

**PASIŪLYMAS
DĖL POTENCIOMETRŲ**

2020 m. __07__ mėn. __07__ d.

Tiekėjo pavadinimas	T OPTIMUS, UAB
Tiekėjo adresas	Šv. Gertrūdos 22A-6, LT44260 Kaunas
Už pasiūlymą atsakingo asmens vardas, pavardė	Alma Petruškevičienė
Telefono numeris	+37065630779
Fakso numeris	-
El. pašto adresas	info@toptimus.lt

Pasiūlymas:

Eil. Nr.	Prekės pavadinimas	Prekės gamintojas, modelis	Mato vnt.	Kiekis	Kaina Eur be PVM	PVM	Kaina Eur su PVM
1	Titratorius	Hach, TitraLab® AT1112	Vnt.	2	7 166,40	1 504,94	8 671,34
2.	pH ir laidumo matuoklis	Eutech, PC450	Vnt.	2	1 660,00	348,60	2 008,60
3.	Bufnerinių tirpalų rinkinys	Hydrocal, pH 4.01, pH7.00, pH 10.01	Vnt.	1	36,00	7,56	43,56
Viso:							10 723,50

Pasiūlymas galioja 90 dienų nuo pasiūlymo pateikimo termino paskutinės dienos. Siūlomos prekės atitinka pirkimo dokumentuose nurodytus reikalavimus.

Šiuo pasiūlymu įsipareigojame laikytis Viešųjų pirkimų įstatymo, kitų teisės aktų, kvietimo dalyvauti apklausoje ir jos sąlygų keliamų reikalavimų.

Jeigu šis pasiūlymas bus pripažintas laimėjusiu, įsipareigojame laikytis kvietime bei pasiūlyme pateiktų sąlygų bei nesiimti veiksmų, galinčių sutrukdyti pasiūlymui akceptuoti arba sutarčiai pasirašyti bei jai įsigaliooti.

Ši pasiūlyme nurodyta informacija nėra konfidenciali /perkančioji organizacija šios informacijos negali atskleisti tretiesiems asmenims/:

Eil. Nr.	Pateikto dokumento pavadinimas (rekomenduojama pavadinime vartoti žodį „Konfidencialu“)	Dokumentas yra įkeltas šioje CVP IS pasiūlymo lango eilutėje („Prisegti dokumentai“)
-	-	-
-	-	-

Pastaba. Tiekėjui nenurodžius, kokia informacija yra konfidenciali, laikoma, kad konfidencialios informacijos pasiūlyme nėra.

Atsakingas asmuo _____ direktorė Alma Petruškevičienė _____

(pareigos, vardas, pavardė, parašas)

POTENCIOMETRAI

Bendri techniniai reikalavimai visoms pozicijoms

Eil. Nr.	Reikalavimai	Atitikimas reikalavimui (pildo tiekėjas)
1.	Įranga turi būti nauja, nenaudota, pristatoma originaliame gamykliniame įpakavime „brandnew“.	Įranga bus nauja, nenaudota, pristatoma originaliame gamykliniame įpakavime „brandnew“.
2.	Visa perkama įranga turi būti pilnai paruošta darbui: įranga pilnai sumontuota, instaliuota, instaliuotos programos (jei taikoma), įranga testuota.	Visa įranga bus pilnai paruošta darbui: įranga pilnai sumontuota, instaliuotos programos (jei taikoma), įranga testuota.
3.	Į įrangos komplektą turi įeiti visi kabeliai, adapteriai ir kitos sudedamosios dalys bei medžiagos, reikalingos sujungti visus sistemos vidinius ir komutavimo įrenginius reikalingus užtikrinant taisyklingą prietaisų veikimą 9jei reikalinga).	Įrangos komplekte bus visi kabeliai, adapteriai ir kitos sudedamosios dalys bei medžiagos, reikalingos sujungti visus sistemos vidinius ir komutavimo įrenginius reikalingus užtikrinant taisyklingą prietaisų veikimą 9jei reikalinga).
4.	Įrangos elektros maitinimas (jei reikalinga) turi tikti Lietuvoje naudojamoms rozetėms.	Įrangos elektros maitinimas (jei reikalinga) tiks Lietuvoje naudojamoms rozetėms.
5.	Tiekėjas negali siūlyti vietoj pageidaujamo įrenginio du ar kelis įrenginius, pakeičiančius jo funkcionalumą.	Nesiūlysiame vietoj pageidaujamo įrenginio du ar kelis įrenginius, pakeičiančius jo funkcionalumą.
6.	Į pasiūlymo kainą turi būti įtrauktos ir įrangos instaliavimo (jei taikoma) bei personalo apmokymo su įranga išlaidos. Personalo apmokymai turi vykti įrangos pristatymo vietoje ne vėliau kaip per mėnesį nuo dienos. Netaikoma 3 pozicijai „ <i>Bufėriinių tirpalų rinkinys</i> “.	Į pasiūlymo kainą yra įtrauktos ir įrangos instaliavimo (jei taikoma) bei personalo apmokymo su įranga išlaidos. Personalo apmokymai vyks įrangos pristatymo vietoje ne vėliau kaip per mėnesį nuo pristatymo dienos. Netaikoma 3 pozicijai „Bufėriinių tirpalų rinkinys“.

Techninė specifikacija

1. Titratorius		Kiekis: 2 vnt.
Gamintojas:		Hach
Modelis:		TitraLab® AT1112
Specifikacija:		
Eil. Nr.	Reikalaujama parametro reikšmė	Nuoroda į pridedamus, prekės atitikimą reikalaujamoms charakteristikoms įrodančius dokumentus (bukletų, techninių aprašų puslapių Nr.):
		Siūlomos prekės techniniai parametrai
		Pasiūlymo dokumentai, patvirtinantys siūlomos prekės techninius parametrus
		Dokumento pavadinimas
		Pasiūlymo lapo numeris

1.	Paskirtis	Potenciometrinis titravimas	Potenciometrinis titravimas	. titratorius_AT1000.pdf	2
2.	Komplektacija	Komplektacijoje turi būti: titratorius, integruota magnetinė maišyklė, reakcijos kamera, biuretė (švirkšto tipo), reikiami vamzdeliai, titranto indas ir magnetinis maišykliukas, elektrodas bei maitinimo laidas.	Komplektacijoje yra: titratorius, integruota magnetinė maišyklė, reakcijos kamera, biuretė (švirkšto tipo), reikiami vamzdeliai, titranto indas ir adaptoriai, magnetinis maišykliukas, elektrodas bei maitinimo laidas.	. titratorius_AT1000.pdf	2
3.	Rezultatų indikacija	Elektroninė rodmėnų indikacija monitoriuje	Elektroninė rodmėnų indikacija monitoriuje	. titratorius_AT1000.pdf	1-2
4.	Automatinis titravimo įrenginys	Ne mažiau 2,0 ml biuretė Ne mažesnis kaip 150 ml reakcijos indas, Rezultatai matomi dideliame ir informatyviame skystų kristalų monitoriuje; Dozavimo greitis – ne mažiau 150 ml/min; Galimybė prijungti kompiuterį, svarstyklės, skenerį; Galimybė jungti 2,5,10, ar 25 ml biuretės; Pritaikymo sritis – ne mažiau 1 metodas; Galimybė pasirinkti papildomas pritaikymo sritis (ne mažiau 4): pH/šarmingumas, vandenynje, bendras rūgštingumas, Jodo skaičius. Galimybė pasirinkti parametrus: mV/pH, savitas laidis, temperatūra Matavimo padalos: mV/pH: ±0.1 mV / ±0.001 pH Savitam laidžiui: ±0.5 % Temperatūrai: ±0.3 °C Visas biuretės traktas pagamintas iš chemiškai inertinių medžiagų	10 ml biuretė 150 ml reakcijos indas, Rezultatai matomi dideliame ir informatyviame skystų kristalų monitoriuje; Dozavimo greitis –170 ml/min; Yra galimybė prijungti kompiuterį, svarstyklės, skenerį; Yra galimybė jungti 2,5,10, ar 25 ml biuretės; Pritaikymo sritis 1 metodas; Galimybė pasirinkti papildomas pritaikymo sritis (ne mažiau 4): pH/šarmingumas vandenynje, konduktyvumas, bendras rūgštingumas, Jodo skaičius. Yra galimybė pasirinkti parametrus: mV/pH, savitas laidis, temperatūra Matavimo padalos: mV/pH: ±0.1 mV / ±0.001 pH Savitam laidžiui: ±0.5 % Temperatūrai: ±0.3 °C Visas biuretės traktas pagamintas iš chemiškai inertinių medžiagų yra USB interfeisai	. titratorius_AT1000.pdf	2-3

5.	Maitinimo šaltinis	Turi būti RS-232 arba USB interfeisai Elementai/akumuliatoriai arba per adaptorius iš maitinimo šaltinio	per adaptorius iš maitinimo šaltinio	. titratorius_AT1000.pdf	2
6.	Garantija	Suteikiama ne trumpesnė, nei 12 mėnesių garantija nuo prekės priėmimo- perdavimo akto pasirašymo.	12		

2.pH ir laidumo matuoklis

Gamintojas:

Kiekis: 2 vnt.

