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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revision date / version: 28.08.2023 / 0002
Replacing version dated / version: 17.04.2023 / 0001
Valid from: 28.08.2023
PDF print date: 30.08.2023
Triple Acid Star
Art.: 242999

Safety data sheet **according to Regulation (EC) No 1907/2006, Annex II**

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

1.1 Product identifier

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

Relevant identified uses of the substance or mixture:

Cleaner

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

Koch-Chemie GmbH
Einsteinstrasse 42
59423 Unna
Telefon: +49 (0) 2303 / 9 86 70 - 0
Fax: +49 (0) 2303 / 9 86 70 - 26
info@koch-chemie.com
www.koch-chemie.com

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

IRL

National Poisons Information Centre, Beaumont Hospital, Dublin 9, Ireland, Tel.:
+353 (0)1 809 2166 (Public Poisons Info Line, 8am-10pm, 7 days a week)
+353 (0)1 809 2566 (Info for Healthcare Professionals ONLY, 24 h, 7 days a week)

Telephone number of the company in case of emergencies:

+1 872 5888271 (KCC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Acute Tox.	4	H312-Harmful in contact with skin.
Acute Tox.	4	H302-Harmful if swallowed.
Eye Dam.	1	H318-Causes serious eye damage.
Met. Corr.	1	H290-May be corrosive to metals.
Skin Corr.	1	H314-Causes severe skin burns and eye damage.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)



Danger

H312-Harmful in contact with skin. H302-Harmful if swallowed. H290-May be corrosive to metals. H314-Causes severe skin burns and eye damage.

P260-Do not breathe vapours or spray. P280-Wear protective gloves / protective clothing / eye protection / face protection. P301+P330+P331-IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353-IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310-Immediately call a POISON CENTER / doctor. P390-Absorb spillage to prevent material damage.

Hydrochloric acid
 Hydrofluoric acid
 Phosphoric acid
 2-Propylheptanol, ethoxylated

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substances

n.a.

3.2 Mixtures

Phosphoric acid	Substance for which an EU exposure limit value applies.
Registration number (REACH)	01-2119485924-24-XXXX
Index	015-011-00-6
EINECS, ELINCS, NLP, REACH-IT List-No.	231-633-2
CAS	7664-38-2
content %	10-<25
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Met. Corr. 1, H290 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318
Specific Concentration Limits and ATE	Skin Corr. 1B, H314: >=25 % Skin Irrit. 2, H315: >=10 % Eye Dam. 1, H318: >=25 % Eye Irrit. 2, H319: >=10 %

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2-Propylheptanol, ethoxylated	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	---
CAS	160875-66-1
content %	10-<25
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Eye Dam. 1, H318
Specific Concentration Limits and ATE	Eye Dam. 1, H318: >10 %

Hydrochloric acid	Substance for which an EU exposure limit value applies.
Registration number (REACH)	01-2119484862-27-XXXX
Index	017-002-01-X
EINECS, ELINCS, NLP, REACH-IT List-No.	231-595-7
CAS	7647-01-0
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335
Specific Concentration Limits and ATE	Met. Corr. 1, H290: >=0,1 % Skin Corr. 1B, H314: >=25 % Skin Irrit. 2, H315: >=10 % Eye Irrit. 2, H319: >=10 % STOT SE 3, H335: >=10 %

Hydrofluoric acid	Substance for which an EU exposure limit value applies.
Registration number (REACH)	01-2119458860-33-XXXX
Index	009-003-00-1
EINECS, ELINCS, NLP, REACH-IT List-No.	231-634-8
CAS	7664-39-3
content %	0,1-<0,5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 1, H310 Acute Tox. 2, H300 Acute Tox. 2, H330 Skin Corr. 1A, H314 Eye Dam. 1, H318
Specific Concentration Limits and ATE	Skin Corr. 1A, H314: >=7 % Skin Corr. 1B, H314: >=1 % Eye Irrit. 2, H319: >=0,1 % ATE (oral): 5 mg/kg ATE (dermal): 5 mg/kg ATE (as inhalation, Vapours): 0,5 mg/l/4h

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
 The substances named in this section are given with their actual, appropriate classification!
 For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.
 The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!
 Never pour anything into the mouth of an unconscious person!

