



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Roto-Pren

Version number: 3.0
Replaces version of: 2021-03-09 (2)

Revision: 2021-05-01
First version: 2020-09-07

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

1.1 Product identifier

Trade name	<u>Roto-Pren</u>
Registration number (REACH)	Not relevant (mixture).
CAS number	not relevant (mixture)

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

Relevant identified uses	Disinfectants for instruments
Uses advised against	Do not use for squirting or spraying

1.3 Details of the supplier of the safety data sheet

PLIWA Hygiene GmbH	Telephone: +495661 / 7317 0
Pliwa-Straße 2	Telefax: +495661 / 7317 10
34323 Malsfeld-Ostheim	e-mail: info@pliwa.de
Germany	Website: www.pliwa.de

e-mail (competent person) sdb@csb-online.de

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact PLIWA Hygiene GmbH.

1.4 Emergency telephone number

Emergency information service	PLIWA Hygiene GmbH +49 5661 / 7317 0 This number is only available during the following office hours: Monday-Friday 07:00 - 16:00.
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As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

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Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	3	Flam. Liq. 3	H226
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

The product is combustible and can be ignited by potential ignition sources.

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word danger

Pictograms

GHS02, GHS05,
GHS09



Hazard statements

H226 Flammable liquid and vapour.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist/vapours/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.

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Precautionary statements

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.
P391	Collect spillage.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling

potassium hydroxide
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients









3.1 Substances

Not relevant (mixture).



3.2 Mixtures

Description of the mixture

Aqueous solution, containing surfactants.

Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
propan-2-ol	CAS No 67-63-0 EC No 200-661-7 Index No 603-117-00-0	10 – < 25	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336	 	GHS-HC
potassium hydroxide	CAS No 1310-58-3 EC No 215-181-3 Index No 019-002-00-8	1 – < 5	Met. Corr. 1 / H290 Acute Tox. 4 / H302 Skin Corr. 1A / H314 Eye Dam. 1 / H318	 	GHS-HC
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	CAS No 2372-82-9 EC No 219-145-8	1 – < 5	Acute Tox. 3 / H301 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	   	-

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Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
sodium nitrite	CAS No 7632-00-0 EC No 231-555-9	1 – < 5	Ox. Sol. 3 / H272 Acute Tox. 3 / H301 Eye Irrit. 2 / H319 Aquatic Acute 1 / H400		GHS-HC
boric acid, disodium salt	CAS No 1330-43-4 EC No 215-540-4 Index No 005-011-00-4	0.1 – < 1	Eye Irrit. 2 / H319 Repr. 1B / H360FD		GHS-HC

Notes

GHS- Harmonised classification (the classification of the substance corresponds to the entry in the list according to
HC: 1272/2008/EC, Annex VI)

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
potassium hydroxide	Skin Corr. 1A; H314: C ≥ 5 % Skin Corr. 1B; H314: 2 % ≤ C < 5 % Skin Irrit. 2; H315: 0.5 % ≤ C < 2 % Eye Dam. 1; H318: C ≥ 2 % Eye Irrit. 2; H319: 0.5 % ≤ C < 2 %	-	333 mg/kg	oral
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	-	M-factor (acute) = 100.0	243.6 mg/kg	oral
sodium nitrite	-	-	85 mg/kg	oral
boric acid, disodium salt	Repr. 1B; H360FD: C ≥ 4.5 %	-	-	-

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

Call a physician immediately. Causes poorly healing wounds.

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Following eye contact

Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a doctor.

Following ingestion

Rinse mouth. Do not induce vomiting.
Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

These information are not available.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.
Solvent vapours are heavier than air and may spread along floors.

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Substance or mixture corrosive to metals.

Hazardous combustion products

nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

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

Co-ordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

self-contained breathing apparatus (EN 133)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Avoid contact with skin and eyes.

Do not breathe vapour/spray.

Special danger of slipping by leaking/spilling product.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Explosive atmospheres

Keep container tightly closed and in a well-ventilated place.

Use local and general ventilation.

Keep cool.

Protect from sunlight.

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Flammability hazards

Keep away from sources of ignition - No smoking.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Take precautionary measures against static discharge.

