

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SulNOx Eco

Version 1

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GB / EN

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name : SulNOx Eco

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

Use of the : Specific use(s): Surfactant Substance/Mixture

1.3 Details of the supplier of the safety data sheet

Company : Nouryon Surface Chemistry AB
Stenunge Alle 3
SE 444 85 Stenungsund
Sweden

Telephone : +4630385000
Telefax : +4630384659
E-mail address : Regulatory.Affairs@nouryon.com

1.4 Emergency telephone number

Emergency telephone number : 020 99 60 00 Kemiakuten, SE +31 57 06 79 211 24 hours emergency response number

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, 4, H302
Acute toxicity, 4, H332
Acute toxicity, 4, H312
Skin irritation, 2, H315
Serious eye damage, 1, H318
Long-term (chronic) aquatic hazard, 3, H412

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

2.2 Label elements Labelling (REGULATION (EC) No 1272/2008)



Pictogram

:

Signal word

: Danger

Hazard statements

: H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.

H315

Causes skin irritation.

H318

Causes serious eye damage.

H412

Harmful to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**

P261

Avoid breathing mist, vapours or spray.

P264

Wash skin thoroughly after handling.

P273

Avoid release to the environment.

P280

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

Response:

P302 + P352 + P312

IF ON SKIN: Wash with plenty of water.

Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 + P310

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Hazardous components which must be listed on the label:

Glycol ethers

Amides, C8-18 and C18-unsatd., N,N-bis(hydroxyethyl) 68155-07-7

2.3 Other hazards

No further data available.

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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Pure substance/mixture : Mixture

Hazardous substance

Chemical name	PBT vPvB OEL	CAS-No. EC-No. REACH No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
2-Butoxyethanol		111-76-2 203-905-0 01-2119475108-36	Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 80 - < 90
Amides, C8-18 and C18-unsatd., N,N-bis(hydroxyethyl)		68155-07-7 268-935-9	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 15 - < 20
2-Propylheptanol ethoxylate		160875-66-1	Eye Irrit. 2; H319	>= 1 - < 5
Diethanolamine		111-42-2 203-868-0 01-2119488930-28	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Repr. 2; H361fd STOT RE 2; H373	>= 0.1 - < 1

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Status : Not applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice : Immediate medical attention is required.

Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled : If breathed in, move person into fresh air.
Consult a physician after significant exposure.

In case of skin contact: Take off contaminated clothing and shoes immediately. Wash the skin immediately with soap and water.
If skin irritation persists, call a physician.

In case of eye contact : Rinse with plenty of water.
Get medical attention immediately. Continue to rinse during transport.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

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

Risks : Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye damage.

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

Treatment : Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture.

Specific hazards during firefighting / Specific hazards arising from the chemical : Water spray may be ineffective unless used by experienced firefighters.
Do not allow run-off from firefighting to enter drains or water courses.

Combustion products **5.3 Advice for firefighters** : Carbon oxides
Nitrogen oxides (NOx)

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
For safety reasons in case of fire, cans should be stored separately in closed containments.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures Personal

precautions: Use personal protective equipment.

Wear respiratory protection.
Ensure adequate ventilation.

Emergency measures on: Evacuate personnel to safe areas.
accidental release Only qualified personnel equipped with suitable protective equipment may intervene.
Prevent unauthorised persons entering the zone.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up.

Methods for cleaning up /: Soak up with inert absorbent material (e.g. sand, silica gel, Methods for containment acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal considerations see section 13.
For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.
Avoid formation of aerosol.
Do not breathe vapours or spray mist.
Avoid contact with skin, eyes, and clothing.
Smoking, eating, and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Avoid formation of aerosol.
Keep away from sources of ignition - No smoking.
No sparking tools should be used.

Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities.

Requirements for storage areas and containers : Prevent unauthorized access.
 No smoking.
 Keep container tightly closed in a dry and well-ventilated place.

Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : No information available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Glycol ethers		TWA	20 ppm 98 mg/m ³	2000-06-16	2000/39/EC	
	Further information	:	skin: Identifies the possibility of significant uptake through the skin Indicative			
		STEL	50 ppm 246 mg/m ³	2000-06-16	2000/39/EC	
	Further information	:	skin: Identifies the possibility of significant uptake through the skin Indicative			
		TWA	25 ppm	2005-04-06	GB EH40	
	Further information	:	Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	50 ppm	2005-04-06	GB EH40	
	Further information	:	Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

ACGIH: American Conference of Governmental Industrial Hygienists

AGW: Arbeitsplatzgrenzwert

BEI: Biological Exposure Index

MAC: Maximum Allowable Concentration

NIOSH: National Institute for Occupational Safety and Health

OEL: OEL: Occupational exposure limit.

STEL: Short term exposure limit

TRGS: Technische Regel für Gefahrstoffe

TWA: Time Weighted Average

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Update
2-Butoxyethanol	111-76-2	butoxyacetic acid: 240 Millimoles per mole Creatinine (Urine)	After shift	2011-12-18

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Diethanolamine	Workers	Skin contact	Long-term systemic effects	0.13 mg/kg bw/day
	Workers	Inhalation	Long-term local effects	0.5 mg/m3
	Workers	Inhalation	Long-term systemic effects	0.75 mg/m3
	Consumers	Skin contact	Long-term systemic effects	0.07 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.06 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.125 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Diethanolamine	Fresh water	0.021 mg/l
	Marine water	0.002 mg/l
	Intermittent use/release	0.095 mg/l
	Fresh water sediment	0.092 mg/kg dry weight
	Marine sediment	0.0092 mg/kg dry weight
	Sewage treatment plant	100 mg/l
	Soil	1.63 mg/kg dry weight
	Secondary Poisoning	1.04 mg/kg food

8.2 Exposure controls

Engineering controls

Effective exhaust ventilation system

Ensure that eyewash stations and safety showers are close to the workstation location. **Personal protective equipment**

Respiratory protection : In the case of vapour or aerosol formation use a respirator with an approved filter.

Hand protection	: Neoprene Nitrile rubber
Eye protection	: Tightly fitting safety goggles
Skin and body protection	: Protective suit
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

Environmental exposure controls

General advice	: Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties Appearance

Form	: liquid
Colour	: clear light yellow
Odour	: No information available.
Odour Threshold	: No data available
Safety data	
pH	: No data available
Melting point	: No data available
Boiling point	: No data available
Flash point	: 67 °C Method: Pensky-Martens closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	:
Flammability (liquids)	: No data available
Lower explosion limit	: Not applicable

Upper explosion limit	: Not applicable
Vapour pressure	: No data available
Relative vapour density	: No data available
Density	: 918.2 kg/m ³ at 20 °C
Relative density	: No data available
Water solubility	: dispersible
Solubility in other solvents	: No data available
Partition coefficient: noctanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, dynamic	: 9 mPa.s at 20 °C
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

9.2 Other information

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid.

Conditions to avoid : Heat, flames, and sparks.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

Thermal decomposition : No data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects Product information:

Acute toxicity : Harmful if swallowed, in contact with skin or if inhaled.

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/eye irritation : Causes serious eye damage.

Respiratory or skin sensitisation : Respiratory sensitisation: Not classified based on available information.
Skin sensitisation: Not classified based on available information.

Germ cell mutagenicity : Not classified based on available information.

Carcinogenicity : Not classified based on available information.

Reproductive toxicity : Not classified based on available information.

STOT - single exposure : Not classified based on available information.

STOT - repeated exposure : Not classified based on available information.

Aspiration hazard : Not classified based on available information.

Further information : Suspected of damaging fertility or the unborn child.

Test result

Acute oral toxicity : Acute toxicity estimate: 625 mg/kg Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 13.75 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: 1,375 mg/kg Method: Calculation method

Toxicology data for the components:

2-Butoxyethanol Acute toxicity:

Acute oral toxicity : LD50: > 300 - 2,000 mg/kg

Acute inhalation toxicity : LC50 > 10 - 20 mg/l Exposure time: 4h
Test atmosphere: vapour
Method: Calculation method
Information taken from reference works and the literature.

