SAFETY DATA SHEET

according to Commission Regulation (EU) 2020/878 as amended

Naturamer Manganese

Creation date	09th April 2025		
Revision date	09th April 2025	Version	1.0

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

1.1. Product identifier — Naturamer Manganese

Substance / mixture — mixture

UFI — NQ60-50NV-W00F-36SV

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

Mixture's intended use

Water soluble manganese nitrate solution, for foliar fertilization and irrigation systems or incorporation into the soil. Suitable for all plants.

Main intended use

PC-FER-1 Fertilisers

Mixture uses advised against

The product should not be used in ways other than those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Name or trade name	UAB "BS Chemical"
Address	Briedžio g. 13, Kretinga Lithuania
Phone	+37066373748
E-mail	info@bs-chemical.lt
Web address	www.bs-chemical.com

Competent person responsible for the safety data sheet

Name	Gintarė Lisauskienė
E-mail	gintare@bs-chemical.lt

1.4. Emergency telephone number

European emergency number: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is classified as dangerous.

Acute Tox. 4, H302+H332
Skin Corr. 1C, H314
Eye Dam. 1, H318
STOT RE 2, H373 (lungs (inhalation), brain)
Aquatic Chronic 3, H412

Most serious adverse effects on human health and the environment

Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to lungs (by inhalation), the brain through prolonged or repeated exposure. Harmful if swallowed or if inhaled. Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard pictogram

Signal word

Danger

Hazardous substances

Manganese (II) nitrate
nitric acid ... %

Hazard statements

H302+H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.

H373	May cause damage to lungs (by inhalation), the brain through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe dust/fume/gas/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.
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 doctor.

Supplemental information

EUH071	Corrosive to the respiratory tract.

2.3. Other hazards

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. Does not contain any PMT or vPvM components.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 10377-66-9 EC: 233-828-8	Manganese (II) nitrate	50	Ox. Liq. 2, H272 Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 STOT RE 2, H373 (lungs (inhalation), brain)	
Index: 007-004-00-1 CAS: 7697-37-2 EC: 231-714-2	nitric acid ... %	<1	Ox. Liq. 2, H272 Skin Corr. 1A, H314 Acute Tox. 1, H330 EUH071 Specific concentration limit: Ox. Liq. 2, H272: C ≥ 99 % Ox. Liq. 3, H272: 70 % ≤ C < 99 %	1, 2, 3

Notes

1 *Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid … %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.*

2 *A substance for which exposure limits are set.*

3 *Explosive precursor*

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Take care of your own safety, do not let the affected person walk! Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

If on skin

Beware of the contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Depending on the situation, call the medical rescue service and always ensure medical treatment.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

If swallowed

RINSE THE MOUTH WITH WATER IMMEDIATELY AND LET THE PERSON DRINK 2-5 dl of cold water to reduce the heating effect of the corrosive substance. Consuming larger amounts of liquid is not advisable as it may induce vomiting and potential inhaling of the corrosive substances in the lungs. The affected person must not be forced to drink, particularly if already feeling pain in the mouth or throat. In this case let the affected person only rinse the mouth with water. DO NOT PROVIDE ACTIVATED CARBON! Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible.

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

If inhaled

Inhaling vapours can cause corrosion of the breathing system. Cough, headache.

If on skin

Causes severe skin burns.

If in eyes

Causes serious eye damage.

If swallowed

Corrosion of the digestion system can occur.

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

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes. Wash hands and exposed parts of the body thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Store locked up. Keep container tightly closed.

Storage temperature Nuo +12 °C

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

European Union **Commission Directive 2006/15/EC**

Substance name (component)	Type	Value
nitric acid ... % (CAS: 7697−37−2)	OEL 15 minutes	2,6 mg/m³
	OEL 15 minutes	1 ppm