Inhalation

Remove person from danger area.

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Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

Respiratory arrest - Artificial respiration apparatus necessary.

Avoid mouth-to-mouth resuscitation.

Skin contact

Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

Cauterizations not treated lead to wounds difficult to heal.

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water - call doctor immediately, have Data Sheet available.

Protect uninjured eye.

Follow-up examination by an ophthalmologist.

Ingestion

Rinse the mouth thoroughly with water.

Do not induce vomiting - give copious water to drink. Consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

Corrosive burns on skin as well as mucous membrane possible.

Necrosis

Risk of serious damage to eyes.

Corneal damage.

Danger of blindness.

Ingestion of large quantities:

Pain in the mouth and throat

Gastrointestinal disturbances

Oesophageal perforation

Gastric perforation

Liver and kidney damage

Metabolism disorders

Disturbed heart rhythm

Cramps

On vapour formation:

Coughing

Irritant to mucosa of the nose and throat

Oedema of the lungs

4.3 Indication of any immediate medical attention and special treatment needed

Skin contact:

Calcium gluconate gel

Ingestion:

Dissolve effervescent calcium tablets in water and give to drink in small sips.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water jet spray/foam/CO2/dry extinguisher

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Oxides of phosphorus

Hydrogen chloride

Hydrofluoric acid

Toxic gases

5.3 Advice for firefighters

For personal protective equipment see Section 8.

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.

Ensure sufficient ventilation, remove sources of ignition.

Avoid dust formation with solid or powder products.

Leave the danger zone if possible, use existing emergency plans if necessary.

Do not take any measures that are associated with personal risk or have not been sufficiently trained.

Keep unprotected persons away.

Avoid contact with eyes or skin.

If applicable, caution - risk of slipping.

6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent surface and ground-water infiltration, as well as ground penetration.

Prevent from entering drainage system.

If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

Neutralising is possible (only from a specialist).

Diluting with water is possible.

Flush residue using copious water.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.

Avoid contact with eyes or skin.

Handle and open container with care.

Also seal emptied tanks and tanks in the process after they have been used.

There should be an eyewash station and safety shower located near the area of use.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.

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Not to be stored in gangways or stair wells.
 Store product closed and only in original packing.
 Do not use acid sensitive materials.
 Acid-resistant floor necessary.
 Do not store with alkalis.
 Store in a well ventilated place.
 Store at room temperature.
 Store in a dry place.

7.3 Specific end use(s)

No information available at present.
 Observe the instructions for good working practice and the recommendations for risk assessment.
 Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries,
 depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