Modelis:

Eutech

PC 450

Specifikacija: <https://www.eutechinst.com/pdt-para-multi-eutechpc450.html>

Eil. Nr.	Rodiklis	Reikalaujama parametro reikšmė	Atitikimas kokybiniams ir techniniams reikalavimams. Nuoroda į pridedamus, prekės atitikimą reikalaujamos charakteristikoms įrodančius, dokumentus (bukletų, techninių aprašų puslapių Nr.)	
			Siūlomos prekės techniniai parametrai	Pasiūlymo dokumentai, patvirtinantys siūlomą prekės techninius parametrus
1.	Paskirtis	Stalinis prietaisas skirtas pH, temperatūros, ištirpusių kietųjų medžiagų ir elektros laidumo matavimams įvairiuose tirpaluose.	Stalinis prietaisas skirtas pH, temperatūros, ištirpusių kietųjų medžiagų ir elektros laidumo matavimams įvairiuose tirpaluose	Dokumento pavadinimas eutech-150-450.pdf 10
2.	pH intervalas	Ne siauresnis nei nuo -2,00 iki +16,00 pH	nuo -2,00 iki +16,00 pH	eutech-150-450.pdf 10
3.	pH rezoliucija	Ne mažesnė nei 0,01 pH	0,01 pH	eutech-150-450.pdf 10
4.	pH tikslumas	Ne mažesnis nei ±0.01 pH	±0.01 pH	eutech-150-450.pdf 10
5.	Temperatūros intervalas	Ne siauresnis nei -10°C iki 110 °C	-10°C iki 110 °C	eutech-150-450.pdf 10
6.	Temperatūros rezoliucija	Ne mažesnė nei 0,1 °C	0,1 °C	eutech-150-450.pdf 10
7.	Temperatūros tikslumas	Ne mažesnis nei ±0.5°C	±0.5°C	eutech-150-450.pdf 10
8.	Elektrinio laidumo intervalas	Ne siauresnis nei nuo 0.0 μS iki 200 mS	0.0 μS iki 200 mS	eutech-150-450.pdf 10
9.	Elektrinio laidumo	Ne didesni pasirinkimai nei 0.01, 0.1, 1	nuo 0.01 μS iki 0.1 mS	eutech-150-450.pdf 10

	rezoliucija	μS ; 0.01, 0.1 mS				
10.	Elektrinio laidumo tikslumas	Ne didesni visai skalei nei $\pm 1\%$	$\pm 1\%$		eutech-150-450.pdf	10
11.	Ištirpusių kietųjų medžiagų intervalas	Ne siauresnis nei nuo 0 iki 200 ppt	0 iki 200 ppt		eutech-150-450.pdf	10
12.	Kalibracija – tiek pH, tiek elektrinio laidumo	Galimybė kalibruoti ne mažiau nei 5 taškuose.	6		eutech-150-450.pdf	10
13.	Ekranas	LCD arba lygiavertis ekranas	LCD		eutech-150-450.pdf	10
14.	Temperatūros kompensavimas	Rankinis arba automatinis	Rankinis arba automatinis		eutech-150-450.pdf	10
15.	Matavimų atmintis	Ne mažiau 100 matavimų	500		eutech-150-450.pdf	10
16.	Komplektacija	Su prietaisu turi būti pateikti matavimo elektrodai: pH (su temperatūros kompensavimu) ir elektros laidumo bei temperatūros elektrodai, laikiklis elektrodams.	Su prietaisu bus pateikti matavimo elektrodai: pH (su temperatūros kompensavimu) ir elektros laidumo bei temperatūros elektrodai, laikiklis elektrodams		eutech-150-450.pdf	10
17.	Garantinis laikotarpis	Ne mažiau kaip 36 mėnesiai matuokliui nuo prekės priėmimo-perdavimo akto pasirašymo.	36		eutech-150-450.pdf	10
18.	CE	Įranga turi būti pažymėta CE ženklu.	Yra		ce_150_450_series.pdf	2

3. Buferinių tirpalų rinkinys

Gamintojas:

Modelis:

Kiekis: 1 vnt.

Hydrocal

pH4,01, pH 7,00, pH 10,01

Specifikacija: <https://www.hydrocal.nl/kopie-van-basic-nist-ph-buffers>

Eil. Nr.	Rodiklis	Reikalaujama parametro reikšmė	Nuoroda į pridedamus, prekės atitikimą reikalaujamoms charakteristikoms įrodančius, dokumentus (bukletų, techninių aprašų puslapių Nr.)	Pasiūlymo dokumentai, patvirtinantys siūlomos prekės techninius parametrus	Pasiūlymo lapo numeris
1.	Paskirtis	Kalibraciniai pH tirpalai pH ir laidumo	Kalibraciniai pH tirpalai pH ir	Dokumento pavadinimas pH_4.pdf pH 7.pdf pH	1

		matuokliui	laidumo matuokliui	10.pdf	
2.	Tūris	Ne mažiau nei 500 ml talpos	500 ml	pH_4.pdf pH 7.pdf pH 10.pdf	1
3.	pH	4,01 pH; 7 pH; 10,01 pH	4,01 pH; 7 pH; 10,01 pH	pH_4.pdf pH 7.pdf pH 10.pdf	1

Dokumentą elektroniniu
parašu pasirašė ALMA
PETRUSKEVIČIENĖ
Data: 2020-07-07 13:33:21



Product Service

Attestation of Compliance
No. E8N 14 08 60707 058

Model(s): pH 150, CON 150, pH 450, CON 450,
DO 450, PC 450, PD 450

Trade name: EUTECH INSTRUMENTS

Description of Object: Input Rating : DC 9V, 1 A
or
Input Rating : 2 X AA (LR6)

Tested according to: EN 61326-1:2013



Product Service

Attestation of Compliance

No. N5 14 08 60707 057

**Holder of Certificate: Eutech Instruments Pte Ltd
(Part of Thermo Fisher Scientific, Inc.)**

Ayer Rajah Crescent
Blk 55 #04-16/24
Singapore 139949
SINGAPORE

**Product: Laboratory Equipment
(Water Analysis Instrument)**

This Attestation of Compliance is issued on a voluntary basis for electrical equipment below the voltage limits of Low Voltage Directive 2006/95/EC (previous 73/23/EEC). The essential requirements are fulfilled accordingly. It refers to the particular sample submitted for testing and certification only. See also notes overleaf.

Test report no.: 7191091619-EEC14/NCH



Date, 2014-08-18

(Paul Chong Hing Tan)

CE Other relevant European directives have to be observed. If they require CE marking it may be affixed on the product after preparation of the necessary technical documentation as well as the declaration of conformity.

Page 1 of 2



Product Service

Attestation of Compliance
No. N5 14 08 60707 057

Model(s): pH 150, CON 150, pH 450, CON 450,
DO 450, PC 450, PD 450

Trade name: EUTECH INSTRUMENTS

Parameters: Input Rating : DC 9V, 1 A
or
Input Rating : 2 X AA (LR6)

Tested according to: EN 61010-1:2010
IEC 61010-1:2010



3
Year
Warranty



Eutech 150 & 450 Series Waterproof Handheld Meters

- pH • mV • ION • Conductivity • TDS • Salinity
- Dissolved Oxygen • Temperature

SOLUTIONS FOR WATER ANALYSIS

EUTECH
INSTRUMENTS
Technology Made Easy ...

Part of Thermo Fisher Scientific



Features

DO 450 and PD 450
Utilize Optical
Oxygen Technology



PC 450 Can Accept
Combi Probe or
Separate pH/
Conductivity Probes



81 % Larger Three Line
Display 450 series
add backlight

Battery Life Indicator

All Measurements
Include Temperature
in °C or °F

View Electrode Slope or
Probe Efficiency
At-A-Glance

Calibration Due Reminder
Set automatic notifications
from 0 - 60 days

Increased Memory:
150 points for 150 series,
500 points with
date/time for 450 series

450 series offers upgradable
firmware and also can utilize
Free Communication Software



Rugged Housing Floats
& Meets Waterproof
IP67 Rating
(With rubber covers)



Utilizes New and
Improved Grip-Clip™
Electrode Holder
(See page 11
for more details)



Uses Only Two AA
Batteries or
Optional Universal
Power Supply



Integral Built-In-Stand
for table use or
wall mounting



450 Models Offer
Output for
USB or RS232



Comparison Tables



Meter Features	pH 150	CON 150	pH 450	CON 450	DO 450	PD 450	PC 450
	See Page 4	See Page 5	See Page 6	See Page 7	See Page 8	See Page 9	See Page 10
pH & mV	✓	-	✓	-	-	✓	✓
ION	-	-	✓	-	-	-	-
Temperature	✓	✓	✓	✓	✓	✓	✓
Conductivity & TDS	-	✓	-	✓	-	-	✓
Optical Dissolved Oxygen	-	-	-	-	✓	✓	-
Salinity	-	-	-	✓	-	-	-
Display	Three line custom LCD			Three line custom LCD with backlight			
Temperature Compensation	Automatic or manual from -10 to 110 °C						
Temperature Coefficient	-	0.00 to 10.00 %/°C	-	0.00 to 10.00 %/°C	-	-	0.00 to 10.00 %/°C
Memory	150 data sets				500 data sets		
Output	-				USB or RS232		
Real-Time Clock	Time and date stamp on calibration and stored data						
Power	Two AA batteries (included)						
	>700 hours continuous use	>500 hours continuous use	>500 hours (without backlight)	>300 hours (without backlight)	>100 hours (without backlight)		
Dimensions (L x W x H)	9 V DC adapter, 1.3 A (100/240 VAC, SMPS) (optional)						
Weight	Meter: 7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm) ; Boxed: 9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)						
	Meter: 1 lb (0.5 kg) ; Boxed: 1.4 lb (0.7 kg)						

