H319 - H410 | P210 - P240 - P241 - P264 - P273 - P305 + P351 + P338 |
| EZCURVE01 | — | | | |
| EZFITSAM1 | — | | | |

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922) 49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Ижевск (3412)26-03-58
Иваново (4932)77-34-06
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Киргизия (996)312-96-26-47

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Ноябрьск (3496)41-32-12
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37

Россия (495)268-04-70

Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сыктывкар (8212)25-95-17
Сургут (3462)77-98-35
Тамбов (4752)50-40-97

Казахстан (772)734-952-31

Тверь (4822)63-31-35
Тольяти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Улан-Удэ (3012)59-97-51
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93