Protect from sunlight.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

high temperatures, frost

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Ventilation requirements

Provision of sufficient ventilation.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
GB	potassium hydroxide	1310-58-3	WEL	-	-	-	2	-	EH40/2005
GB	disodium tetraborate, anhydrous	1330-43-4	WEL	-	1	-	-	-	EH40/2005
GB	propan-2-ol	67-63-0	WEL	400	999	500	1,250	-	EH40/2005

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
propan-2-ol	67-63-0	DNEL	500 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
potassium hydroxide	1310-58-3	DNEL	1 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	DNEL	0.789 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	DNEL	8.96 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
sodium nitrite	7632-00-0	DNEL	2 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
boric acid, disodium salt	1330-43-4	DNEL	6.7 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
boric acid, disodium salt	1330-43-4	DNEL	316.4 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

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Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
propan-2-ol	67-63-0	PNEC	140.9 mg/l	water
propan-2-ol	67-63-0	PNEC	140.9 mg/l	marine water
propan-2-ol	67-63-0	PNEC	2,251 mg/l	sewage treatment plant (STP)
propan-2-ol	67-63-0	PNEC	552 mg/kg	freshwater sediment
propan-2-ol	67-63-0	PNEC	552 mg/kg	marine sediment
propan-2-ol	67-63-0	PNEC	140.9 mg/l	freshwater
propan-2-ol	67-63-0	PNEC	28 mg/kg	soil
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	0.001 mg/l	freshwater
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	0 mg/l	marine water
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	0.18 mg/l	sewage treatment plant (STP)
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	3.2 mg/kg	freshwater sediment
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	0.13 mg/kg	marine sediment
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	45.34 mg/kg	soil
sodium nitrite	7632-00-0	PNEC	0.005 mg/l	freshwater
sodium nitrite	7632-00-0	PNEC	0.006 mg/l	marine water
sodium nitrite	7632-00-0	PNEC	21 mg/l	sewage treatment plant (STP)
sodium nitrite	7632-00-0	PNEC	0.019 mg/kg	freshwater sediment
sodium nitrite	7632-00-0	PNEC	0.022 mg/kg	marine sediment
sodium nitrite	7632-00-0	PNEC	0.001 mg/kg	soil
boric acid, disodium salt	1330-43-4	PNEC	2.9 mg/l	freshwater
boric acid, disodium salt	1330-43-4	PNEC	2.9 mg/l	marine water
boric acid, disodium salt	1330-43-4	PNEC	10 mg/l	sewage treatment plant (STP)
boric acid, disodium salt	1330-43-4	PNEC	5.7 mg/kg	soil
propan-2-ol: PNEC Oral - Predators - Secondary poisoning - 160 mg/kg				

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8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
NBR: acrylonitrile-butadiene rubber	≥ 0,11 mm	>10 minutes (permeation: level 1)
NR: natural rubber, latex	≥ 0,11 mm	>10 minutes (permeation: level 1)
PVC: polyvinyl chloride	≥ 0,11 mm	>10 minutes (permeation: level 1)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	clear - colourless
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	>80 °C
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	2 vol% - 13.4 vol%
Flash point	>23 °C

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Auto-ignition temperature	280 °C
Decomposition temperature	not relevant
pH (value)	>13 (20 °C)
Kinematic viscosity	not determined
Dynamic viscosity	not determined
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient n-octanol/water (log value)	not determined
Vapour pressure	not determined
Density and/or relative density	
Density	1.01 – 1.03 g/cm ³ at 20 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes	there is no additional information
Other safety characteristics	
Temperature class (EU, acc. to ATEX)	T3 (maximum permissible surface temperature on the equipment: 200°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Risk of ignition.
Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharge.

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Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.