Eutech 150 Series & Eutech 450 Series Configurations		Electrodes						Accessories				Solutions	
		Double-Junction pH Electrode (ECFC7252201B)	pH Electrode, 26 mm Diameter (ECDA9350603B)	Combi pH/Con/ATC Electrode (COMBI03BW)	Conductivity/ATC Electrode, K = 1 (CONSEN91W)	ATC Probe (PHWPTEM01W)	RDO Electrode With Cap (RDO3M)	Glip-Clip™	Hard Carry Case	USB Cable	RDO Stainless Steel Weight/Guard	RDO Calibration Sleeve	60 mL Bottles of pH 4, pH 7, Storage Solution, DI Water
Order Code	Product Combination												
ECPHWP15000	pH 150 Meter Only						✓						
ECPHWP15002	pH 150 Meter & Electrode	✓				✓	✓						
ECPHWP15002K	pH 150 Meter Kit	✓				✓	✓	✓				✓	
ECCONWP15003	CON 150 Meter & Electrode				✓		✓						
ECCONWP15003K	CON 150 Meter Kit				✓		✓	✓					✓
ECPHWP45000	pH 450 Meter Only						✓						
ECPHWP45002	pH 450 Meter & Electrode	✓				✓	✓						
ECPHWP45002K	pH 450 Meter Kit	✓				✓	✓	✓				✓	
ECCONWP45003	CON 450 Meter & Electrode				✓		✓						
ECCONWP45003K	CON 450 Meter Kit				✓		✓	✓					✓
ECDOWP45000	DO 450 Meter Only						✓						
ECDOWP45003	DO 450 Meter & Electrode						✓						
ECDOWP45003K	DO 450 Meter Kit						✓	✓	✓	✓			
ECPDWP45000	PD 450 Meter Only						✓						
ECPDWP45004	PD 450 Meter & Electrodes		✓				✓						
ECPDWP45004K	PD 450 Meter Kit		✓				✓	✓	✓	✓		✓	
ECPCWP45000	PC 450 Meter Only						✓						
ECPCWP45004	PC 450 Meter & pH & Con/ATC Electrodes	✓			✓		✓						
ECPCWP45004K	PC 450 Meter Kit	✓			✓		✓	✓	✓			✓	✓
ECPCWP45003	PC 450 Meter & Combi Electrode			✓			✓					✓	
ECPCWP45003K	PC 450 Meter Combi Kit			✓			✓	✓				✓	✓

Eutech pH 150



pH / mV / Temperature

Best value for an IP67-rated waterproof pH meter

- Large, three line LCD – View pH or mV measurement with temperature and % slope
- Built-in memory function – Stores up to 150 measurements along with temperature
- Auto buffer recognition – Automatically identifies USA, NIST or DIN buffer sets for rapid calibration
- Power with AA batteries or use optional AC adapter for benchtop measurements
- Calibration due alarm – Set a visible reminder when it is time to recalibrate the meter
- Selectable °F/°C – Choose units to best fit your application
- Features mV offset – Calibrate to a Redox/ORP standard or use for pH electrode diagnostics
- Ready indicator, manual or automatic measurement hold feature and optional automatic shutoff function
- % slope and temperature displayed with each measurement
- Built-in stand – Ideal for easy benchtop or long-term use
- Wall-mount option – Ideal to save on bench space
- Includes innovative Grip-Clip™ – Quickly and easily secures the electrode to your beaker or container
- Compatible with pH electrodes having a BNC connector



Specification Table

pH	Range	-2.00 to 16.00 pH
	Resolution	0.01 pH
	Accuracy	±0.01 pH
	Calibration	Up to 5 points (USA & NIST) Up to 6 points (DIN)
mV	Range	±2000 mV
	Resolution	0.1 mV ±999.9 mV; 1 mV beyond
	Accuracy	±0.2 mV +2 LSD or +0.5 % of reading; whichever is greater
	Calibration	±200 mV
Temperature	Range	-10.0 to 110.0 °C (14.0 to 230.0 °F)
	Resolution	0.1 °C/°F
	Accuracy	±0.5 °C; ±0.9 °F
	Calibration	Offset in 0.1 increments, ±10 °C or ±18 °F
Display	Three line custom LCD	
Temperature Compensation	Automatic or manual from -10 to 110 °C	
Memory	Stores up to 150 data sets	
Power	Two AA batteries (included), >700 hours continuous use; AC adapter (optional)	
Dimensions (L x W x H)	Meter	7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)
	Boxed	9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)
Weight	Meter	1 lb (0.5 kg)
	Boxed	1.4 lb (0.7 kg)



Ordering Information

Order Code	Part No.	Description
Meter		
ECPHWP15000	01X651607	pH 150 Meter Only: Meter, Grip-Clip™, two AA batteries
ECPHWP15002	01X651608	pH 150 Meter & Electrode: Meter with double-junction pH electrode and ATC probe, Grip-Clip™, two AA batteries
ECPHWP15002K	01X651609	pH 150 Meter Kit: Meter with double-junction pH electrode and ATC probe, Grip-Clip™, two AA batteries, hard carry case, pH buffers, storage solution, rinse solution
Electrodes		
ECFC7252201B	01X099417	Replacement pH electrode, double-junction, epoxy body, BNC
ECFE7372801W	93X218990	pH electrode with built-in ATC. Double-junction, epoxy body, BNC
ECFC7352901W	01X218995	pH electrode with built-in ATC. Single-junction, epoxy body, BNC
ECFC7960201B	01X256613	ORP electrode. Double-junction, epoxy body, gel-filled, BNC
PHWPTEM01W	01X021807	ATC probe. Use with any standard pH electrode for temperature compensation
Accessories		
GRIPCLIP	GRIPCLIP	Grip-Clip™
60X426401	60X426401	Optional 100 / 240 VAC SMPS power adapter, 9V, 6W
ECPHBUFKITC	01X639001	pH buffer set, pH 4 (red), 7 (yellow), 10 (blue), 480 mL each
ECPHBUFKIT	01X638901	Colourless pH buffer set, pH 4, 7 and 10 (480 mL each)

Eutech CON 150



Conductivity / Total Dissolved Solids / Temperature

Best value for an IP67-rated waterproof conductivity meter

- **Large, three line LCD** – View conductivity or TDS measurement with temperature as well as cell efficiency
- **Built-in memory function** – Stores up to 150 measurements along with temperature
- **Adjustable temperature coefficient** – Set to 0.0 % to meet USP methods for non-compensated measurements
- **Power with AA batteries** or use optional AC adapter
- Calibrate using automatically recognized standards or manually; to a single point across all ranges or to multiple points (one calibration point per each conductivity range)
- **Calibration due alarm** – Set a visible reminder when it is time to recalibrate the meter
- Accepts probes with a 0.1, 1.0, or 10 cell constant
- **Adjustable conductivity-to-TDS conversion factor** – From 0.4 to 1.0
- **Selectable manual or automatic temperature compensation (ATC)** – For the highest accuracy in any situation
- **Selectable °F/°C** – Choose units to best fit your application
- Ready indicator, manual or automatic measurement hold feature and optional automatic shutoff function
- Includes our easy to clean conductivity cell
- **Built-in stand** – For easy benchtop or long-term use
- **Wall-mount option** – Ideal to save bench space
- **Innovative Grip-Clip™** – Quickly and easily secures the probe to your beaker or container



Specification Table

Conductivity	Range	0 to 200 mS
	Resolution	0.01 µS to 0.1 mS
	Accuracy	±1 % full scale
	Calibration	Auto/manual; 1 point/range
TDS	Range	0 to 200 ppt (TDS factor 1.0)
	Resolution	0.01 ppm to 0.1 ppt
	Accuracy	±1 % full scale
	Calibration	Manual; 1 point/range
Temperature	Range	-10.0 to 110.0 °C (14.0 to 230.0 °F)
	Resolution	0.1 °C/°F
	Accuracy	±0.5 °C; ±0.9 °F
	Calibration	Offset in 0.1 increments, ±10 °C or ±18 °F
Display	Three line custom LCD	
Temperature Compensation	Automatic or manual from -10 to 110 °C	
Temperature Coefficient	0.0 to 10.0 %/°C	
Memory	Stores up to 150 data sets	
Power	Two AA batteries (included), >500 hours continuous use; AC adapter (optional)	
Dimensions (L x W x H)	Meter	7 ⁷ / ₈ " x 3 ¹ / ₈ " x 2 ¹ / ₄ " (20 x 8.3 x 5.7 cm)
	Boxed	9 ¹ / ₈ " x 9 ¹ / ₈ " x 2 ³ / ₄ " (23 x 23 x 7 cm)
Weight	Meter	1 lb (0.5 kg)
	Boxed	1.4 lb (0.7 kg)



Ordering Information

Order Code	Part No.	Description
Meter		
ECCONWP15003	01X651611	CON 150 Meter & Electrode: Meter, conductivity cell (K = 1.0), Grip-Clip™, two AA batteries
ECCONWP15003K	01X651612	CON 150 Meter Kit: Meter, conductivity cell (K = 1.0), Grip-Clip™, two AA batteries, hard carry case, calibration solution
Electrodes		
ECCONSEN92W	93X244303	Conductivity/ATC cell, glass, K = 0.1
CONSEN91W	01X244702	Conductivity/ATC cell, K = 1.0
CONSEN92W	CONSEN92W	Conductivity/ATC cell, epoxy, K = 10.0
Accessories		
GRIPCLIP	GRIPCLIP	Grip-Clip™
60X426401	60X426401	Optional 100 / 240 VAC SMPS power adapter, 9V, 6W
ECCON84BT	01X211241	84 µS conductivity standard, 480 mL
ECCON1413BT	01X211207	1413 µS conductivity standard, 480 mL
ECCON1288BT	01X211210	12.88 mS conductivity standard, 480 mL
ECCON1118BT	01X211244	111.8 mS conductivity standard, 480 mL

Eutech pH 450



pH / mV / ION / Temperature

Backlit, rugged waterproof meter is ideal for any environment

- Durable waterproof and dustproof design with IP67 rating
- **Large, backlit display** – View measurement with temperature and % slope
- **Grip-Clip™** – Quickly and easily secures the pH electrode to your beaker or container
- Calibrate up to 5 points automatically with USA or NIST buffer groups (up to 6 points with DIN). New manual option allows calibration with up to 5 custom buffer standards
- **Auto buffer recognition** – Automatically identifies the correct pH buffer for rapid calibration
- **Calibration due alarm** – Set a visible reminder when it is time to recalibrate the meter
- Ready indicator, manual or automatic measurement hold feature and optional automatic shutoff function
- **Selectable °C/°F** – Choose units to best fit your application
- **Intuitive, user-friendly icons** – Electrode status displays pH slope
- **Store up to 500 data sets** – Easy USB or RS232 output with optional data cables
- **Built-in real-time clock stamps stored data and calibration data with time and date** – Meets standards for GLP (Good Laboratory Practices)
- Extended battery life from two AA batteries, or use optional universal power adapter
- **Built-in stand with wall-mount option** – Allows for easy benchtop measurement or storage
- Compatible with pH, ORP or ISE electrodes having a BNC connector



