



MATERIAL SAFETY DATA SHEET

according to Regulation (EC) No. 1272/2008

This material safety datasheet applies to Bio-X Diagnostics ELISA Kits.

1) Data on components :

The components included in the kit and defined as hazardous chemicals according to Regulation (EC) No. 1272/2008 are:

Components	Index No	International Chemical Identification	EC No	CAS No	Classification		Labelling			Specific Conc. Limits, M-factors	Notes
					Hazard Class and Category Code(s)	Hazard statement Code(s)	Pictogram, Signal Word Code(s)	Hazard statement Code(s)	Suppl. Hazard statement Code(s)		
Proclin 300	613-167-00-5	reaction mass of: 5-chloro-2-methyl-4-isothiazolin- 3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2-methyl-4-isothiazolin- 3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)	-	55965-84-9	Acute Tox. 3 (*) Acute Tox. 3 (*) Acute Tox. 3 (*) Skin Corr. 1B Skin Sens. 1 Aquatic Acute 1 Aquatic Chronic1	H331 H311 H301 H314 H317 H400 H410	GHS06 GHS05 GHS09 Dgr	H331 H311 H301 H314 H317 H410		Skin Corr. 1B; H314: C ≥ 0,6 % Skin Irrit. 2; H315: 0,06 % ≤ C < 0,6 % Eye Irrit. 2; H319: 0,06 % ≤ C < 0,6 % Skin Sens. 1; H317: C ≥ 0,0015 %	
phosphoric acid	015-011-00-6	phosphoric acid ... %, orthophosphoric acid ... %	231-633-2	7664-38-2	Skin Corr. 1B	H314	GHS05 Dgr	H314		Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %	B

Other components included in the Bio-X Diagnostics ELISA Kits are not considered as hazardous chemical according to EC Directives.

2) Reagent Components

Reagent	Components	CAS No	CE No	Classification (pur components)	Hazard statement Code(s)	%
Washing solution	Proclin 300	55965-84-9	-	GHS06 GHS05 GHS09 Dgr	H331 H311 H301 H314 H317 H410	0,050%
Dilution buffer 5X	Proclin 300	55965-84-9	-	GHS06 GHS05 GHS09 Dgr	H331 H311 H301 H314 H317 H410	0,050%
Stop solution	Acide phosphorique	7664-38-2	231-633-2	GHS05 Dgr	H314	7%

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

Version 5.5 Revision Date 28.09.2015

Print Date 13.06.2016

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : ProClin® 300

Product Number : 48914-U

Brand : Sigma-Aldrich

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich BVBA/SPRL
Pegasuslaan 5
B-1831 DIEGEM

Telephone : +32 3 899 1301

Fax : +32 3 899 1311

E-mail address : eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone # 070 245245

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

Skin sensitisation (Category 1), H317

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Signal word : Danger

Hazard statement(s)
H302 : Harmful if swallowed.
H314 : Causes severe skin burns and eye damage.

H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Modified alkyl carboxylate		
	Aquatic Chronic 4; H413	>= 2,5 - < 10 %
Mixture of 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1)		
CAS-No. Index-No.	55965-84-9 613-167-00-5	Acute Tox. 3; Skin Corr. 1B; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1; H301, H331, H311, H314, H317, H400, H410 Concentration limits: >= 0,6 %: Skin Corr. 1B, H314; 0,06 - < 0,6 %: Skin Irrit. 2, H315; 0,06 - < 0,6 %: Eye Irrit. 2, H319; >= 0,0015 %: Skin Sens. 1, H317; M-Factor - Aquatic Acute: 10

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen chloride gas
Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen chloride gas

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage class (TRGS 510): Combustible, corrosive hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. 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: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 60 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	4,1 at 100 g/l
e) Melting point/freezing point	-40 °C
f) Initial boiling point and boiling range	189 °C
g) Flash point	118 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	1,03 g/cm ³
n) Water solubility	soluble
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents, Reducing agents, Amines, Mercaptans

10.6 Hazardous decomposition products

Other decomposition products - No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 862 mg/kg

LD50 Dermal - Rabbit - 2.800 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: Corrosive

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Corrosive to eyes

Respiratory or skin sensitisation

- Guinea pig

Result: May cause sensitisation by skin contact.

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3265

IMDG: 3265

IATA: 3265

14.2 UN proper shipping name

ADR/RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Mixture of 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1))

IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Mixture of 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1))

IATA: Corrosive liquid, acidic, organic, n.o.s. (Mixture of 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1))

14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 453/2010)

Revision date: 06.01.2015

Version: 4.2

Print date: 06.01.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name/designation:	Orthophosphoric acid 85% GPR RECTAPUR®
Product No.:	20621 (VWR International)
Substance name:	Orthophosphoric acid (> 85%)
CAS No.:	7664-38-2
INDEX No.:	015-011-00-6
REACH registration No.:	Not yet communicated down the supply chain.
Other means of identification:	

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

Relevant identified uses:	General chemical reagent
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1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

United Kingdom

VWR International Ltd.

