



PLUSOL-R-102-74

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

1.1. Product identifier

Product form : Mixture
Product name : PLUSOL-R-102-74

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

1.2.1. Relevant identified uses

Main use category : Industrial use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Respiratory sensitisation, Category 1	H334
Skin sensitisation, Category 1	H317
Reproductive toxicity, Category 1B	H360
Specific target organ toxicity – Repeated exposure, Category 2	H373
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Toxic to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

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Contains	: dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)] stannane; Polyproxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base; Reaction products of phosphoryl trichloride and 2-methyloxirane; N1,N2-dimethyl-N1-{2-[methyl(propan-2-yl)amino]ethyl}-N2-(propan-2-yl)ethane-1,2-diamine; 2,2' -oxybisethanol; diethylene glycol; phthalic anhydride
Hazard statements (CLP)	: H302 - Harmful if swallowed. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H360 - May damage fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P272 - Contaminated work clothing should not be allowed out of the workplace.
Extra phrases	: Restricted to professional users.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Polyproxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base	CAS-No.: 68610-97-9 EC-No.: 614-668-1	$\geq 25 - < 50$	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Chronic 2, H411
2,2' -oxybisethanol; diethylene glycol	CAS-No.: 111-46-6 EC-No.: 203-872-2 EC Index-No.: 603-140-00-6	$\geq 10 - < 25$	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight)
Reaction products of phosphoryl trichloride and 2-methyloxirane	CAS-No.: 1244733-77-4 EC-No.: 807-935-0 REACH-no: 01-2119486772-26	$\geq 10 - < 25$	STOT RE 2, H373 Aquatic Chronic 3, H412
phthalic anhydride	CAS-No.: 85-44-9 EC-No.: 201-607-5 EC Index-No.: 607-009-00-4	$\geq 5 - < 10$	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Skin Irrit. 2, H315 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Reaction products of tetrabromophthalic anhydride with 2,2'-oxydiethanol and methyloxirane	CAS-No.: 77098-07-8 EC-No.: 616-436-5	≥ 3 – < 5	Aquatic Chronic 2, H411
N1,N2-dimethyl-N1-[2-[methyl(propan-2-yl)amino]ethyl]-N2-(propan-2-yl)ethane-1,2-diamine	CAS-No.: 1042950-30-0 EC-No.: 950-627-7	≥ 1 – < 3	Acute Tox. 4 (Oral), H302 (ATE=300 mg/kg bodyweight) Aquatic Chronic 3, H412
dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)]stannane	CAS-No.: 77-58-7 EC-No.: 201-039-8 EC Index-No.: 050-030-00-3	≥ 0.1 – < 1	Muta. 2, H341 Repr. 1B, H360FD STOT RE 1, H372
ethanediol; ethylene glycol	CAS-No.: 107-21-1 EC-No.: 203-473-3 EC Index-No.: 603-027-00-1 REACH-no: 01-2119456816-28	0.1375 – 0.275	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight)

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: None under normal conditions.
Chronic symptoms	: May damage fertility or the unborn child.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

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5.3. Advice for firefighters

- | | |
|--------------------------------|---|
| Firefighting instructions | : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- | | |
|------------------|---|
| General measures | : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage. |
|------------------|---|

6.1.1. For non-emergency personnel

- | | |
|----------------------|--|
| Protective equipment | : Wear recommended personal protective equipment. |
| Emergency procedures | : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray. |

6.1.2. For emergency responders

- | | |
|----------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. Stop leak if safe to do so. |

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- | | |
|-------------------------|---|
| For containment | : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible. |
| Methods for cleaning up | : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. |
| Other information | : Dispose of materials or solid residues at an authorized site. |

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- | | |
|-----------------------------------|---|
| Additional hazards when processed | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Precautions for safe handling | : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. |
| Hygiene measures | : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