10.5 Incompatible materials

acids

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
propan-2-ol	67-63-0	oral	LD50	5,840 mg/kg	rat	OECD Guideline 401	ECHA
propan-2-ol	67-63-0	dermal	LD50	13,100 mg/kg	rabbit	OECD Guideline 402	ECHA
potassium hydroxide	1310-58-3	oral	LD50	333 – 388 mg/kg	rat	OECD Guideline 425	ECHA
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	oral	LD50	243.6 mg/kg	rat, female	OECD Guideline 401	ECHA
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	dermal	LD0	600 mg/kg	rat	-	-
sodium nitrite	7632-00-0	oral	LD50	85 – 180 mg/kg	rat	-	IUCLID
boric acid, disodium salt	1330-43-4	oral	LD50	>2,500 mg/kg	rat	OECD Guideline 401	ECHA

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Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
boric acid, disodium salt	1330-43-4	inhalation: dust/mist	LC50	>2.04 mg/l/4h	rat	OECD Guideline 403	ECHA
boric acid, disodium salt	1330-43-4	dermal	LD50	>2,000 mg/kg	rabbit	-	ECHA

Skin corrosion/irritation

Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure

Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

Endocrine disrupting properties

None of the ingredients are listed.

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Very toxic to aquatic organisms.

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time	Method	Source
propan-2-ol	67-63-0	LC50	9,640 mg/l	fathead minnow (Pimephales promelas)	96 h	OECD Guideline 203	ECHA
propan-2-ol	67-63-0	LC50	>10,000 mg/l	daphnia magna	24 h	OECD Guideline 202	ECHA
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	LC50	0.431 mg/l	zebra fish (Danio rerio)	96 h	OECD Guideline 203	ECHA
sodium nitrite	7632-00-0	LC50	0.54 – 26.3 mg/l	rainbow trout (Oncorhynchus mykiss)	96 h	-	ECHA
sodium nitrite	7632-00-0	LC50	4.93 mg/l	Cherax quadricarinatus	96 h	APHA 1980	ECHA
sodium nitrite	7632-00-0	EC50	15.4 mg/l	daphnia magna	48 h	OECD Guideline 202	ECHA
sodium nitrite	7632-00-0	ErC50	>100 mg/l	algae (Desmodesmus subspicatus)	72 h	OECD Guideline 201	ECHA

Aquatic toxicity (chronic)

Harmful to aquatic life with long lasting effects.

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time	Method	Source
sodium nitrite	7632-00-0	LC50	>20 mg/l	giant tiger prawn (Penaeus monodon)	80 d	APHA (1985) and Buikema et al. (1982)	ECHA

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Name of substance	CAS No	Endpoint	Value	Species	Exposure time	Method	Source
sodium nitrite	7632-00-0	EC50	114.9 mg/l	giant tiger prawn (<i>Penaeus monodon</i>)	80 d	APHA (1985) and Buikema et al. (1982)	ECHA
sodium nitrite	7632-00-0	EC50	510 mg/l	activated sludge, domestic	180 min	OECD Guideline 209	ECHA
sodium nitrite	7632-00-0	NOEC	1.05 mg/l	carp (<i>Cyprinus carpio</i>)	29 d	OECD Guideline 210	ECHA
sodium nitrite	7632-00-0	NOEC	2 mg/l	giant tiger prawn (<i>Penaeus monodon</i>)	80 d	APHA (1985) and Buikema et al. (1982)	ECHA
sodium nitrite	7632-00-0	NOEC	100 mg/l	algae (<i>Desmodesmus subspicatus</i>)	72 h	OECD Guideline 210	ECHA
sodium nitrite	7632-00-0	growth (Eb-Cx) 10%	210 mg/l	activated sludge, domestic	180 min	OECD Guideline 209	ECHA

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
propan-2-ol	67-63-0	oxygen depletion	53 %	5 d	EU method C.5	ECHA
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	oxygen depletion	68 %	28 d	OECD Guideline 306	ECHA

Biodegradation

The relevant substances of the mixture are readily biodegradable.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

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Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW
potassium hydroxide	1310-58-3	-	0.65 – 0.83 (20 °C)
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	3.16	4.46 (20 °C)
sodium nitrite	7632-00-0	-	-3.7
boric acid, disodium salt	1330-43-4	-	-1.53 (pH value: 7.5, 22 °C)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 2

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN2920
IMDG-Code	UN2920
ICAO-TI	UN2920

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14.2 UN proper shipping name