Street	Hunter Boulevard, Magna Park
Postal code/city	Lutterworth, LE17 4XN
Telephone	0800 22 33 44
Telefax	01455 55 85 86
E-mail (competent person)	SDS@eu.vwr.com

Emergency telephone

Telephone	+44 (0) 1270 502894
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Ireland

VWR International Ltd.

Street	Orion Business Campus, Northwest Business Park
Postal code/city	Ballycoolin, Dublin 15
Telephone	+353 1 8822222
Telefax	+353 1 8822333
E-mail (competent person)	SDS@eu.vwr.com

Emergency telephone

Telephone	+44 (0) 1270 502894
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Ireland

VWR International (Northern Ireland) Ltd.

Street	Orion Business Campus, Northwest Business Park
Postal code/city	Ballycoolin, Dublin 15
Telephone	+353 1 8822222
Telefax	+353 1 8822333
E-mail (competent person)	SDS@eu.vwr.com

Emergency telephone

Telephone	+44 (0) 1270 502894
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Netherlands

VWR International B.V.

Street	Basisweg 34
Postal code/city	1043 AP Amsterdam
Telephone	+32 16 385 011
Telefax	+32 16 385 385
E-mail (competent person)	SDS@eu.vwr.com

Emergency telephone

Telephone	030 2748888 (Nationaal Vergiftigingen Informatie Centrum (NVIC), uitsluitend bestemd om professionele hulpverleners te informeren bij acute vergiftigingen).
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Switzerland

VWR International GmbH

Street	Lerzenstrasse 16/18
Postal code/city	8953 Dietikon
Telephone	+44 (0) 745 13 13
Telefax	+44 (0) 745 13 10
E-mail (competent person)	SDS@eu.vwr.com

Emergency telephone

Telephone	145
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements
Skin corrosion, category 1B	H314

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

C	Corrosive	R34
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2.2 Label elements

2.2.1 Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Signal word: Danger

Hazard statements	
H314	Causes severe skin burns and eye damage.

Precautionary statements	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309+P310	IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

2.2.2 Labelling (67/548/EEC or 1999/45/EC)

Hazard symbols

C

R-phrases	
R34	Causes burns.

S-phrases	
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Other hazards

SVHC No

SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

Hazardous ingredients Classification according to Regulation (EC) No. 1272/2008 [CLP]

Substance name	Concentration	Product identifier	Hazard classes and hazard categories
Orthophosphoric acid	>85%	CAS No.: 7664-38-2 EC No.: 231-633-2 REACH No.: 01-2119485924-24-XXXX	Skin corrosion, category 1B - H314

Hazardous ingredients Classification according to 67/548/EEC

Substance name	Concentration	Product identifier	Hazard classes and hazard categories
Orthophosphoric acid	>85%	CAS No.: 7664-38-2 EC No.: 231-633-2 REACH No.: 01-2119485924-24-XXXX	C, Corrosive, R34

SECTION 4: First aid measures

4.1 General information

IF exposed: Immediately call a POISON CENTRE/doctor/.... If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation

Immediately call a POISON CENTRE/doctor/.... Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

Immediately call a POISON CENTRE/doctor/.... Do NOT induce vomiting. Rinse mouth thoroughly with water. Give nothing to eat or drink.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

4.4 Self-protection of the first aider

First aider: Pay attention to self-protection!

4.5 Information to physician

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

Extinguishing media which must not be used for safety reasons

no restriction

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Phosphorus oxides Sulphur oxides

5.3 Advice for firefighters

DO NOT fight fire when fire reaches explosives. In case of fire: Wear self-contained breathing apparatus.

5.4 Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid generation of dust. Do not breathe dust. Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Take up carefully when dry. Avoid generation of dust. Clean contaminated objects and areas thoroughly observing environmental regulations. Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid: Inhalation Avoid contact with skin and eyes. Use extractor hood (laboratory). If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Protect from moisture.

7.2 Conditions for safe storage, including any incompatibilities

storage temperature: 15-25 °C

Storage class: 8B

Keep container tightly closed in a cool, well-ventilated place.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value	Remark
Orthophosphoric acid	Gestis	CH	LTV	1 mg/m ³	
Orthophosphoric acid	Gestis	CH	STV	2 mg/m ³	
Orthophosphoric acid	2000/39/EC	EU	LTV	1 mg/m ³	
Orthophosphoric acid	2000/39/EC	EU	STV	2 mg/m ³	
Orthophosphoric acid	Gestis	NL	LTV	1 mg/m ³	
Orthophosphoric acid	Gestis	NL	STV	2 mg/m ³	
Orthophosphoric acid	Gestis	UK	LTV	1 mg/m ³	
Orthophosphoric acid	Gestis	UK	STV	2 mg/m ³	