Specification Table

pH	Range	-2.00 to 16.00 pH
	Resolution	0.01 pH
	Accuracy	±0.01 pH
	Calibration	Up to 5 points (USA & NIST & CUSTOM) Up to 6 points (DIN)
mV	Range	±2000 mV
	Resolution	0.1 mV ±999.9 mV; 1 mV beyond
	Accuracy	±0.2 mV +2 LSD or +0.5 % of reading; whichever is greater
	Calibration	±200 mV
ION	Range	0.0 to 2000 ppm
	Resolution	0.01 / 0.1 / 1 ppm
	Accuracy	±0.5 % full scale (monovalent); ±1 % full scale (divalent)
	Calibration	From 2-4 or 2-5 points: 0.10, 1.00, 10.0, 100.0 & 1000 / 0.20, 2.00, 20.0, 200.0 & 2000 / 0.50, 5.00, 50.0 & 500.0
Temperature	Range	-10.0 to 110.0 °C (14.0 to 230.0 °F)
	Resolution	0.1 °C
	Accuracy	±0.5 °C; ±0.9 °F
	Calibration	Offset in 0.1 increments, ±10 °C or ±18 °F
Display	Custom LCD with backlight	
Memory	Stores up to 500 data sets	
Output	USB or RS232	
Real-Time Clock	Time and date stamp on calibration and stored data	
Temperature Compensation	Automatic or manual from -10 to 110 °C	
Power	Two AA batteries (included), >500 hours (without backlight); AC adapter (optional)	
Dimensions (L x W x H)	Meter	7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)
	Boxed	9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)
Weight	Meter	1 lb (0.5 kg)
	Boxed	1.4 lb (0.7 kg)



Ordering Information

Order Code	Part No.	Description
Meter		
ECPHWP45000	01X651628	pH 450 Meter Only: Meter, Grip-Clip™, two AA batteries
ECPHWP45002	01X651629	pH 450 Meter & Electrode: Meter with double junction pH electrode and ATC probe, Grip-Clip™, two AA batteries
ECPHWP45002K	01X651630	pH 450 Meter Kit: Meter with double-junction pH electrode and ATC probe, Grip-Clip™, two AA batteries, hard carry case, USB cable, pH buffers, storage solution, rinse solution
Electrodes		
ECFC7252201B	01X099417	Replacement pH electrode, double-junction, epoxy body, BNC
ECFE7372801W	93X218990	pH electrode with built-in ATC. Double-junction, epoxy body, BNC
ECFC7352901W	01X218995	pH electrode with built-in ATC. Single-junction, epoxy body, BNC
ECFC7960201B	01X256613	ORP electrode. Double-junction, epoxy body, gel-filled, BNC
PHWPTM01W	01X021807	ATC probe. Use with any standard pH electrode for temperature compensation
Accessories		
GRIPCLIP	GRIPCLIP	Grip-Clip™
60X426401	60X426401	Optional 100 / 240 VAC SMPS power adapter, 9 V, 6 W
MINIPHONEUSB	MINIPHONEUSB	USB cable for 450 series, mini phone plug to USB
30X427301	30X427301	RS232 cable for 450 series, mini phone plug to RS232 9-pin (F)
ECPHBUFKITC	01X639001	pH buffer set, pH 4 (red), 7 (yellow), 10 (blue), 480 mL each
ECPHBUFKIT	01X638901	Colourless pH buffer set, pH 4, 7 and 10 (480 mL each)

Eutech CON 450



Conductivity / Total Dissolved Solids / Salinity / Temperature

Backlit, rugged waterproof meter is ideal for any environment

- Durable waterproof and dustproof design with IP67 rating
- **Large, backlit custom display** – View measurement with temperature and cell efficiency
- **Grip-Clip™** – Quickly and easily secures the probe to your beaker or container
- Calibrate using automatically recognized standards or manually; to a single point across all ranges or to multiple points (one calibration point per each conductivity range)
- **Selectable cell constant** – 0.10, 1.00, or 10.0
- Adjustable temperature coefficient from 0.00 to 10.00 % per °C. Set to 0.0 % to meet USP methods for non-compensated measurements
- **Adjustable conductivity-to-TDS factor** – Adjustable 0.4 to 1.0
- **Selectable °C / °F** – Choose units to best fit your application
- Includes our easy to clean conductivity cell
- Ready indicator, manual or automatic measurement hold feature and optional automatic shutoff function
- **Store up to 500 data sets with data** – Use USB or RS232 output with optional data cable to send data to your software or our free communication software
- **Built-in real-time clock stamps stored data and calibration data with time and date** – Meets standards for GLP (Good Laboratory Practices)
- **Built-in stand with wall-mount** – Allows for easy benchtop measurement or storage



Specification Table

Conductivity	Range	0 to 200 mS
	Resolution	0.01 µS to 0.1 mS
	Accuracy	±1 % full scale
	Calibration	Auto/manual; 1 point/range
TDS	Range	0 to 200 ppt (TDS factor 1.0)
	Resolution	0.01 ppm to 0.1 ppt
	Accuracy	±1 % full scale
	Calibration	Manual; 1 point/range
Salinity	Range	0 to 50 ppt
	Resolution	0.01
	Accuracy	±1 % full scale
	Calibration	Manual; 1 point
Temperature	Range	-10.0 to 110.0 °C (14.0 to 230.0 °F)
	Resolution	0.1 °C/°F
	Accuracy	±0.5 °C; ±0.9 °F
	Calibration	Offset in 0.1 increments, ±10 °C or ±18 °F
Display	Custom LCD with backlight	
Memory	Stores up to 500 data sets	
Output	USB or RS232	
Real-Time Clock	Time and date stamp on calibration and stored data	
Temperature Compensation	Automatic or manual from -10 to 110 °C	
Power	Two AA batteries (included), >300 hours (without backlight); AC adapter (optional)	
Dimensions (L x W x H)	Meter	7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)
	Boxed	9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)
Weight	Meter	1 lb (0.5 kg)
	Boxed	1.4 lb (0.7 kg)



Ordering Information

Order Code	Part No.	Description
Meter		
ECCONWP45003	01X651632	CON 450 Meter & Electrode: Meter, conductivity cell (K = 1.0), Grip-Clip™, two AA batteries
ECCONWP45003K	01X651633	CON 450 Meter Kit: Meter, conductivity cell (K = 1.0), Grip-Clip™, two AA batteries, hard carry case, USB cable, calibration solutions
Electrodes		
ECCONSEN72W	93X244303	Conductivity/ATC cell, glass body, K = 0.1
CONSEN91W	01X244702	Conductivity/ATC cell, K = 1.0
CONSEN92W	CONSEN92W	Conductivity cell, K = 10
Accessories		
GRIPCLIP	GRIPCLIP	Grip-Clip™
60X426401	60X426401	Optional 100 / 240 VAC SMPS power adapter, 9V, 6W
MINIPHONEUSB	MINIPHONEUSB	USB cable for 450 series, mini phone plug to USB
30X427301	30X427301	RS232 cable for 450 series, mini phone plug to RS232 9-pin (F)
ECCON84BT	01X211241	84 µS conductivity standard, 480 mL
ECCON1413BT	01X211207	1413 µS conductivity standard, 480 mL
ECCON1288BT	01X211210	12.88 mS conductivity standard, 480 mL
ECCON118BT	01X211244	111.8 mS conductivity standard, 480 mL

Eutech DO 450



Dissolved Oxygen / Temperature

Affordable optical RDO technology reduces maintenance time and costs

- Maintenance free optical probe with no electrolyte eliminates hassle of replacing delicate membranes and salt build up from refilling solutions
- Durable waterproof and dustproof design with IP67 rating
- Large, backlit custom display provides measurement with temperature
- Switch between % saturation and mg/L (ppm) dissolved oxygen with a press of a button
- **Calibration due alarm** – Set a visible reminder when it is time to recalibrate the meter
- Manual barometric pressure and salinity correction
- **Selectable °C or °F** – Choose the unit to best fit your application
- Ready indicator, manual or automatic measurement hold feature and optional automatic shutoff function
- **Store up to 500 data sets** – Easy USB or RS232 output with optional data cables
- **Built-in real-time clock stamps stored data and calibration data with time and date** – Meets standards for GLP (Good Laboratory Practices)
- 500 hours battery life or use optional universal power adapter
- **Built-in stand with wall-mount** – Allows for easy benchtop measurement and storage



Calibration Chamber



RDO Weight/Guard



RDO Sensor Cap



RDO Probe



Specification Table

Dissolved Oxygen	Range	0 to 200 %; 0 to 20 ppm/mg/L
	Resolution	0.10 %; 0.1 ppm/mg/L
	Accuracy	±2 %; ±0.1 ppm or mg/L up to 8; ±0.2 ppm or mg/L above 8
	Calibration	Zero and saturation
Temperature	Range	0.0 to 50.0 °C (0.0 to 122.0 °F)
	Resolution	0.1 °C/°F
	Accuracy	±0.5 °C; ±0.9 °F
	Calibration	Offset in 0.1 increments, ±10 °C or ±18 °F
Display	Custom LCD with backlight	
Memory	Stores up to 500 data sets	
Output	USB or RS232	
Real-Time Clock	Time and date stamp on calibration and stored data	
Temperature Compensation	Yes	
Pressure & Salinity Compensation	Manual	
Power	Two AA batteries (included), >100 hours (without backlight); AC adapter (optional)	



