

SAFETY DATA SHEET

1 – IDENTIFICATION OF SUBSTANCE / AGENT AND COMPANY / FIRM

1.1 Identification of substance / agent

Name: VP reagent

Product code: 3004

1.2 Identified uses of the relevant substance or mixture and uses advised against

Use: Auxiliary reagent for VP test (Voges – Proskauerov test).

1.3 Details of the supplier of the safety data sheet

Name: DIAGNOSTICS s.r.o.

Address: Hodská 68, 924 01 Galanta

Tel.: +421 917 742 927

E-mail: info@diagnostics.sk

1.3 Emergency link

Organization: National toxicological information centre, Limbová 5, 833 05 Bratislava

Tel.: +421-2-54 774 166

2 – IDENTIFICATION OF HAZARDS

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Corrosive to Metals (Category 1), H290

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Dermal (Category 3), H311

Acute toxicity, Dermal (Category 4), H312

Skin sensitization (Sub-category 1A), H317

Serious eye damage (Category 1), H318

Skin corrosion (Sub-category 1A), H314

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Specific target organ toxicity - single exposure, Oral (Category 2), Kidney, H371

Causes skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 3), H412

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram:



Signal Word: Danger

Hazard statement(s)

H225 Highly flammable liquid and vapor.

H290 May be corrosive to metals.

H302 + H312 Harmful if swallowed, in contact with skin.

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.

H335 May cause respiratory irritation.

H371 May cause damage to organs (Kidney) if swallowed.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe dusts or mists.

P273 Avoid release to the environment

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER / doctor if you feel unwell.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

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.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.

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.

3 – COMPOSITION / INFORMATION ON INGREDIENTS

Product contains: VP 1a: 1 – naphthol, VP 1b: Ethyl alcohol, VP 2: Potassium chloride

CAS No.	Component	Percentage	Index No	ES No.
90-15-3	Alpha-Naphthol	10%	604-029-00-5	201-969-4
64-17-5	Ethyl Alcohol	90%	603-002-00-5	200-578-6
1310-58-3	Potassium hydroxide	30%	019-002-00-8	215-181-3

4 – FIRST AID MEASURES

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

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

5 – FIREFIGHTING MEASURES

5.1 Extinguishing media

Dry powder. Dry sand. Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Potassium oxides

Combustible.

Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion. 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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material. Dispose of properly. Clean up affected area. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Avoid generation of dusts.

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations

7 – HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid inhalation of vapour or mist.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene measures

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

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

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. Store in cool place. Handle under nitrogen, protect from moisture. Store under nitrogen. Strongly hygroscopic. Protected from light. Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials, 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1. 2 no other specific uses are stipulated

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Eye/face protection

Face shield and safety glasses 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 Regulation (EU) 2016/425 and the standard EN 374 derived from it.

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. Impervious clothing, Flame retardant antistatic protective clothing., 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 fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges, or type ABEK (EN 14387) 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.

9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

VP 1a: 1-naphthol

- | | |
|---|---|
| a) Physical state | solid |
| b) Color | light blue |
| c) Odor | No data available |
| d) Melting point/freezing point | Melting point/range: 95 - 96 °C |
| e) Initial boiling point and boiling range | 278 - 280 °C at 1.013,25 hPa |
| f) Flammability (solid,gas) | No data available |
| g) Upper/lower flammability or explosive limits | Upper explosion limit: 5 %(V)
Lower explosion limit: 0,8 %(V) |
| h) Flash point 125 °C - closed cup | |
| i) Autoignition temperature | No data available |
| j) Decomposition temperature | No data available |
| k) pH | No data available |
| l) Viscosity Viscosity, kinematic: | No data available |
| Viscosity, dynamic: | No data available |
| m) Water solubility | No data available |
| n) Partition coefficient: | n-octanol/water
log Pow: 2,85 - Bioaccumulation is not expected. |
| o) Vapor pressure | 2,3 hPa at 100 °C |
| p) Density | 1,28 g/cm ³ at 20 °C |
| Relative density | 1,27 at 20 °C - OECD Test Guideline 109 |
| q) Relative vapor density | No data available |
| r) Particle characteristics | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | none |

VP 1b: Ethanol

- | | | |
|--------------------|---------|------------------------|
| a) Appearance | Form: | liquid |
| | Colour: | colourless |
| b) Odour | | pungent |
| c) Odour Threshold | | No data available |
| d) pH | | 7,0 at 10 g/l at 20 °C |

e) Melting point/freezing point

Melting point/range: -114 °C - lit.