ADR/RID/ADN	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
IMDG-Code	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
ICAO-TI	Corrosive liquid, flammable, n.o.s.
Technical name (hazardous ingredients)	potassium hydroxide, isopropanol

14.3 Transport hazard class(es)

ADR/RID/ADN	8 (3)
IMDG-Code	8 (3)
ICAO-TI	8 (3)

14.4 Packing group

ADR/RID/ADN	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

hazardous to the aquatic environment

Environmentally hazardous substance (aquatic environment) N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

14.6 Special precautions for user


-

14.7 Maritime transport in bulk according to IMO instruments

-

14.8 Information for each of the UN Model Regulations


Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) Additional information

Particulars in the transport document	UN2920, CORROSIVE LIQUID, FLAMMABLE, N.O.S., (potassium hydroxide, isopropanol, solution), 8 (3), II, (D/E), environmentally hazardous
Classification code	CF1
Danger label(s)	8+3, fish and tree
	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274
Excepted quantities (EQ)	E2


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Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	83
Emergency Action Code	3W

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant	yes (hazardous to the aquatic environment) (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Danger label(s)	8+3, fish and tree 
Special provisions (SP)	274
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-C
Stowage category	C

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	8+3 
Excepted quantities (EQ)	E2
Limited quantities (LQ)	0,5 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

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Name	Name acc. to inventory	CAS No	Restriction
Roto-Pren	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	-	R3
boric acid, disodium salt	toxic for reproduction	-	R28-30
propan-2-ol	flammable / pyrophoric	-	R40

Legend

R28-30 1. Shall not be placed on the market, or used,

- as substances,
- as constituents of other substances, or,
- in mixtures,

for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than:

- either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or,
- the relevant concentration specified in Directive 1999/45/EC where no specific concentration limit is set out in Part 3 of Annex VI to Regulation (EC) No 1272/2008.

Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows:

'Restricted to professional users'.

2. By way of derogation, paragraph 1 shall not apply to:

- (a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;
- (b) cosmetic products as defined by Directive 76/768/EEC;
- (c) the following fuels and oil products:
 - motor fuels which are covered by Directive 98/70/EC,
 - mineral oil products intended for use as fuel in mobile or fixed combustion plants,
 - fuels sold in closed systems (e.g. liquid gas bottles);
- (d) artists' paints covered by Directive 1999/45/EC;
- (e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date;
- (f) devices covered by Regulation (EU) 2017/745.

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Legend

- R3
1. Shall not be used in:
 - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
 2. Articles not complying with paragraph 1 shall not be placed on the market.
 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - can be used as fuel in decorative oil lamps for supply to the general public, and
 - present an aspiration hazard and are labelled with H304.
 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
 5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - (a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
 - (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';
 - (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;
- R40
1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
 - metallic glitter intended mainly for decoration,
 - artificial snow and frost,
 - 'whoopie' cushions,
 - silly string aerosols,
 - imitation excrement,
 - horns for parties,
 - decorative flakes and foams,
 - artificial cobwebs,
 - stink bombs.
 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: 'For professional users only'.
 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

Not all ingredients are listed.

Substance of Very High Concern (SVHC)						
Name acc. to inventory	CAS No	Listed in	Remarks	Latest application date	Sunset date	Date of inclusion
disodium tetraborate, anhydrous	1330-43-4	Candidate list	Repr. A57c	-	-	2010-06-18

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Legend

candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV

Repr. A57c Toxic for reproduction (article 57c)

Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100	200	56)
P5c	flammable liquids (cat. 2, 3)	5,000	50,000	51)

Notation

51) flammable liquids, categories 2 or 3 not covered by P5a and P5b

56) hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the ingredients are listed.

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

Regulation on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier. Chemical safety assessments for substances in this mixture were not carried out.

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
3.2	-	Hazardous ingredients: change in the listing (table)

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control

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Abbr.	Descriptions of used abbreviations
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
Met. Corr.	Substance or mixture corrosive to metals
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
Ox. Sol.	Oxidising solid
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit

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Abbr.	Descriptions of used abbreviations
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH).

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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Code	Text
H412	Harmful to aquatic life with long lasting effects.

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.