Ordering Information

Order Code	Part No.	Description
Meter		
ECDOWP45000	01X651634	DO 450 Meter Only: Meter, two AA batteries
ECDOWP45003	01X651644	DO 450 Meter & Electrode: Meter, RDO electrode with sensor cap, two AA batteries
ECDOWP45003K	01X651635	DO 450 Meter Kit: Meter, RDO electrode with sensor cap, two AA batteries, hard carry case, USB cable, RDO stainless steel weight/guard, RDO calibration chamber
Electrodes		
RDO3M	RDO3M	RDO probe, 3 m (10 ft) cable
RDO6M	RDO6M	RDO probe, 6 m (20 ft) cable
RDO15M	RDO15M	RDO probe, 15 m (50 ft) cable
Accessories		
RDOCAP	RDOCAP	Replacement RDO sensor cap
RDOWEIGHT	RDOWEIGHT	RDO weight/guard, screw thread to attach to probe
RDOCALCHAMBER	RDOCALCHAMBER	Calibration chamber
60X426401	60X426401	Optional 100 / 240 VAC SMPS power adapter, 9V, 6W
MINIPHONEUSB	MINIPHONEUSB	USB cable for 450 series, mini phone plug to USB
30X427301	30X427301	RS232 cable for 450 series, mini phone plug to RS232 9-pin (F)
ECDOZEROSOLN	01X211238	Zero oxygen solution, 0 % DO, 480 mL

Eutech PD 450



pH / mV / Dissolved Oxygen / Temperature

Affordable optical RDO technology reduces maintenance time and costs

- Maintenance free optical probe with no electrolyte eliminates hassle of replacing delicate membranes and salt build up from refilling solutions
- **Switch between pH, mV, % saturation and mg/L (ppm) dissolved oxygen** – With the press of a button
- Durable waterproof and dustproof design with IP67 rating
- Large, backlit graphic display provides measurement with temperature
- Calibrate up to 5 points automatically with USA or NIST buffer groups (up to 6 points with DIN). New manual option allows calibration with up to 5 custom buffer standards
- **Auto buffer recognition** – Automatically identifies the correct pH buffer for rapid calibration
- **Calibration due alarm** – Set a visible reminder when it is time to recalibrate the meter
- **Selectable °C or °F** – Choose units to best fit your application
- Ready indicator, manual or automatic measurement hold feature and optional automatic shutoff function
- **Store up to 500 data sets** – Easy USB or RS232 output with optional data cables
- **Built-in real-time clock stamps stored data and calibration data with time and date** – Meets standards for GLP (Good Laboratory Practices)



Calibration Chamber



RDO Weight/Guard



RDO Sensor Cap



RDO Probe



Specification Table

pH	Range	-2.00 to 16.00 pH
	Resolution	0.01 pH
	Accuracy	±0.01
	Calibration	Up to 6 points: USA, NIST, DIN or custom
mV	Range	±2000 mV
	Resolution	0.1 mV ±999.9 mV; 1 mV beyond
	Accuracy	±0.2 mV +2 LSD or +0.5 % of reading; whichever is greater
	Calibration	±200 mV
Dissolved Oxygen	Range	0 to 200 %; 0 to 20 ppm/mg/L
	Resolution	0.10 %; 0.1 ppm/mg/L
	Accuracy	±2 %; ±0.1 ppm or mg/L up to 8; ±0.2 ppm or mg/L above 8
	Calibration	Zero and saturation
Temperature	Range	-10.0 to 110.0 °C (14.0 to 230.0 °F)
	Resolution	0.1 °C/°F
	Accuracy	±0.5 °C; ±0.9 °F
	Calibration	Offset in 0.1 increments, ±10 °C or ±18 °F
Display	Custom LCD with backlight	
Memory	Stores up to 500 data sets	
Output	USB or RS232	
Real-Time Clock	Time and date stamp on calibration and stored data	
Temperature Compensation	Automatic or manual from -10 to 110 °C	
Pressure & Salinity Compensation	Manual	
Power	Two AA batteries (included), >100 hours (without backlight); AC adapter (optional)	



Ordering Information

Order Code	Part No.	Description
Meter		
ECPDWP45000	01X651641	PD 450 Meter Only: Meter, two AA batteries
ECPDWP45004	01X651646	PD 450 Meter & Electrodes: Meter, pH/ATC electrode, RDO electrode with sensor cap, two AA batteries
ECPDWP45004K	01X651642	PD 450 Meter Kit: Meter, pH electrode, RDO electrode with sensor cap, two AA batteries, hard carry case, USB cable, RDO stainless steel weight/guard, RDO calibration chamber, calibration solutions
Electrodes		
ECDA9350603B	93X218879	Replacement pH electrode, submersible, single-junction, ABS, 26 mm diameter, BNC, 3 m cable
RDO3M	RDO3M	RDO probe, 3 m (10 ft) cable
RDO6M	RDO6M	RDO probe, 6 m (20 ft) cable
RDO15M	RDO15M	RDO probe, 15 m (50 ft) cable
Accessories		
RDOCAP	RDOCAP	Replacement RDO sensor cap
RDOWEIGHT	RDOWEIGHT	RDO weight, screw thread to attach to probe
RDOCALCHAMBER	RDOCALCHAMBER	Calibration chamber
60X426401	60X426401	Optional 100 / 240 VAC SMPS power adapter, 9V, 6 W
MINIPHONEUSB	MINIPHONEUSB	USB cable for 450 series, mini phone plug to USB
30X427301	30X427301	RS232 cable for 450 series, mini phone plug to RS232 9-pin (F)
ECDOZEROSOLN	01X211238	Zero oxygen solution, 0 % DO, 480 mL

Eutech PC 450



pH / mV / Conductivity / Total Dissolved Solids / Salinity / Temperature

PC 450 accepts a single pH/Con probe or separate pH and conductivity probes

- Durable waterproof and dustproof design with IP67 rating
- Switch between pH, mV, conductivity, TDS and salinity with a press of a button
- **Large, backlit custom display** – Lets you view measurement with temperature
- **Grip-Clip™** – Quickly and easily secures separate pH and conductivity electrodes simultaneously to your sample container or beaker
- Calibrate up to 5 points automatically with USA or NIST buffer groups (up to 6 points with DIN). New manual option allows calibration with up to 5 custom buffer standards you
- **Auto buffer recognition** – Automatically identifies the correct pH buffer for rapid calibration
- **Calibration due alarm** – Set a visible reminder when it is time to recalibrate the meter
- **Intuitive, user-friendly icons** – Electrode status displays pH slope or cell constant
- **Auto-range conductivity from 0 to 199.9 mS in five ranges** – With up to five calibration points
- **Selectable cell constant** – 0.10, 1.00 or 10.0
- **Adjustable temperature coefficient** – From 0.00 to 10.00 % per °C
- **Conductivity-to-TDS factor** – Adjustable from 0.40 to 1.00
- **Selectable °C/°F** – Choose units to best fit your application
- Ready indicator, manual or automatic measurement hold feature and optional automatic shutoff function
- Store up to 500 data sets; easy USB or RS232 output with optional data cables
- **Built-in real-time clock stamps stored data and calibration data with time and date** – Meets standards for GLP (Good Laboratory Practices)
- 500 hours battery life or use optional universal power adapter
- **Built-in stand with wall-mount** – Allows for easy benchtop measurement and storage



Specification Table

pH	Range	-2.00 to 16.00 pH
	Resolution	0.01 pH
	Accuracy	±0.01 pH
	Calibration	Up to 6 points: USA, NIST, DIN or custom
mV	Range	±2000 mV
	Resolution	0.1 mV ±999.9 mV; 1 mV beyond
	Accuracy	±0.2 mV +2 LSD or +0.5 % of reading; whichever is greater
	Calibration	±200 mV
Conductivity	Range	0 to 200 mS; 0 to 20 mS if using COMBI03BW probe
	Resolution	0.01 µS to 0.1 mS
	Accuracy	±1 % full scale
	Calibration	Auto/manual; one point per range
TDS	Range	0 to 200 ppt (TDS factor 1.0)
	Resolution	0.01 ppm to 0.1 ppt
	Accuracy	±1 % full scale
	Calibration	Manual; 1 point/range
Temperature	Range	-10.0 to 110.0 °C (14.0 to 230.0 °F)
	Resolution	0.1 °C/°F
	Accuracy	±0.5 °C; ±0.9 °F
	Calibration	Offset in 0.1 increments, ±10 °C or ±18 °F
Display	Custom LCD with backlight	
Memory	Stores up to 500 data sets	
Output	USB or RS232	
Real-Time Clock	Time and date stamp on calibration and stored data	
Power	Two AA batteries (included), >100 hours (without backlight); AC adapter (optional)	