GB	Chemical Name	Phosphoric acid
	WEL-TWA: 1 mg/m3 (WEL, EU)	WEL-STEL: 2 mg/m3 (WEL, EU) ---
	Monitoring procedures:	<ul style="list-style-type: none"> INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air) OSHA ID-111 (Phosphoric Acid in Workplace Atmospheres) OSHA ID-165SG (Acid Mist In Workplace Atmospheres) - 1985
	BMGV: ---	Other information: ---
IRL	Chemical Name	Phosphoric acid
	OELV-8h: 1 mg/m3 (OELV-8h, EU)	OELV-15min: 2 mg/m3 (OELV-15min, EU) ---
	Monitoring procedures:	<ul style="list-style-type: none"> INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air) OSHA ID-111 (Phosphoric Acid in Workplace Atmospheres) OSHA ID-165SG (Acid Mist In Workplace Atmospheres) - 1985
	BLV: ---	Other information: IOELV
M	Chemical Name	Phosphoric acid
	OELV-8h: 1 mg/m3 (OELV-8h, UE)	OELV-ST: 2 mg/m3 (OELV-ST, UE) ---
	Monitoring procedures:	<ul style="list-style-type: none"> INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air) OSHA ID-111 (Phosphoric Acid in Workplace Atmospheres) OSHA ID-165SG (Acid Mist In Workplace Atmospheres) - 1985
	BMGV: ---	Other information: ---
GB	Chemical Name	Hydrochloric acid
	WEL-TWA: HCl 1 ppm (2 mg/m3) (gas and aerosol mists) (WEL), 5 ppm (8 mg/m3) (EU)	WEL-STEL: HCl 5 ppm (8 mg/m3) (gas and aerosol mists) (WEL), 10 ppm (15 mg/m3) (EU) ---
	Monitoring procedures:	<ul style="list-style-type: none"> Draeger - Hydrochloric Acid 0,2/a (81 03 481) Draeger - Hydrochloric Acid 1/a (CH 29 501) Draeger - Hydrochloric Acid 50/a (67 28 181) Compur - KITA-173 SA (548 980) Compur - KITA-173 SB (548 998) DFG (D), DFG (E) (Volatile inorganic acids) - 1997 - EU project BC/CEN/ENTR/000/2002-16 card 93-1 (2004) INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air) OSHA ID-174SG (Hydrogen chloride in workplace atmospheresw) - 1986
	BMGV: ---	Other information: ---
IRL	Chemical Name	Hydrochloric acid
	OELV-8h: HCl 5 ppm (8 mg/m3) (OELV-8h, EU)	OELV-15min: HCl 10 ppm (15 mg/m3) (OELV-15min, EU) ---
	Monitoring procedures:	<ul style="list-style-type: none"> Draeger - Hydrochloric Acid 0,2/a (81 03 481) Draeger - Hydrochloric Acid 1/a (CH 29 501) Draeger - Hydrochloric Acid 50/a (67 28 181) Compur - KITA-173 SA (548 980)

GB IRL M

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- Compur - KITA-173 SB (548 998)
- DFG (D), DFG (E) (Volatile inorganic acids) - 1997 - EU project
- BC/CEN/ENTR/000/2002-16 card 93-1 (2004)
- INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air)
- OSHA ID-174SG (Hydrogen chloride in workplace atmospheresw) - 1986

BLV: ---

Other information: IOELV

Chemical Name Hydrochloric acid

OELV-8h: 5 ppm (8 mg/m3) (OELV-8h, UE)

OELV-ST: 10 ppm (15 mg/m3) (OELV-ST, UE)

Monitoring procedures:

- Draeger - Hydrochloric Acid 0,2/a (81 03 481)
- Draeger - Hydrochloric Acid 1/a (CH 29 501)
- Draeger - Hydrochloric Acid 50/a (67 28 181)
- Compur - KITA-173 SA (548 980)
- Compur - KITA-173 SB (548 998)
- DFG (D), DFG (E) (Volatile inorganic acids) - 1997 - EU project
- BC/CEN/ENTR/000/2002-16 card 93-1 (2004)
- INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air)
- OSHA ID-174SG (Hydrogen chloride in workplace atmospheresw) - 1986

BMGV: ---

Other information: ---

Chemical Name Hydrofluoric acid

WEL-TWA: 1,8 ppm (1,5 mg/m3) (as F) (WEL, EU)

WEL-STEL: 3 ppm (2,5 mg/m3) (as F) (WEL, EU)

Monitoring procedures:

- Draeger - Hydrogen Fluoride 0,5/a (81 03 251)
- Draeger - Hydrogen Fluoride 1,5/b (CH 30 301)
- Compur - KITA-156 S (549 301)
- NIOSH 3800 (ORGANIC AND INORGANIC GASES BY EXTRACTIVE FTIR SPECTROMETRY) - 2016
- NIOSH 7902 (Fluorides, aerosol and gas by ISE) - 1994
- NIOSH 7906 (PARTICULATE FLUORIDES and HYDROFLUORIC ACID by Ion Chromatography) - 2014
- OSHA ID-110 (Fluoride (F⁻ and HF) in workplace atmospheres) - 1991 - EU project BC/CEN/ENTR/000/2002-16 card 95-5 (2004)