Acute dermal toxicity : LD50: > 1,000 - 2,000 mg/kg Species:
Method: Calculation method
Information taken from reference works and the literature.

Skin corrosion/irritation : Result: Irritating to skin.

Serious eye damage/eye irritation : Result: Irritating to eyes.

Amides, C8-18 and C18-unsatd., N,N-bis(hydroxyethyl)

Acute toxicity:

Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat
Method: OECD Test Guideline 401

Skin corrosion/irritation : Skin irritation

Serious eye damage/eye irritation : Result: Risk of serious damage to eyes.

2-Propylheptanol ethoxylate

Acute toxicity:

Acute oral toxicity : LD50: > 2,000 mg/kg

	:
	: Read across (Analogy)
Skin corrosion/irritation	: Result: No skin irritation
Serious eye damage/eye irritation	: Result: Mild eye irritation
Respiratory or skin sensitisation	: Result: Does not cause skin sensitisation.
Repeated dose toxicity	: 250 mg/kg
Teratogenicity	: > 250 mg/kg
Diethanolamine	
Acute toxicity:	
Acute oral toxicity	: LD50: 1,600 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	: Not classified due to data which are conclusive although insufficient for classification.
Acute dermal toxicity	: No data available
Skin corrosion/irritation	: Result: Irritating to skin. Method: OECD Test Guideline 404
Serious eye damage/eye irritation	: Result: Risk of serious damage to eyes. Method: OECD Test Guideline 405
Respiratory or skin sensitisation	: Result: Does not cause skin sensitisation. Method: OECD Test Guideline 406
Germ cell mutagenicity	
Genotoxicity in vitro	: Negative
Genotoxicity in vivo	: Chromosome aberration test in vivo : Result: negative
Carcinogenicity	: Result: Not classified due to data which are conclusive although insufficient for classification.

CMR effects Reproductive toxicity	: Some evidence of adverse effects
STOT - single exposure	: Based on available data, the classification criteria are not met.
STOT - repeated exposure	Exposure routes: Oral Target Organs: Blood, Liver, Kidney, Nervous system May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified due to data which are conclusive although insufficient for classification.

SECTION 12: ECOLOGICAL INFORMATION

Product information:

Ecotoxicology Assessment

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.

12.1 Toxicity

Components:

Ecotoxicology Assessment

Diethanolamine

Short-term (acute) aquatic hazard **Test result** : Toxic to aquatic life.

2-Butoxyethanol

Toxicity to fish : LC50: 1,490 mg/l Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50: > 1,000 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202

Amides, C8-18 and C18-unsatd., N,N-bis(hydroxyethyl)

Toxicity to fish : LC50: 4.9 mg/l
Exposure time: 96 h

LC50: 2.4 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50: 3.3 mg/l
Exposure time: 24 h
Species: Daphnia magna (Water flea)
Test Type: static test

Toxicity to algae : NOEC: 2 mg/l
Exposure time: 72 h
Species: Scenedesmus subspicatus (algae)

2-Propylheptanol ethoxylate

Toxicity to fish : LC50: > 1 - 10 mg/l
Exposure time: 96 h
Read-across (Analogy)

Toxicity to daphnia and other: EC50: > 1 - 10 mg/l
aquatic invertebrates Exposure time: 48 h
Species: Daphnia magna (Water flea)
Read-across (Analogy)

Toxicity to algae : EC50: > 10 - 100 mg/l
Exposure time: 72 h
Species: Scenedesmus subspicatus (algae)
Read-across (Analogy)

Diethanolamine

Toxicity to fish : LC50: > 100 mg/l Exposure
time: 96 h
Test Type: static test
Information taken from reference works and the literature.

Toxicity to daphnia and other: EC50: > 10 - 100 mg/l
aquatic invertebrates Exposure time: 48 h
Species: Daphnia magna (Water flea)
Information taken from reference works and the literature.