Ordering Information

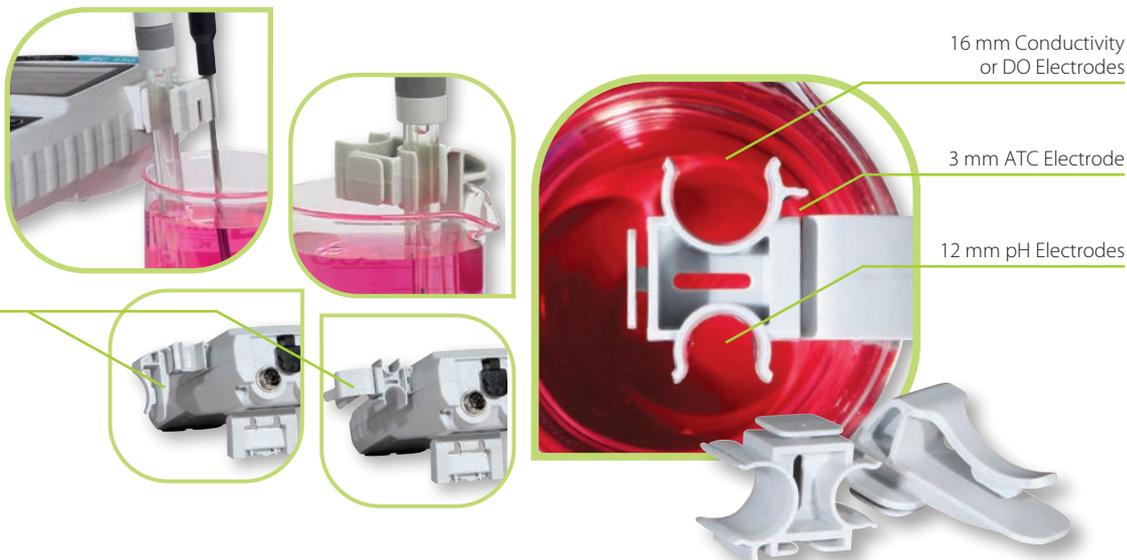
Order Code	Part No.	Description
Meter		
ECPCWP45000	01X651636	PC 450 Meter Only: Meter, two AA batteries
ECPCWP45004	01X651639	PC 450 Meter & pH & Con/ATC Electrodes: Meter, double-junction pH electrode, conductivity cell (K = 1.0), Grip-Clip™, two AA batteries
ECPCWP45004K	01X651640	PC 450 Meter Kit: Meter, double-junction pH electrode, conductivity cell (K = 1.0), Grip-Clip™, two AA batteries, hard carry case, USB cable, calibration solutions
ECPCWP45003	01X651637	PC 450 Meter & Combi Electrode: Meter, combi pH/Con/ATC electrode, two AA batteries
ECPCWP45003K	01X651638	PC 450 Meter Combi Kit: Meter, combi pH/Con/ATC electrode, two AA batteries, hard carry case, USB cable, calibration solutions
Electrodes		
ECFC7252201B	01X099417	Replacement pH electrode, double-junction, epoxy body, BNC
PHWPTEM01W	PHWPTEM01W	ATC probe. Use with any pH electrode with BNC connector for temperature compensation
COMBI03BW	COMBI03BW	Combination pH/Con/ATC probe
ECCONSEN72W	93X244303	Conductivity/ATC cell, glass body, K = 0.1
CONSEN91W	01X244702	Conductivity/ATC cell, K = 1.0
CONSEN92W	CONSEN92W	Conductivity cell, K = 10
Accessories		
GRIPCLIP	GRIPCLIP	Grip-Clip™
60X426401	60X426401	Optional 100 / 240 VAC SMPS power adapter, 9V, 6W
MINIPHONEUSB	MINIPHONEUSB	USB cable for 450 series, mini phone plug to USB
30X427301	30X427301	RS232 cable for 450 series, mini phone plug to RS232 9-pin (F)

See page 6 for pH calibration solutions & page 7 for conductivity calibration solutions.

Eutech 150 & 450 Series Accessories

Introducing the Grip-Clip™

Secure Grip-Clip™ to meter for storage or rotate for one-handed measurement



| Grip-Clip™ | Use this innovative electrode accessory to save time while preventing electrode damage. Designed for use with a 3 mm ATC electrode, 12 mm pH electrode, and a 16 mm conductivity or DO electrode. Attach the Grip-Clip™ to your instrument when not in use or for single-handed measurement. It secures to most beakers without the need for a separate electrode arm. Keeps electrode(s) suspended during use, away from dangerous stir bars and out of harm's way. Easy-access opening allows for electrode replacement without removal of the electrode storage bottle. Allows for quick height adjustment of your electrode(s) to suit your sample container and individual preference. Don't break another electrode bulb or waste time with clumsy holders – use the Grip-Clip™!

| RS232 Thermal Printer | The convenience of printing directly from your meter whenever, wherever! This compact thermal printer connects easily to your 450 series waterproof handheld meters via RS232 – ideal for data-recording and report-generation. Connecting cables included.



Ordering Information

Order Code	Part No.	Description
60X426401	60X426401	Optional 100 / 240 VAC SMPS power adapter, 9 V, 6 W
GRIPCLIP	GRIPCLIP	Grip-Clip™; includes separate electrode holder and beaker clip
56X259306	56X259306	Hard carry case
MINIPHONEUSB	MINIPHONEUSB	USB cable for 450 series, mini phone plug to USB
30X427301	30X427301	RS232 cable for 450 series, mini phone plug to RS232 9-pin (F)
ECPHBUFKITC	01X639001	pH buffer set, pH 4 (red), 7 (yellow), 10 (blue), 480 ml each
ECPHBUFKIT	01X638901	Colorless pH buffer set, pH 4, 7 and 10 (480 mL each)
ECCON84BT	01X211241	84 µS conductivity standard, 480 mL
ECCON1413BT	01X211207	1413 µS conductivity standard, 480 mL
ECCON1288BT	01X211210	12.88 mS conductivity standard, 480 mL
ECCON1118BT	01X211244	111.8 mS conductivity standard, 480 mL
01X594301	01X594301	Thermal printer, includes 100-240 V power supply with plug adapters for UK, US, EU and Australia. Includes 01X594101 cable, 30X427301 cable, null modem adapter, and roll of paper
01X594401	01X594401	Replacement paper for thermal printer, two rolls



Power Adapter
(60X426401)



Hard Carry Case
(56X259306)



USB Cable
(MINIPHONEUSB)



RS232 Cable
(30X427301)



Colored & Colorless
Buffer Solutions
(ECPHBUFKITC)
(ECPHBUFKIT)



RS232 Thermal Printer
(01X594301)

Eutech Instruments, part of Thermo Fisher Scientific, manufactures a comprehensive range of laboratory and field instrumentation for water analysis. Eutech Instruments also produces on-line process instruments for water quality monitoring and control. Innovative products from Eutech include:

Dual Display Testers | Economy + Series Handhelds | Waterproof Colorimeters and Turbidimeters | CyberScan Handhelds | Bench Meters | Handheld Thermometers

| World-Wide Sales and Service Support | Eutech provides world-wide sales and service support for all its products through its network of international distributors. Contact us at eutech@thermofisher.com for details of your nearest distributor.



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INSTRUMENTS

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This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008, (EU) No. 453/2010
Version 1.1 Revision date 26-01-2016
Printdate 26-01-2016

1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product name : pH 4.01 Buffer
Product number(s) : pH4,01/100ml, pH4,01/500mlS, pH4,01/5ltr, pH4,01/20ltr
Supplier: Hydrocal
REACH Number : A registration number is not available for this substance as the substance or use, except for registration for the annual volume does not require a registration or the registration is equipped with a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use : Use as laboratory reagent, Calibration solution

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Hydrocal B.V.
Wallerstraat 125k
3862 CN NIJKERK
The Netherlands
Telephone : +31 (0)88-8760101
E-mail address : info@hydrocal.nl

1.4 Emergency telephone number

Emergency telephone number: +31 (0)88-8760101 Solely intended to inform professional caregivers in acute poisoning

2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) Nr 1272/2008

This mixture is classified as not hazardous.

Classification according to EU Directives 67/548/EEG or 1999/45/EG

This preparation is not classified as hazardous.

2.2 Label elements according to Directive (EC) Nr 1272/2008

Hazard statements: No information available
Safety Precautions: No information available

Labelling (67/548 / EEG of 1999/45 / EG)

R- phrases: No information available
S- phrases: No information available

2.3 Other hazards

No information available

3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

No information available

3.2 Mixtures

Component	EC-No.	CAS-No.	Weight %	DSD Classification – 67/548/EEC	CLP Classification – Regulation (EC No. 1272/2008)
Water	23-791-2	7732-18-5	90 – 100%	-	-
Potassium Hydrogen Phthalate	212-889-4	877-24-7	0 – 10%	-	-
Potassium Hydroxide	215-181-3	1310-58-3	0 – 10%	XN; R22 C; R35	Acute Tox. 4 (H302) Skin Corr. 1A (H314)
Amarant	213-022-2	915-67-3	0 – 10%	-	-

4: FIRST AID MEASURES

4.1 Description of first aid measures

General Advice:	Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. Show this safety data sheet to the doctor in attendance.
Inhalation:	Move to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Eye Contact:	In case of eye contact, rinse immediately with plenty of water for at least 15 minutes. If symptoms persist, obtain medical attention.
Ingestion:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. If symptoms persist, call a physician or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Evacuate personnel to safe areas.

6.2 Environmental precautions

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so.

6.4 Reference to Other Sections

For additional waste treatment information, see section 13.

7: HANDLING AND STORAGE

7.1 Precautions for safe handling

To avoid risks to human health and the environment, comply with the instructions for use. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray. Ensure adequate ventilation, especially in confined areas.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from direct sunlight.

7.3 Specific end use(s)

Some of the applications mentioned in section 1.2
No other applications have been agreed

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

The product contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering Measures

Use in accordance with current rules and practices with regard to industrial hygiene and safety.
Wash hands before breaks and at the end of the working day.

Personal protective equipment

Eye/face Protection

Face protection and safety glasses. Use facial and / or eye protection tested and approved by official institutions such as NIOSH (US) or EN 166 (EU).

Skin and body protection

Handle with gloves. Inspect gloves prior to use. Pull gloves neatly out without touching the outside with bare hands. Dispose gloves immediately according to the applicable laboratory regulations. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686 / EEC and the standard EN 374 derived from it. Full contact material: Nitrile rubber
Minimum layer thickness: 0.11 mm Breakthrough time: 480 min.

Respiratory Protection

Provide adequate ventilation.

Environmental exposure controls

Prevent product from entering drains.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|------------------------------------------------|--------------------------|
| a) Appearance: | Red liquid |
| b) Odor: | None |
| c) Odor Threshold: | No information available |
| d) pH: | at 20°C pH 4.0 |
| e) Melting point/freezing point: | No information available |
| f) Boiling Point/Range: | at approx. 100°C |
| g) Flash Point: | No information available |
| h) Evaporation Rate: | No information available |
| i) Flammability (solid, gas) | No information available |
| j) Flammability Limit in Air: | No information available |
| k) Vapor pressure: | No information available |
| l) Vapor Density: | No information available |
| m) Specific Gravity: | at 20°C approx. 1.0 g/ml |
| n) Water Solubility: | Soluble |
| o) Partition coefficient
n-octanol / water: | No information available |
| p) Autoignition Temperature: | No information available |
| q) Decomposition Temperature: | No information available |
| r) Viscosity | No information available |

s) Explosive Properties: No information available

t) Oxidizing Properties: No information available

9.2 Other safety information

No information available

10: STABILITY AND REACTIVITY

10.1 Reactivity

No information available

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Strong acids and bases

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity: No information available

Skin Corrosion/Irritation: No information available

Serious eye damage/eye irritation: No information available

Sensitization: No information available

Carcinogenic effects: No information available

Mutagenic Effects: No information available

STOT - single exposure No information available

STOT - repeated exposure No information available

Aspiration hazard No information available

Additional Information: No information available

12: ECOLOGICAL INFORMATION

12.1 Toxicity

No information available

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available

12.6 Other adverse effects

No information available

13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Dispose of as unused product.