BMGV: ---

Other information: ---

Chemical Name Hydrofluoric acid

OELV-8h: 1,8 ppm (1,5 mg/m3) (as F) (OELV-8h, EU)

OELV-15min: 1 ppm (0,8 mg/m3) (as F) (OELV-15min), 3 ppm (2,5 mg/m3) (EU)

Monitoring procedures:

- Draeger - Hydrogen Fluoride 0,5/a (81 03 251)
- Draeger - Hydrogen Fluoride 1,5/b (CH 30 301)
- Compur - KITA-156 S (549 301)
- NIOSH 3800 (ORGANIC AND INORGANIC GASES BY EXTRACTIVE FTIR SPECTROMETRY) - 2016
- NIOSH 7902 (Fluorides, aerosol and gas by ISE) - 1994
- NIOSH 7906 (PARTICULATE FLUORIDES and HYDROFLUORIC ACID by Ion Chromatography) - 2014
- OSHA ID-110 (Fluoride (F⁻ and HF) in workplace atmospheres) - 1991 - EU project BC/CEN/ENTR/000/2002-16 card 95-5 (2004)

BLV: ---

Other information: ---

Chemical Name Hydrofluoric acid

OELV-8h: 1,8 ppm (1,5 mg/m3) (OELV-8h, UE)

OELV-ST: 3 ppm (2,5 mg/m3) (OELV-ST, UE)

Monitoring procedures:

- Draeger - Hydrogen Fluoride 0,5/a (81 03 251)
- Draeger - Hydrogen Fluoride 1,5/b (CH 30 301)
- Compur - KITA-156 S (549 301)
- NIOSH 3800 (ORGANIC AND INORGANIC GASES BY EXTRACTIVE FTIR SPECTROMETRY) - 2016
- NIOSH 7902 (Fluorides, aerosol and gas by ISE) - 1994
- NIOSH 7906 (PARTICULATE FLUORIDES and HYDROFLUORIC ACID by Ion Chromatography) - 2014
- OSHA ID-110 (Fluoride (F⁻ and HF) in workplace atmospheres) - 1991 - EU project BC/CEN/ENTR/000/2002-16 card 95-5 (2004)

BMGV: ---

Other information: ---

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Phosphoric acid						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - inhalation	Long term, local effects	DNEL	0,73	mg/m3	
Consumer	Human - inhalation	Short term, local effects	DNEL	2	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	4,57	mg/m3	
Consumer	Human - inhalation	Long term, local effects	DNEL	0,36	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,1	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	2,92	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	10,7	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	1	mg/m3	

Hydrochloric acid						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	36	µg/l	
	Environment - marine		PNEC	36	µg/l	
	Environment - water, sporadic (intermittent) release		PNEC	45	µg/l	
	Environment - sewage treatment plant		PNEC	36	µg/l	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	15	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	8	mg/m3	

Hydrofluoric acid						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,9	mg/l	
	Environment - marine		PNEC	0,9	mg/l	
	Environment - soil		PNEC	11	mg/kg	
	Environment - sewage treatment plant		PNEC	51	mg/l	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	2,5	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	2,5	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	0,0015	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1,5	mg/m3	

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(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).

(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

(13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

IRL OELV-8h = Occupational Exposure Limit Value (8-hour reference period). (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.

(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). |

OELV-15min = Occupational Exposure Limit Value (15-minute reference period). (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.

(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |

BLV = Biological limit value |

Other information: Carc1A, Carc1B = carcinogenic substance, Cat. 1A or 1B. Muta1A, Muta1B = mutagenic substance, Cat. 1A or 1B. Repr1A, Repr1B = Substances known to be toxic for reproduction, Cat. 1A or 1B. Sk = can be absorbed through skin. Asphx = asphyxiant. Sen = Respiratory sensitizer. BOELV = Binding Occupational Exposure Limit Values. IOELV = Indicative Occupational Exposure Limit Values.