DNEL

Manganese (II) nitrate				
Workers / consumers	Route of exposure	Value	Effect	Source
Workers	Inhalation	200 µg/m³	Chronic effects systemic	ECHA
Workers	Dermal	4.14 µg/kg bw/24h	Chronic effects systemic	ECHA
Consumers	Inhalation	43 µg/m³	Chronic effects systemic	ECHA
Consumers	Dermal	2.1 µg/kg bw/24h	Chronic effects systemic	ECHA
Consumers	Oral	140 µg/kg bw/24h	Chronic effects systemic	ECHA
Consumers	Oral	3 mg/kg bw/day	Acute effects systemic	ECHA

nitric acid ... %				
Workers / consumers	Route of exposure	Value	Effect	Source
Workers	Inhalation	2.6 mg/m³	Chronic effects local	ECHA
Workers	Inhalation	2.6 mg/m³	Acute effects local	ECHA
Consumers	Inhalation	1.3 mg/m³	Chronic effects local	ECHA
Consumers	Inhalation	1.3 mg/m³	Acute effects local	ECHA

PNEC

Manganese (II) nitrate		
Route of exposure	Value	Source
Freshwater environment	29-35.8 µg/l	ECHA
Water (intermittent release)	29-104.1 µg/l	ECHA
Marine water	400-2900 ng/l	ECHA
Seawater (intermittent release)	-	ECHA
Microorganisms in sewage treatment	56 mg/l	ECHA
Freshwater sediment	11.4 µg/kg of dry substance	ECHA
Sea sediments	1.14 µg/kg of dry substance	ECHA

8.2. Exposure controls

Take off contaminated clothing and wash before reuse. Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

Skin protection

Hand protection: Protective gloves resistant to the product. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. Other protection: protective workwear. Contaminated skin should be washed thoroughly.

Respiratory protection

Halfmask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of substances are exceeded or in a poorly ventilated environment.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	pink
color intensity	transparent
Odour	Characteristic. Mild smell of nitric acid.
Melting point/freezing point	data not available
Boiling point or initial boiling point and boiling range	100 °C
Flammability	data not available
Lower and upper explosion limit	not applicable
Flash point	not applicable
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	2.8 (10% solution at 20-25 °C)

Kinematic viscosity	data not available
Solubility in water	data not available
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	
Density	1.56 g/cm³ at 20-25 °C
Relative vapour density	data not available
Particle characteristics	data not available
Form	liquid

9.2. Other information

not available

SECTION 10: Stability and reactivity

10.1. Reactivity

not available

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Strong heating. Contact with an open flame may release nitrogen oxides.

10.4. Conditions to avoid

Contact with open flames, do not let the product dry.

10.5. Incompatible materials

Flammable substances, metals.

10.6. Hazardous decomposition products

Nitrogen oxides.

SECTION 11: Toxicological information

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

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time.

Acute toxicity

Harmful if swallowed or if inhaled.

Naturamer Manganese							
Route of exposure	Parameter	Value	Exposure time	Species	Sex	Value determination	Source
Oral	ATE	1000 mg/kg				Calculation of value	
Inhalation (vapor)	ATE	20 mg/l				Calculation of value	

Manganese (II) nitrate							
Route of exposure	Parameter	Value	Exposure time	Species	Sex	Value determination	Source
Oral	LD_{50}	300-2330 mg/kg bw		Rat			ECHA

nitric acid ... %							
Route of exposure	Parameter	Value	Exposure time	Species	Sex	Value determination	Source
Inhalation	LC_{50}	2.65 mg/l of air	4 hours	Rat			ECHA
Inhalation	NOAEC	4.11 mg/m³		Rat			ECHA

Skin corrosion/irritation
Causes severe skin burns and eye damage.

Manganese (II) nitrate				
Route of exposure	Result	Exposure time	Species	Source
Dermal	Skin burns			ECHA

nitric acid ... %				
Route of exposure	Result	Exposure time	Species	Source
Dermal	Skin burns			ECHA

Serious eye damage/irritation
Causes severe skin burns and eye damage. Causes serious eye damage.