14: TRANSPORT INFORMATION

14.1 UN-number

ADR/RID: - IMDG: - IATA: -

14.2 Proper Shipping Name

ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Hazard Class

ADR/RID: - IMDG: - IATA: -

14.4 Packing Group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazard

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special Provisions

No information available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC-code

No information available

15: REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No information available

15.2 Chemical safety assessment

For this product no chemical safety assessment has been carried out.

16: OTHER INFORMATION

Full text of H-phrases referred to under sections 2 and 3.

H302 = Harmful if swallowed

H314 = Causes severe skin burns and eye damage

R 22 = Harmful if swallowed

R 35 = Causes severe burns

Disclaimer:

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The above information is believed to be correct but does not claim to be exhaustive and should be used only as a guide.

Hydrocal shall not be liable for any damage resulting from handling or from contact with the above product. See our price list for further sales conditions.

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008, (EU) No. 453/2010
Version 1.0 Revision date 09-11-2015
Printdate 09-11-2015

1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product name : pH 7.00 Buffer
Product number(s) : pH7,00/100ml, pH7,00/500mlS, pH7,00/5ltr, pH7,00/20ltr
Supplier : Hydrocal
REACH Number : A registration number is not available for this substance as the substance or use, except for registration for the annual volume does not require a registration or the registration is equipped with a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use : Use as laboratory reagent, Calibration solution

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Hydrocal B.V.
Wallerstraat 125k
3862 CN NIJKERK
The Netherlands
Telephone : +31 (0)88-8760101
E-mail address : info@hydrocal.nl

1.4 Emergency telephone number

Emergency telephone number: +31 (0)88-8760101 Solely intended to inform professional caregivers in acute poisoning

2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) Nr 1272/2008

This mixture is classified as not hazardous.

Classification according to EU Directives 67/548/EEG or 1999/45/EG

This preparation is not classified as hazardous.

2.2 Label elements according to Directive (EC) Nr 1272/2008

Hazard statements: No information available
Safety Precautions: No information available

Labelling (67/548 / EEG of 1999/45 / EG)

R- phrases: No information available
S- phrases: No information available

2.3 Other hazards

No information available

3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

No information available

3.2 Mixtures

Component	EC-No.	CAS-No.	Weight %	DSD Classification – 67/548/EEC	CLP Classification – Regulation (EC No. 1272/2008)
Water	23-791-2	7732-18-5	90 – 100%	-	-
Potassium Dihydrogen Phosphate	231-913-4	7778-77-0	0 – 10%	-	-
Disodium Hydrogen Phosphate	231-448-7	7558-79-4	0 – 10%	-	-
5-Broom-5-nitro-1,3-dioxan	250-001-7	30007-47-7	0 – 10%	-	-
Naphthol Green B	243-010-2	19381-50-1	0 – 10%	-	-

4: FIRST AID MEASURES

4.1 Description of first aid measures

General Advice:	Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. Show this safety data sheet to the doctor in attendance.
Inhalation:	Move to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Eye Contact:	In case of eye contact, rinse immediately with plenty of water for at least 15 minutes. If symptoms persist, obtain medical attention.
Ingestion:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. If symptoms persist, call a physician or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Evacuate personnel to safe areas.

6.2 Environmental precautions

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so.

6.4 Reference to Other Sections

For additional waste treatment information, see section 13.

7: HANDLING AND STORAGE

7.1 Precautions for safe handling

To avoid risks to human health and the environment, comply with the instructions for use. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray. Ensure adequate ventilation, especially in confined areas.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from direct sunlight.

7.3 Specific end use(s)

Some of the applications mentioned in section 1.2
No other applications have been agreed

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

The product contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering Measures

Use in accordance with current rules and practices with regard to industrial hygiene and safety.

Wash hands before breaks and at the end of the working day.

Personal protective equipment**Eye/face Protection**

Face protection and safety glasses. Use facial and / or eye protection tested and approved by official institutions such as NIOSH (US) or EN 166 (EU).

Skin and body protection

Handle with gloves. Inspect gloves prior to use. Pull gloves neatly out without touching the outside with bare hands. Dispose gloves immediately according to the applicable laboratory regulations. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686 / EEC and the standard EN 374 derived from it. Full contact material: Nitrile rubber
Minimum layer thickness: 0.11 mm Breakthrough time: 480 min.

Respiratory Protection

Provide adequate ventilation.

Environmental exposure controls

Prevent product from entering drains.

9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|------------------------------------------------|--------------------------|
| a) Appearance: | Yellow liquid |
| b) Odor: | None |
| c) Odor Threshold: | No information available |
| d) pH: | at 20°C pH 7.0 |
| e) Melting point/freezing point: | No information available |
| f) Boiling Point/Range: | at approx. 100°C |
| g) Flash Point: | No information available |
| h) Evaporation Rate: | No information available |
| i) Flammability (solid, gas) | No information available |
| j) Flammability Limit in Air: | No information available |
| k) Vapor pressure: | No information available |
| l) Vapor Density: | No information available |
| m) Specific Gravity: | at 20°C approx. 1.0 g/ml |
| n) Water Solubility: | Soluble |
| o) Partition coefficient
n-octanol / water: | No information available |
| p) Autoignition Temperature: | No information available |
| q) Decomposition Temperature: | No information available |

- | | |
|--------------------------|--------------------------|
| r) Viscosity | No information available |
| s) Explosive Properties: | No information available |
| t) Oxidizing Properties: | No information available |

9.2 Other safety information

No information available

10: STABILITY AND REACTIVITY

10.1 Reactivity

No information available

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Metals

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity:	No information available
Skin Corrosion/Irritation:	No information available
Serious eye damage/eye irritation:	No information available
Sensitization:	No information available
Carcinogenic effects:	No information available
Mutagenic Effects:	No information available
STOT - single exposure	No information available
STOT - repeated exposure	No information available
Aspiration hazard	No information available
Additional Information:	No information available

12: ECOLOGICAL INFORMATION

12.1 Toxicity

No information available

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available

12.6 Other adverse effects

No information available

13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Dispose of as unused product.

14: TRANSPORT INFORMATION

14.1 UN-number

ADR/RID: -

IMDG: -

IATA: -

14.2 Proper Shipping Name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Hazard Class

ADR/RID: -

IMDG: -

IATA: -

14.4 Packing Group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazard

ADR/RID: no

IMDG Marine pollutant: no IATA: no

14.6 Special Provisions

No information available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC-code

No information available

15: REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No information available

15.2 Chemical safety assessment

For this product no chemical safety assessment has been carried out.

16: OTHER INFORMATION

Full text of H-phrases referred to under sections 2 and 3.

No information available

Disclaimer:

Copyright 2015 Hydrocal B.V. License for unlimited copies for use within the company only.

The above information is believed to be correct but does not claim to be exhaustive and should be used only as a guide.

Hydrocal shall not be liable for any damage resulting from handling or from contact with the above product. See our price list for further sales conditions.

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008, (EU) No. 453/2010
Version 1.0 Revision date 09-11-2015
Printdate 09-11-2015

1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product name : pH 10.01 Buffer
Product number(s) : pH10,0/100ml, pH10,00/500mlS, pH10,0/5ltr, pH10,0/20ltr
Supplier : Hydrocal
REACH Number : A registration number is not available for this substance as the substance or use, except for registration for the annual volume does not require a registration or the registration is equipped with a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use : Use as laboratory reagent, Calibration solution

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : Hydrocal B.V.
Wallerstraat 125k
3862 CN NIJKERK
The Netherlands
Telefoon : +31 88-8760101
E-mailadres : info@hydrocal.nl

1.4 Emergency telephone number

Emergency telephone number: +31 (0)88-8760101 Solely intended to inform professional caregivers in acute poisoning

2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) Nr 1272/2008

This mixture is classified as not hazardous.

Classification according to EU Directives 67/548/EEG or 1999/45/EG

This preparation is not classified as hazardous.

2.2 Label elements according to Directive (EC) Nr 1272/2008

Hazard statements: No information available
Safety Precautions: No information available

Labelling (67/548 / EEG of 1999/45 / EG)

R- phrases: No information available
S- phrases: No information available

2.3 Other hazards

Splashing may cause eye irritation.

3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

No information available

3.2 Mixtures

Component	EC-No.	CAS-No.	Weight %	DSD Classification – 67/548/EEC	CLP Classification – Regulation (EC No. 1272/2008)
Water	23-791-2	7732-18-5	90 – 100%	-	-
Sodium Carbonate	207-838-8	497-19-8	0 – 10%	Xi; R36	Eye Irrit. Cat. 2 (H319)
Sodium Bicarbonate	205-633-8	144-55-8	0 – 10%	-	-
Methylparaben	202-785-7	99-76-3	0 – 10%	-	-
FD & C Blue #1	223-339-8	3844-45-9	0 – 10%	-	-

4: FIRST AID MEASURES

4.1 Description of first aid measures

General Advice:	Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. Show this safety data sheet to the doctor in attendance.
Inhalation:	Move to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Eye Contact:	In case of eye contact, rinse immediately with plenty of water for at least 15 minutes. If symptoms persist, obtain medical attention.
Ingestion:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. If symptoms persist, call a physician or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Evacuate personnel to safe areas.

6.2 Environmental precautions

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so.

6.4 Reference to Other Sections

For additional waste treatment information, see section 13.