(13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

M OELV-8h = Occupational Exposure Limit Value - 8 h (8-hour reference period as a time-weighted average)

[9] = Inhalable fraction (S.L.424.24), [10] = Respirable fraction (S.L.424.24).

(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). |

OELV-ST = Occupational Exposure Limit Value - Short-term (15-minute reference period)

(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU).

[8] = Short-term exposure limit value in relation to a reference period of 1 minute. (S.L.424.24), [9] = Inhalable fraction (S.L.424.24), [10] = Respirable fraction (S.L.424.24) |

BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) |

Other information: Skin = Possibility of a significant uptake through the skin.

[11] = When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds. (S.L.424.24), [12] = The mist is defined as the thoracic fraction.

(S.L.424.24), [13] = Established in accordance with the Annex to Directive 91/322/EEC. (S.L.424.24), [14] = During exposure monitoring for mercury and its divalent inorganic compounds, account should be taken of relevant biological monitoring techniques that complement the OELV. (S.L.424.24).

(EU13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (EU14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

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These are specified by e.g. EN 14042.
EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles with side protection (EN 166).
If applicable
Face protection (EN 166).

Skin protection - Hand protection:
Use acid resistant protective gloves (EN ISO 374).
Recommended
Protective gloves made of butyl (EN ISO 374).
Minimum layer thickness in mm:
> 0,5
Permeation time (penetration time) in minutes:
>120
Protective hand cream recommended.
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:
Acid-resistant protection clothing (EN 13034)

Respiratory protection:
If OES or MEL is exceeded.
Gas mask filter ABEK-P3 (EN 14387), code colour brown, grey, yellow, green, white
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Red
Odour:	Characteristic
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	There is no information available on this parameter.
Flammability:	There is no information available on this parameter.
Lower explosion limit:	There is no information available on this parameter.

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Upper explosion limit:	There is no information available on this parameter.
Flash point:	There is no information available on this parameter.
Auto-ignition temperature:	There is no information available on this parameter.
Decomposition temperature:	There is no information available on this parameter.
pH:	0
Kinematic viscosity:	There is no information available on this parameter.
Solubility:	Soluble
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	There is no information available on this parameter.
Density and/or relative density:	1,16 g/ml
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

9.2 Other information

Corrosive to metals: Corrosive to aluminium and steel

SECTION 10: Stability and reactivity

10.1 Reactivity

Product corrodes metals.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

Avoid contact with strong alkalis (exothermic reaction possible).

Avoid contact with certain metals e.g. aluminium (development of hydrogen gas possible).

10.4 Conditions to avoid

None known

10.5 Incompatible materials

See also section 7.

Avoid contact with strong alkalis.

Avoid contact with strong oxidizing agents.

Avoid contact with certain metals e.g. aluminium.

Avoid contact with acid sensitive materials.

10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Possibly more information on health effects, see Section 2.1 (classification).

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	668,6	mg/kg			calculated value
Acute toxicity, by dermal route:	ATE	1025,64	mg/kg			calculated value
Acute toxicity, by inhalation:	ATE	>20	mg/l/4h			calculated value, Vapours
Acute toxicity, by inhalation:	ATE	>5	mg/l/4h			calculated value, Aerosol
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.

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Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Phosphoric acid						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	500	mg/kg			
Acute toxicity, by oral route:	LD50	300-2000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by oral route:	LD50	1530	mg/kg	Rat		GESTIS
Skin corrosion/irritation:				Rabbit		Skin Corr. 1B
Serious eye damage/irritation:				Rabbit		Eye Dam. 1
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Symptoms:						respiratory distress, vomiting, coughing, collapse, cramps, mucous membrane irritation, shock

2-Propylheptanol, ethoxylated						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>700-1700	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Symptoms:						mucous membrane irritation

Hydrochloric acid						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	900	mg/kg	Rabbit		
Acute toxicity, by dermal route:	LD50	> 5010	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		Skin Corr. 1B
Serious eye damage/irritation:				Rabbit		Eye Dam. 1
Respiratory or skin sensitisation:				Guinea pig		Not sensitizing
Germ cell mutagenicity:						Negative
Carcinogenicity:						Negative
Reproductive toxicity:						Negative

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Aspiration hazard:						No
Symptoms:						respiratory distress, unconsciousness, coughing, cramps, mucous membrane irritation
Specific target organ toxicity - single exposure (STOT-SE), inhalative:						May cause respiratory irritation.