f) Initial boiling point and boiling range

78 °C - lit.

g) Flash point

13 °C - closed cup

h) Evaporation rate

No data available

i) Flammability (solid, gas)

No data available

j) Upper/lower flammability or explosive limits

Upper explosion limit: 13,5 % (V)

Lower explosion limit: 2,5 % (V)

k) Vapour pressure

0,57 hPa at 19,6 °C

l) Vapour density

1,6

m) Relative density

0,816 g/cm³ at 25 °C

n) Water solubility

1.000 g/l at 20 °C - completely miscible

o) Partition coefficient:

n-octanol/water

log Pow: -0,35 at 24 °C - Bioaccumulation is not expected.

p) Auto-ignition temperature

455 °C at 1.013 hPa - DIN 51794

q) Decomposition temperature

Distillable in an undecomposed state at normal pressure.

r) Viscosity

No data available

s) Explosive properties

No data available

t) Oxidizing properties

No data available

VP 2: Potassium hydroxide

a) Appearance

Form: liquid

Color: colorless

b) Odor

odorless

c) Odor Threshold

Not applicable

d) pH

ca.13,5 at 5,6 g/l at 25 °C

e) Melting point/freezing point

Melting point: 360 °C

f) Initial boiling point and boiling range

1.327 °C at 1.013 hPa

g) Flash point

Not applicable

h) Evaporation rate

No data available

i) Flammability (solid, gas)

No data available

j) Upper/lower flammability or explosive limits

No data available

k) Vapor pressure

1 hPa at 719 °C

l) Vapor density

No data available

m) Density

2,04 g/cm³ at 20 °C

Relative density

No data available

n) Water solubility

1.130 g/l at 20 °C

o) Partition coefficient: n-octanol/water

Not applicable for inorganic substances

p) Autoignition temperature

No data available

q) Decomposition temperature

No data available

r) Viscosity

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

9.2 Other safety informationVP 1a: Bulk density ca.450 kg/m³

Surface tension ca.0,06 N/m at 1g/l at 20,3 °C

- OECD Test Guideline 115

VP 1b: Conductivity < 1 µS/cm
Surface tension 72,75 mN/m at 20 °C
Relative vapour density 1,6

10 – STABILITY AND REACTIVITY

10.1 Reactivity

Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical. The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Exothermic reaction with:

Strong oxidizing agents

Violent reactions possible with:

strong alkalis

Acid chlorides

Acid anhydrides

10.4 Conditions to avoid

Warming, strong heating

10.5 Incompatible materials

animal/vegetable tissues, glass, various plastics, Metals

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

11 – TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

VP 1a : 1-naphthol

Acute toxicity

LD50 Oral - Mouse - male and female - 1.000 - 2.000 mg/kg

Remarks: (ECHA)

Acute toxicity estimate Oral - 1.000 mg/kg

(Calculation method)

Inhalation: No data available

LD50 Dermal - Rabbit - male - >= 880 mg/kg

Remarks: (ECHA)

Acute toxicity estimate Dermal - 880 mg/kg

(Calculation method)

Skin corrosion/irritation

Causes skin irritation. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - Chicken eye

Result: Causes serious eye damage. - 10 s

(OECD Test Guideline 438)

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: positive

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 476

Result: positive

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive

Test Type: unscheduled DNA synthesis assay
Species: Rat
Cell type: Liver cells
Application Route: Oral
Method: OECD Test Guideline 486
Result: negative

Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Oral - May cause damage to organs. - Kidney

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

VP 1b: Ethanol**Acute toxicity**

LD50 Oral - Rat - male and female - 10.470 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - 124,7 mg/l

(OECD Test Guideline 403)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 24 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye irritation. (OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximisation Test - Guinea pig

Result: negative (OECD Test Guideline 406)

Remarks: (in analogy to similar products)

Germ cell mutagenicity

Ames test

Salmonella typhimurium

Result: negative

In vitro mammalian cell gene mutation test

mouse lymphoma cells

Result: negative

OECD Test Guideline 478

Mouse - male

Result: Positive results were obtained in some in vivo tests.

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

Repeated dose toxicity - Rat - male - Oral - No observed adverse effect level - 1.730 mg/kg

- Lowest observed adverse effect level - 3.200 mg/kg

RTECS: KQ6300000

irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea,

Vomiting

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

VP 2: Potassium hydroxide**Acute toxicity**

LD50 Oral - Rat - male - 333 mg/kg

(OECD Test Guideline 425)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns.