- | | |
|---------------------|---|
| Technical measures | : Keep in a cool, well-ventilated place away from heat. |
| Storage conditions | : Store locked up. |
| Packaging materials | : Store always product in container of same material as original container. |

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- | | |
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| Storage class (LGG, TRGS 510) | : LGG 6.1D - Non-combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects |
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Joint storage table

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for

: LGK 1, LGK 2A, LGK 4.1A, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.2, LGK 7

Joint storage with restrictions permitted for

: LGK 3, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1B

Joint storage permitted for

: LGK 2B, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

ethanediol; ethylene glycol (107-21-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Ethylene glycol
IOEL TWA	52 mg/m ³
	20 ppm
IOEL STEL	104 mg/m ³
	40 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
phthalic anhydride (85-44-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Phthalic anhydride
Remark	Respiratory sensitizer; skin sensitizer. (Year of adoption 2010)
Regulatory reference	SCOEL Recommendations

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

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8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: light yellow.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Non flammable.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 400 mm ² /s
Viscosity, dynamic	: 520 cP
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 1.2 g/ml
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

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9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

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ATE CLP (oral)	1565.435 mg/kg bodyweight
dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)] stannane (77-58-7)	
LD50 oral rat	2071 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1207 - 5106
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
ethanediol; ethylene glycol (107-21-1)	
LD50 oral rat	7712 mg/kg bodyweight Animal: rat
Polyproxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base (68610-97-9)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity)

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Reaction products of phosphoryl trichloride and 2-methyloxirane (1244733-77-4)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 7 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: OECD Guideline 433 draft (Acute Inhalation Toxicity: Fixed Concentration Procedure) (not officially approved)
N1,N2-dimethyl-N1-{2-[methyl(propan-2-yl)amino]ethyl}-N2-(propan-2-yl)ethane-1,2-diamine (1042950-30-0)	
LD50 oral rat	300 – 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
phthalic anhydride (85-44-9)	
LD50 oral rat	1530 mg/kg bodyweight Animal: rat, Animal sex: male
LC50 Inhalation - Rat	> 2.14 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
Reaction products of tetrabromophthalic anhydride with 2,2'-oxydiethanol and methyloxirane (77098-07-8)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity)
LD50 dermal rabbit	> 20000 mg/kg bodyweight Animal: rabbit
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
2,2' -oxybisethanol; diethylene glycol (111-46-6)	
NOAEL (chronic, oral, animal/male, 2 years)	1210 mg/kg bodyweight Animal: rat, Animal sex: male
NOAEL (chronic, oral, animal/female, 2 years)	1160 mg/kg bodyweight Animal: rat, Animal sex: female
phthalic anhydride (85-44-9)	
NOAEL (chronic, oral, animal/male, 2 years)	3570 mg/kg bodyweight Animal: mouse, Animal sex: male
NOAEL (chronic, oral, animal/female, 2 years)	1785 mg/kg bodyweight Animal: mouse, Animal sex: female
Reproductive toxicity	: May damage fertility or the unborn child.
dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)] stannane (77-58-7)	
NOAEL (animal/male, F0/P)	1.9 – 2.3 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
NOAEL (animal/female, F0/P)	1.7 – 2.4 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
Reaction products of phosphoryl trichloride and 2-methyloxirane (1244733-77-4)	
LOAEL (animal/female, F0/P)	≈ 99 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/male, F0/P)	≈ 85 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
phthalic anhydride (85-44-9)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