Hydrofluoric acid						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	5	mg/kg			
Acute toxicity, by dermal route:	ATE	5	mg/kg			
Acute toxicity, by inhalation:	ATE	0,5	mg/l/4h			Vapours
Symptoms:						asthmatic symptoms, respiratory distress, unconsciousness, burning of the membranes of the nose and throat, diarrhoea, disturbed heart rhythm, cornea opacity, coughing, collapse, cramps, shock, nausea and vomiting.

11.2. Information on other hazards

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Endocrine disrupting properties:						n.d.a.
Other information:						n.d.a.

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

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Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.

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12.2. Persistence and degradability:							Inorganic products cannot be eliminated from water through biological purification methods. The surfactant(s) contained in this mixture complies(compl y) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							Does not apply to mixtures.
12.7. Other adverse effects:							No information available on other adverse effects on the environment.
Other information:							DOC-elimination degree(complex ing organic substance)>= 80%/28d: n.a.
Other information:	AOX			%			According to the recipe, contains no AOX.

Phosphoric acid

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
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12.1. Toxicity to fish:	LC50	96h	3,0 - 3,25	mg/l	Lepomis macrochirus		
12.1. Toxicity to daphnia:	EC50	48h	>100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>100	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:							Not relevant for inorganic substances.

2-Propylheptanol, ethoxylated

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>10-100	mg/l	Oncorhynchus tshawytscha		Analogous conclusion
12.1. Toxicity to daphnia:	EC50	48h	>10-100	mg/l	Daphnia magna		Analogous conclusion
12.1. Toxicity to algae:	EC50	72h	10-100	mg/l	Scenedesmus subspicatus		Analogous conclusion
12.2. Persistence and degradability:	BOD	28d	>60	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Hydrochloric acid

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	7,45	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	LC50	96h	24,6	mg/l	Lepomis macrochirus		
12.1. Toxicity to daphnia:	EC50	48h	0,492	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	0,78	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:							Inorganic products cannot be eliminated from water through biological purification methods.
12.3. Bioaccumulative potential:							Bioaccumulation is unlikely (LogPow < 1).
12.4. Mobility in soil:							Not to be expected
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.
 Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
 20 01 29 detergents containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

E.g. dispose at suitable refuse site.

For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Dispose of packaging that cannot be cleaned in the same manner as the substance.



Uncontaminated packaging can be recycled.

15 01 02 plastic packaging



SECTION 14: Transport information

General statements


Transport by road/by rail (ADR/RID)

14.1. UN number or ID number:	3264	
14.2. UN proper shipping name:	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (PHOSPHORIC ACID, HYDROCHLORIC ACID)	
14.3. Transport hazard class(es):	8	
14.4. Packing group:	II	
14.5. Environmental hazards:	Not applicable	
Tunnel restriction code:	E	
Classification code:	C1	
LQ:	1 L	
Transport category:	2	

Transport by sea (IMDG-code)

14.1. UN number or ID number:	3264	
14.2. UN proper shipping name:	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (PHOSPHORIC ACID, HYDROCHLORIC ACID)	
14.3. Transport hazard class(es):	8	
14.4. Packing group:	II	
14.5. Environmental hazards:	Not applicable	
Marine Pollutant:	Not applicable	
IMDG Code segregation group 1 - Strong acids		
EmS:	F-A, S-B	

Transport by air (IATA)

14.1. UN number or ID number:	3264	
14.2. UN proper shipping name:	UN 3264 Corrosive liquid, acidic, inorganic, n.o.s. (PHOSPHORIC ACID, HYDROCHLORIC ACID)	
14.3. Transport hazard class(es):	8	
14.4. Packing group:	II	
14.5. Environmental hazards:	Not applicable	

14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.