Toxicity to algae : EC50: > 1 - 10 mg/l
Exposure time: 96 h
Species: Pseudokirchneriella subcapitata (green algae)

Toxicity to daphnia and other : NOEC: 1.05 mg/l
aquatic invertebrates Exposure time: 21 d
(Chronic toxicity) Species: Daphnia magna (Water flea)
Test Type: semi-static test

12.2 Persistence and degradability

Product information : No information available.

Components:

2-Butoxyethanol

Biodegradability : Result: Readily biodegradable.

2-Propylheptanol ethoxylate

Biodegradability : Result: Readily biodegradable.
Read across (Analogy)

Diethanolamine

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Product information : No information available.

Components:

2-Butoxyethanol

Bioaccumulation Bioaccumulation is unlikely.

2-Propylheptanol ethoxylate

Bioaccumulation : No data available

Diethanolamine

Bioaccumulation : Not expected considering the low log Pow value.

12.4 Mobility in soil

Product information : No information available.

Components:

2-Butoxyethanol

Mobility : No data available

2-Propylheptanol ethoxylate

Mobility : No data available

Diethanolamine

Mobility : Adsorption to the solid soil particles is not expected.
Transport to air is not expected.

12.5 Results of PBT and vPvB assessment

Product information:

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.

Components:

2-Butoxyethanol

PBT and vPvB assessment : This substance is not considered to be a PBT (Persistent, Bioaccumulation, Toxic)
This substance is not considered to be vPvB (very Persistent nor very Bioaccumulating)

2-Propylheptanol ethoxylate

PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Diethanolamine

PBT and vPvB assessment : This substance is not considered to be a PBT (Persistent, Bioaccumulation, Toxic)
This substance is not considered to be vPvB (very Persistent nor very Bioaccumulating)

12.6 Other adverse effects

Product information : No information available.

Components:

2-Butoxyethanol

Biochemical Oxygen Demand (BOD) : No data available

2-Propylheptanol ethoxylate

Biochemical Oxygen Demand (BOD) : No data available

Diethanolamine

Biochemical Oxygen Demand (BOD) : No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways, or ditches with chemical or used container.
Hazardous waste
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

Not regulated as a dangerous good

14.2 Proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards Not

regulated as a dangerous good.

14.6 Special precautions for user Not

applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not

applicable for product as supplied.

SECTION 15: REGULATORY INFORMATION**15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture**

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

Not applicable

Notification status

DSL : YES. All components of this product are on the Canadian DSL.

AICS	: YES. On the inventory, or in compliance with the inventory
NZIoC	: NO. Not in compliance with the inventory
ENCS	: YES. On the inventory, or in compliance with the inventory
ISHL	: YES. On the inventory, or in compliance with the inventory
KECI	: YES. On the inventory, or in compliance with the inventory
PICCS	: NO. Not in compliance with the inventory
IECSC	: YES. On the inventory, or in compliance with the inventory
TCSI	: YES. On the inventory, or in compliance with the inventory
TSCA	: YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.

For explanation of abbreviation see section 16.

Further information

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

15.2 Chemical safety assessment

2-Butoxyethanol	: No information available.
2-Propylheptanol ethoxylate	: A Chemical Safety Assessment is not required for this substance.
Diethanolamine	: A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

2000/39/EC	: Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
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GB EH40	: UK. EH40 WEL - Workplace Exposure Limits	
2000/39/EC / TWA	: Limit Value - eight hours	Full
2000/39/EC / STEL	: Short term exposure limit	text
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)	of H-
GB EH40 / STEL	: Short-term exposure limit (15-minute reference period)	

Statements referred to under sections 2 and 3.

H302	: Harmful if swallowed.
H312	: Harmful in contact with skin.
H315	: Causes skin irritation.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H361fd	: Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	: May cause damage to organs through prolonged or repeated exposure if swallowed.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

Classification procedure:

Acute toxicity, 4, H302, Calculation method Acute toxicity, 4, H332, Calculation method
Acute toxicity, 4, H312, Calculation method
Skin irritation, 2, H315, Calculation method
Serious eye damage, 1, H318, Calculation method
Long-term (chronic) aquatic hazard, 3, H412, Calculation method

Full text of other abbreviations

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; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic

Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