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dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)] stannane (77-58-7)	
STOT-repeated exposure	Causes damage to organs (immune system) through prolonged or repeated exposure.
Polyproxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base (68610-97-9)	
NOAEL (oral, rat, 90 days)	37.5 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Reaction products of phosphoryl trichloride and 2-methyloxirane (1244733-77-4)	
LOAEL (oral, rat, 90 days)	≈ 99 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:
NOAEL (oral, rat, 90 days)	≈ 85 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: other:
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
N1,N2-dimethyl-N1-{2-[methyl(propan-2-yl)amino]ethyl}-N2-(propan-2-yl)ethane-1,2-diamine (1042950-30-0)	
NOAEL (oral, rat, 90 days)	≥ 180 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
2,2' -oxybisethanol; diethylene glycol (111-46-6)	
LOAEL (oral, rat, 90 days)	40000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
phthalic anhydride (85-44-9)	
NOAEL (oral, rat, 90 days)	500 mg/kg bodyweight Animal: rat
Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)	
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Viscosity, kinematic	300 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)] stannane (77-58-7)	
LC50 - Fish [1]	21.2 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	1.7 – 3.4 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	< 463 µg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ethanediol; ethylene glycol (107-21-1)	
LC50 - Fish [1]	> 72860 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna

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ethanediol; ethylene glycol (107-21-1)	
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'
Polyproxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base (68610-97-9)	
LC50 - Fish [1]	8.8 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	6.5 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	5.6 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	4 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
Reaction products of phosphoryl trichloride and 2-methyloxirane (1244733-77-4)	
LC50 - Fish [1]	56.2 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	131 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	82 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	32 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
N1,N2-dimethyl-N1-{2-[methyl(propan-2-yl)amino]ethyl}-N2-(propan-2-yl)ethane-1,2-diamine (1042950-30-0)	
LC50 - Fish [1]	> 65.3 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	65.34 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	31.38 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
2,2' -oxybisethanol; diethylene glycol (111-46-6)	
LC50 - Fish [1]	75200 mg/l Test organisms (species): Pimephales promelas
EC50 96h - Algae [1]	6500 – 13000 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	9362 mg/l Test organisms (species): other:
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'
phthalic anhydride (85-44-9)	
EC50 - Crustacea [1]	> 640 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	> 640 mg/l Test organisms (species):
NOEC (chronic)	16 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	10 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '60 d'
Reaction products of tetrabromophthalic anhydride with 2,2'-oxydiethanol and methyloxirane (77098-07-8)	
LC50 - Fish [1]	12 mg/l Test organisms (species): Lepomis macrochirus
EC50 96h - Algae [1]	4.391 mg/l Test organisms (species): other:
EC50 96h - Algae [2]	9.052 mg/l Test organisms (species): other:
NOEC chronic fish	1.258 mg/l Test organisms (species): other: Duration: '21 d'

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12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable
dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)] stannane (77-58-7)	
Persistence and degradability	Not rapidly degradable
ethanediol; ethylene glycol (107-21-1)	
Persistence and degradability	Not rapidly degradable
Polyproxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base (68610-97-9)	
Persistence and degradability	Not rapidly degradable
Reaction products of phosphoryl trichloride and 2-methyloxirane (1244733-77-4)	
Persistence and degradability	Not rapidly degradable
N1,N2-dimethyl-N1-{2-[methyl(propan-2-yl)amino]ethyl}-N2-(propan-2-yl)ethane-1,2-diamine (1042950-30-0)	
Persistence and degradability	Not rapidly degradable
2,2' -oxybisethanol; diethylene glycol (111-46-6)	
Persistence and degradability	Not rapidly degradable
phthalic anhydride (85-44-9)	
Persistence and degradability	Not rapidly degradable
Reaction products of tetrabromophthalic anhydride with 2,2'-oxydiethanol and methyloxirane (77098-07-8)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

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HP Code

: HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.
HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.
HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.
HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.
HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
30.	dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)] stannane	Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals): dibutyltin dilaurate (77-58-7)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Germany

Employment restrictions	: Observe restrictions according Act on the Protection of Working Mothers (MuSchG). Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).
Water hazard class (WGK)	: WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).
Chemicals Prohibition Ordinance (ChemVerbotsV)	: This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4

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Full text of H- and EUH-statements:	
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H360	May damage fertility or the unborn child.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

The classification complies with : ATP 12

SDS EU (PLUSKIM)

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