All persons involved in transporting must observe safety regulations.

Precautions must be taken to prevent damage.

14.7. Maritime transport in bulk according to IMO instruments

Freighted as packaged goods rather than in bulk, therefore not applicable.

Minimum amount regulations have not been taken into account.

Danger code and packing code on request.

Comply with special provisions.

SECTION 15: Regulatory information

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

Observe restrictions:

Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!

Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC):

0 %

REGULATION (EC) No 648/2004

15 % or over but less than 30 %

phosphates

5 % or over but less than 15 %

non-ionic surfactants

National rules/regulation for the compliance with maximum quantities with regard to phosphates and or phosphorous compounds must be observed and complied with.

National requirements/regulations on safety and health protection must be applied when using work equipment.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections:

15

Employee training in handling dangerous goods is required.

These details refer to the product as it is delivered.

Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Acute Tox. 4, H312	Classification according to calculation procedure.
Acute Tox. 4, H302	Classification according to calculation procedure.
Eye Dam. 1, H318	Classification based on the pH value.
Met. Corr. 1, H290	Classification based on test data.
Skin Corr. 1, H314	Classification based on the pH value.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

H330 Fatal if inhaled.

H300 Fatal if swallowed.

H314 Causes severe skin burns and eye damage.

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H310 Fatal in contact with skin.

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H318 Causes serious eye damage.
 H335 May cause respiratory irritation.

Acute Tox. — Acute toxicity - dermal
 Acute Tox. — Acute toxicity - oral
 Eye Dam. — Serious eye damage
 Met. Corr. — Substance or mixture corrosive to metals
 Skin Corr. — Skin corrosion
 STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
 Acute Tox. — Acute toxicity - inhalation

Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.
 Guidelines for the preparation of safety data sheets as amended (ECHA).
 Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).
 Safety data sheets for the constituent substances.
 ECHA Homepage - Information about chemicals.
 GESTIS Substance Database (Germany).
 German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).
 EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.
 National Lists of Occupational Exposure Limits for each country as amended.
 Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
 AOX Adsorbable organic halogen compounds
 approx. approximately
 Art., Art. no. Article number
 ASTM ASTM International (American Society for Testing and Materials)
 ATE Acute Toxicity Estimate
 BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
 BCF Bioconcentration factor
 BSEF The International Bromine Council
 bw body weight
 CAS Chemical Abstracts Service
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
 CMR carcinogenic, mutagenic, reproductive toxic
 DMEL Derived Minimum Effect Level
 DNEL Derived No Effect Level
 DOC Dissolved organic carbon
 dw dry weight
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
 EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)
 EC European Community
 ECHA European Chemicals Agency
 ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect
 EEC European Economic Community
 EINECS European Inventory of Existing Commercial Chemical Substances
 ELINCS European List of Notified Chemical Substances
 EN European Norms
 EPA United States Environmental Protection Agency (United States of America)
 ErCx, EpCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)
 etc. et cetera

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EU European Union
EVAL Ethylene-vinyl alcohol copolymer
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
Koc Adsorption coefficient of organic carbon in the soil
Kow octanol-water partition coefficient
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC (Code) International Bulk Chemical (Code)
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCID International Uniform Chemical Information Database
IUPAC International Union for Pure Applied Chemistry
LC50 Lethal Concentration to 50 % of a test population
LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
Log Koc Logarithm of adsorption coefficient of organic carbon in the soil
Log Kow, Log Pow Logarithm of octanol-water partition coefficient
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute for Occupational Safety and Health (USA)
NLP No-longer-Polymer
NOEC, NOEL No Observed Effect Concentration/Level
OECD Organisation for Economic Co-operation and Development
org. organic
OSHA Occupational Safety and Health Administration (USA)
PBT persistent, bioaccumulative and toxic
PE Polyethylene
PNEC Predicted No Effect Concentration
ppm parts per million
PVC Polyvinylchloride
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SVHC Substances of Very High Concern
Tel. Telephone
TOC Total organic carbon
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.

These statements were made by:

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