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

8.2.2 Personal protection equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Eye/face protection

Eye glasses with side protection DIN-/EN-Norms: DIN EN 166

Recommendation: VWR 111-0432

Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms: DIN EN 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,12 mm

Breakthrough time (maximum wearing time): > 480 min

Recommended glove articles: VWR 112-0998

By long-term hand contact

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,38 mm

Breakthrough time (maximum wearing time): > 480 min

Recommended glove articles: VWR 112-3717 / 112-1381

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Suitable respiratory protection apparatus: Filtering Half-face mask (DIN EN 149)

Recommendation: VWR 111-0451

Suitable material: P3

Recommendation: no data available

Additional information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

8.2.3 Environmental exposure controls

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Colour:	colourless
(b) Odour:	no data available
(c) Odour threshold:	no data available

Safety relevant basic data

(d) pH:	<0.5 (20 °C)
(e) Melting point/freezing point:	21 - 28 °C
(f) Initial boiling point and boiling range:	no data available
(g) Flash point:	no data available
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	not applicable
(j) Upper/lower flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapour pressure:	no data available
(l) Vapour density:	no data available
(m) Relative density:	1.71 - 1.87 g/cm ³ (25 °C)
(n) Solubility(ies)	
at 20 °C:	no data available
Soluble (g/L) in:	no data available
(o) Partition coefficient: n-octanol/water:	no data available
(p) Auto-ignition temperature:	no data available
(q) Decomposition temperature:	no data available
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable

9.2 Other information

Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

10.7 Additional information

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

no data available

Acute dermal toxicity:

no data available

Acute inhalation toxicity:

no data available

Irritant and corrosive effects

Primary irritation to the skin:

Causes severe skin burns and eye damage.

Irritation to eyes:

Causes serious eye damage.

Irritation to respiratory tract:

not applicable

Respiratory or skin sensitisation

In case of skin contact: not sensitising

After inhalation: not sensitising

STOT-single exposure

not applicable

STOT-repeated exposure

not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No indication of human carcinogenicity.

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information

12.1 Ecotoxicity

Acute (short-term) fish toxicity:

no data available

Chronic (long-term) fish toxicity:

no data available

Acute (short-term) daphnia toxicity:

no data available

Chronic (long-term) daphnia toxicity:

no data available

Acute (short-term) algae toxicity:

no data available

Chronic (long-term) algae toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to local legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to local legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

no data available

SECTION 14: Transport information

Land transport (ADR/RID)

14.1	UN-No.:	1805
14.2	Proper Shipping Name:	PHOSPHORIC ACID, SOLUTION (PHOSPHORIC ACID, SOLUTION)
14.3	Class(es):	8
	Classification code:	C1
	Hazard label(s):	8
14.4	Packing group:	III
14.5	Environmental hazards:	No
14.6	Special precautions for user:	
	Hazard identification number (Kemler No.):	80
	tunnel restriction code:	E
		(Passage forbidden through tunnels of category E.)

Sea transport (IMDG)

14.1	UN-No.:	1805
14.2	Proper Shipping Name:	PHOSPHORIC ACID SOLUTION (PHOSPHORIC ACID, SOLUTION)
14.3	Class(es):	8
	Classification code:	
	Hazard label(s):	8
14.4	Packing group:	III
14.5	Environmental hazards:	No
	MARINE POLLUTANT:	No
14.6	Special precautions for user:	
	Segregation group:	1
	EmS-No.	F-A S-B
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
	not relevant	

Air transport (ICAO-TI / IATA-DGR)

14.1	UN-No.:	1805
14.2	Proper Shipping Name:	PHOSPHORIC ACID, SOLUTION (PHOSPHORIC ACID, SOLUTION)
14.3	Class(es):	8
	Classification code:	C1
	Hazard label(s):	8
14.4	Packing group:	III
14.5	Special precautions for user	not relevant

SECTION 15: Regulatory information

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

General rules

Water hazard class (WGK): slightly hazardous to water (WGK 1)

EU: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Text with EEA relevance)

EU: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance)

EU: Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Text with EEA relevance)

15.2 Chemical Safety Assessment

no data available

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)

CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures

DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)

Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)

IATA-DGR - International Air Transport Association-Dangerous Goods Regulations

ICAO-TI - International Civil Aviation Organization-Technical Instructions

IMDG - International Maritime Code for Dangerous Goods

LTV - Long Term Value

NIOSH - National Institute for Occupational Safety and Health

OSHA - Occupational Safety & Health Administration

PBT - Persistent, Bioaccumulative and Toxic

RID - Regulation concerning the International Carriage of Dangerous Goods by Rail

STV - Short Term Value

SVHC - Substances of Very High Concern

vPvB - very Persistent, very Bioaccumulative

Additional information

Indication of changes:

Section 9

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.