Remarks: (IUCLID)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

Causes serious eye damage.

Respiratory or skin sensitization

Sensitisation test: - Guinea pig

Result: negative

Remarks: (IUCLID)

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Carcinogenicity

No data available

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

11.2 Additional Information

VP1a: Repeated dose toxicity - Rat - male and female - Oral - 90 Days - NOAEL (No observed adverse effect level) - 130 mg/kg - LOAEL (Lowest observed adverse effect level) - 400 mg/kg

Cough, Shortness of breath, Headache, Nausea, Vomiting

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

VP2: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After uptake:

Vomiting

shock

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12 – ECOLOGICAL INFORMATION

12.1 Toxicity

- VP 1a: Toxicity to fish LC50 - *Lepomis macrochirus* (Bluegill) - 0,76 mg/l - 96 h
Remarks: (ECOTOX Database)
- Toxicity to daphnia and other aquatic invertebrates
static test EC50 - *Daphnia magna* (Water flea) - 2,51 mg/l - 48 h
(OECD Test Guideline 202)
- Toxicity to algae static test ErC50 - *Pseudokirchneriella subcapitata* - > 2,18 mg/l - 72 h
(OECD Test Guideline 201)
- VP 1b: Toxicity to fish flow-through test LC50 - *Pimephales promelas* (fathead minnow) - 15.300 mg/l - 96 h
(US-EPA)
- Toxicity to daphniaband other aquatic invertebrates
static test LC50 - *Ceriodaphnia dubia* (water flea) - 5.012 mg/l – 48 h
Remarks: (ECHA)
- Toxicity to algae static test ErC50 - *Chlorella vulgaris* (Fresh water algae) - 275 mg/l - 72 h
(OECD Test Guideline 201)
- Toxicity to bacteria static test IC50 - activated sludge - > 1.000 mg/l - 3 h
(OECD Test Guideline 209)
- VP 2: Toxicity to fish LC50 - *Gambusia affinis* (Mosquito fish) - 80 mg/l - 96 h
Remarks: (IUCLID)

12.2 Persistence and degradability

VP1a: Biodegradability aerobic - Exposure time 29 d
Result: 77,8 % - Readily biodegradable.
(OECD Test Guideline 301B)

Theoretical oxygen demand 2,55 mg/l
Remarks: (Lit.)

Ratio BOD/ThBOD 60 %
Remarks: (Lit.)

VP1b: Biodegradability aerobic - Exposure time 15 d
Result: ca.95 % - Readily biodegradable.
(OECD Test Guideline 301E)

Biochemical Oxygen Demand (BOD) 930 - 1.670 mg/g
Remarks: (Lit.)

Theoretical oxygen Demand 2.100 mg/g
Remarks: (Lit.)

VP 2: The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

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

Additional ecological information No data available

12.7 Other adverse effects

No data available

13 – DISPOSAL INFORMATION

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product.

14 – TRANSPORT INFORMATION

14.1 UN number

ADR/RID: - IMDG: - IATA: -

Refer to component MSDS

14.2 UN proper shipping name

ADR/RID: Refer to component MSDS

IMDG: Refer to component MSDS

IATA: Refer to component MSDS

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

Refer to component MSDS

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

Refer to component MSDS

14.5 Environmental hazards

ADR/RID: - IMDG: - IATA: -

Refer to component MSDS

14.6 Special precautions for user

no data available

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

no data available

15 – REGULATORY INFORMATION

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

This Safety Data Sheet is prepared in accordance with formatting described in the REACH Regulation (EC) No 1907/2006, in CLP Regulation (EC) No 1272/2008 and in Annex II of Commission Regulation (EU) No 2015/830.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances: ENVIRONMENTAL HAZARDS

Other regulations

SDS according to directive EC 1907/2006 (REACH), and Commission Regulation (EU) No 2020/878

Version: 1.1

Product code: 3004

05.12.2022

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Operating limits:

Take note of Dir 94/33/EC on the protection of young people at work

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

16 – OTHER INFORMATION

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

H225 Highly flammable liquid and vapour.

H290 May be corrosive to metals.

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.

H335 May cause respiratory irritation.

H371 May cause damage to organs if swallowed.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

Information stated in this safety data sheet is based on current state of our knowledge.

It characterises product with consideration on adequate safety measures. It does not represent warranty of material properties.