7: HANDLING AND STORAGE

7.1 Precautions for safe handling

To avoid risks to human health and the environment, comply with the instructions for use. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray. Ensure adequate ventilation, especially in confined areas.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from direct sunlight.

7.3 Specific end use(s)

Some of the applications mentioned in section 1.2
No other applications have been agreed

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

The product contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering Measures

Use in accordance with current rules and practices with regard to industrial hygiene and safety.
Wash hands before breaks and at the end of the working day.

Personal protective equipment**Eye/face Protection**

Face protection and safety glasses. Use facial and / or eye protection tested and approved by official institutions such as NIOSH (US) or EN 166 (EU).

Skin and body protection

Handle with gloves. Inspect gloves prior to use. Pull gloves neatly out without touching the outside with bare hands. Dispose gloves immediately according to the applicable laboratory regulations. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686 / EEC and the standard EN 374 derived from it. Full contact material: Nitrile rubber
Minimum layer thickness: 0.11 mm Breakthrough time: 480 min.

Respiratory Protection

Provide adequate ventilation.

Environmental exposure controls

Prevent product from entering drains.

9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|------------------------------------------------|--------------------------|
| a) Appearance: | Bleu liquid |
| b) Odor: | None |
| c) Odor Threshold: | No information available |
| d) pH: | at 20°C pH 10.0 |
| e) Melting point/freezing point: | No information available |
| f) Boiling Point/Range: | at approx. 100°C |
| g) Flash Point: | No information available |
| h) Evaporation Rate: | No information available |
| i) Flammability (solid, gas) | No information available |
| j) Flammability Limit in Air: | No information available |
| k) Vapor pressure: | No information available |
| l) Vapor Density: | No information available |
| m) Specific Gravity: | at 20°C approx. 1.0 g/ml |
| n) Water Solubility: | Soluble |
| o) Partition coefficient
n-octanol / water: | No information available |
| p) Autoignition Temperature: | No information available |
| q) Decomposition Temperature: | No information available |
| r) Viscosity | No information available |

s) Explosive Properties: No information available

t) Oxidizing Properties: No information available

9.2 Other safety information

No information available

10: STABILITY AND REACTIVITY

10.1 Reactivity

No information available

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Metals

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity: No information available

Skin Corrosion/Irritation: No information available

Serious eye damage/eye irritation: No information available

Sensitization: No information available

Carcinogenic effects: No information available

Mutagenic Effects: No information available

STOT - single exposure No information available

STOT - repeated exposure No information available

Aspiration hazard No information available

Additional Information: No information available

12: ECOLOGICAL INFORMATION

12.1 Toxicity

No information available

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available

12.6 Other adverse effects

No information available

13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Dispose of as unused product.

14: TRANSPORT INFORMATION

14.1 UN-number

ADR/RID: - IMDG: - IATA: -

14.2 Proper Shipping Name

ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Hazard Class

ADR/RID: - IMDG: - IATA: -

14.4 Packing Group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazard

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special Provisions

No information available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC-code

No information available

15: REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No information available

15.2 Chemical safety assessment

For this product no chemical safety assessment has been carried out.

16: OTHER INFORMATION

Full text of H-phrases referred to under sections 2 and 3.

H319 = Causes serious eye irritation

R 36 = Irritating to eyes

Disclaimer:

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The above information is believed to be correct but does not claim to be exhaustive and should be used only as a guide.

Hydrocal shall not be liable for any damage resulting from handling or from contact with the above product. See our price list for further sales conditions.

TitraLab® AT1000 SERIES AUTOMATIC TITRATORS

Applications

- Drinking Water
- Wastewater
- Food and Beverage
- Petrochemical Industry



Automatic titration without all the complications.

Titration can be easy. The TitraLab AT1000 from Hach uses pre-set functions that eliminate complex programming and provide accurate results.

The Karl Fischer version TitraLab KF1000 requires only small sample quantities to deliver accurate and precise results for water content applications.

Reliable Titration Results

Eliminates operator interpretation and manual processes with automatic titration to quickly deliver accurate and repeatable results.

Pre-programmed titration methods detect end points and eliminate manual calculations to make results easier to achieve without advanced programming.

Simple Setup and Titration

Application-specific functions to eliminate complex titration setup and analysis.

Hach's unique application kits make it quick for anyone to set up and operate a test.



Be Right™

Technical Data*

Titration Types	Potentiometric (zero & imposed current), amperometric, colorimetric
Titration Modes	Sample, blank, sample with blank, QC sample, QC sample with blank
Parameter	mV/pH, Conductivity, Temperature
Resolution	mV/pH: ± 0.1 mV / ± 0.001 pH Conductivity: ± 0.5 % of reading Temperature: ± 0.3 °C / ± 0.51 °F
Sample Stand	Integrated, magnetic stirring, beakers up to 250 mL
Electrode	IntelliCAL ("Plug & Play" digital), analog, photcolorimetric; 2 inputs available
Burette: Volumes Available	2.5/5/10/25 mL, ISO8655-3
Burette Motor Resolution	20,000 steps with electronic μ stepping technology (128 μ steps/step)
Calibration	Titrant & electrode (up to 5 buffers in Auto Mode, fixed & user defined)
Calibration Intervals/ Alerts/Reminder	Yes, user defined period
Data Memory	Last 100 samples, QC & blank analyses, last 10 calibrations
Data Export	On USB flash drive, CSV format, Excel compatible
Operating Interface	Soft keypad (silicone)
Display Type	5,7"; Graphic color; VGA
Calibration Curves Display	Direct & derivative titration curves, electrode calibration curve

Accessories	Supported peripherals: printer, PC software, balance, sample changer, keyboard, mouse, barcode reader, sampling pump, propeller stirrer
Data Storage	Date, Time, Operator IDs, Sample IDs
Maintenance Scheduler	Yes, user defined
Embedded Procedures	Tubing bubble purging, reagent priming, burette and pump replacement
Password Protection	Yes, user defined
Languages	English, German, French, Italian, Spanish
Output	Electrode ports (x2), USB (x2), serial (x1), Ethernet (x1)
Dimensions Metric (H x W x D)	220 mm x 400 mm x 360 mm
Weight	8.82 lbs. (4 kg)
Material Enclosures	PP Latene, silicone, hardened glass, POM, stainless steel. Splashproof design.
Power Requirements (Voltage)	100/240 VAC
Power Requirements (Hz)	50/60 Hz
Operating Conditions	15 to 35 °C (59 to 95 °F), 20 to 80 % RH, non-condensing
Storage Conditions	-5 to 40 °C (23 to 104 °F)
Certifications	Safety IEC/EN 61010-1; EMC IEC/EN 61326-1
Warranty	1 year

*Subject to change without notice.



Robust and intuitive user interface



Application software delivered on USB key

AT1000 / KF1000 Series Titrator Models

Titrator Models		AT1102	AT1112	AT1122	AT1222	KF1121
	Burette for Titrant	1	1	1	2	1
	Integrated Peristaltic Pump	0	1	2	2	2
	Maximum Number of Applications	5	5	5	10	5
Water Applications						
AP0001.AT1102	pH/Alkalinity in Water	■	■	■	■	-
AP0002.AT1102	pH/Alkalinity & Conductivity in Water	■	■	■	■	-
AP0003.AT1112	Ca & Mg Hardness (ISE) in Water	-	■	■	■	-
AP0004.AT1112	Total Hardness (Color) in Water	-	■	■	■	-
AP0005.AT1222	pH/Alkalinity & Hardness (ISE) in Water	-	-	-	■	-
AP0009.AT1112	Chlorides in Water	-	■	■	■	-
Food and Beverage Applications						
AP0008.AT1102	pH, Total Acidity in Food & Beverage	■	■	■	■	-
AP0010.AT1112	Salt in Food Products	-	■	■	■	-
AP0011.AT1222	pH, Total Acidity & Chlorides in Food & Beverage	-	-	-	■	-
AP0012.AT1122	Free & Total SO ₂ in Wine	-	-	■	■	-
AP0013.AT1222	pH, Total Acidity, Free & Total SO ₂ in Wine	-	-	-	■	-
Petrochemical Applications						
AP0015.AT1102	TAN (Total Acid Number) in Petrochem	■	■	■	■	-
AP0016.AT1102	TBN (Total Base Number) in Petrochem	■	■	■	■	-
AP0017.AT1112	R-SH (Thiol) in Petrochem	-	■	■	■	-
AP0018.AT1102	Br ₂ /I ₂ Index in Petrochem	■	■	■	■	-
Environmental Applications						
AP0006.AT1102	FOS/TAK (Biogas)	■	■	■	■	-
AP0007.AT1122	Free & Total Chlorine, Chlorine Dioxide, Sulphite (AutoCAT)	-	-	■	■	-
Moisture Content Application (Karl Fischer)						
AP0014.KF1121	Moisture Content (Karl Fischer)	-	-	-	-	■

Order Information

Instruments

AT1102.97	TitraLab® AT1000 Series Potentiometric Titrator, 1 Burette
AT1112.97	TitraLab® AT1000 Series Potentiometric Titrator, 1 Burette, 1 Pump
AT1122.97	TitraLab® AT1000 Series Potentiometric Titrator, 1 Burette, 2 Pumps
AT1222.97	TitraLab® AT1000 Series Potentiometric Titrator, 2 Burettes, 2 Pumps
KF1121.97	TitraLab® KF1000 Series Volumetric Karl Fischer Titrator, 1 Burette, 2 Pumps



Optional Accessories

LQV161.53.10000	DPU-S445 USB Thermal printer kit
LZE127	TitraMaster 1000 Series, PC software with Ethernet cable
LZE142	External pump (sample leveling), for AT Titrator
LZE143	Propeller stirrer, 70 mm shaft, for AT Titrator

Service Options

BSPAT1000	Automatic Titrator TitraLab® AT1000 Bench Service Partnership
BSPPLUSAT1000	Automatic Titrator TitraLab® AT1000 Bench Service Partnership Plus (Field PM, Bench repair)

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