Manganese (II) nitrate				
Route of exposure	Result	Exposure time	Species	Source
Eye	Irritating			ECHA

nitric acid ... %				
Route of exposure	Result	Exposure time	Species	Source
Eye	Irreversible damage			ECHA

Respiratory or skin sensitisation
Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Manganese (II) nitrate					
Route of exposure	Result	Exposure time	Species	Sex	Source
Dermal	Indeterminate				ECHA

nitric acid ... %					
Route of exposure	Result	Exposure time	Species	Sex	Source
Inhalation	Not sensitizing				SDL
Dermal	Not sensitizing				SDL

Germ cell mutagenicity
Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Manganese (II) nitrate					
Result	Exposure time	Specific target organ	Species	Sex	Source
Indeterminate					ECHA

nitric acid ... %					
Result	Exposure time	Specific target organ	Species	Sex	Source
No effect					SDL

Carcinogenicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Manganese (II) nitrate						
Route of exposure	Parameter	Value	Result	Species	Sex	Source
			Indeterminate			ECHA

nitric acid ... %						
Route of exposure	Parameter	Value	Result	Species	Sex	Source
			No effect			ECHA

Reproductive toxicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Manganese (II) nitrate						
Effect	Parameter	Value	Result	Species	Sex	Source
Developmental toxicity	NOAEC	15 mg/m³	Negative	Rat		ECHA

nitric acid ... %						
Effect	Parameter	Value	Result	Species	Sex	Source
Effects on fertility	NOAEL	1500 mg/kg bw/day		Rat		ECHA
Developmental toxicity	NOAEL	1500 mg/kg bw/day		Rat		ECHA

Toxicity for specific target organ - single exposure

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

Toxicity for specific target organ - repeated exposure

May cause damage to lungs (by inhalation), the brain through prolonged or repeated exposure.

nitric acid ... %						
Route of exposure	Parameter	Value	Result	Species	Sex	Source
Oral	NOAEL	1500 mg/kg bw/day		Rat		ECHA

Repeated dose toxicity

Manganese (II) nitrate							
Route of exposure	Parameter	Result	Value	Exposure time	Species	Sex	Source
		Indeterminate					ECHA

Aspiration hazard

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

11.2. Information on other hazards

Endocrine disrupting properties

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any components that may cause endocrine disruption for humans.

Other information

not available

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Acute toxicity

Manganese (II) nitrate					
Parameter	Value	Exposure time	Species	Environment	Source
LC_{50}	2.4-116 mg/l	4 days	Fish		ECHA
EC_{50}	3.77-4.83 mg/l	4 days	Fish		ECHA
LL_{50}	5.12 mg/l	4 days	Fish		ECHA
EC_{50}	4.98 mg/l	12 days	Algae and other aquatic plants		ECHA
EC_{50}	61 mg/l	72 hours	Algae		ECHA
NOEC	1 mg/l	72 hours	Algae		ECHA
EC_{50}	1 g/l	3 hours	Microorganisms		ECHA
NOEC	560 mg/l	3 hours	Microorganisms		ECHA

nitric acid ... %					
Parameter	Value	Exposure time	Species	Environment	Source
LC_{50}	12 g/l	4 days	Fish		ECHA

Chronic toxicity

Manganese (II) nitrate					
Parameter	Value	Exposure time	Species	Environment	Source
NOEC	600-2030 µg/l	4 months	Fish		ECHA
NOEC	550-760 µg/l	65 days	Fish		ECHA
LOEC	9.335 mg/l	35 days	Fish		ECHA
NOEC	10 µg/l	60 days	Aquatic invertebrates		ECHA
NOEC	20 µg/l	20 days	Aquatic invertebrates		ECHA
LOEC	6.31 mg/l	14 days	Aquatic invertebrates		ECHA

12.2. Persistence and degradability

Data for the mixture are not available.

Biodegradability

Manganese (II) nitrate					
Parameter	Value	Exposure time	Environment	Result	Source
	-				ECHA

nitric acid ... %					
Parameter	Value	Exposure time	Environment	Result	Source
				Biodegradable	SDL

12.3. Bioaccumulative potential

Data for the mixture are not available.

Manganese (II) nitrate						
Parameter	Value	Exposure time	Species	Environment	Temperature [°C]	Source
BCF	-					ECHA

nitric acid ... %						
Parameter	Value	Exposure time	Species	Environment	Temperature [°C]	Source
	0					SDL

12.4. Mobility in soil

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any PMT or vPvM components.

Manganese (II) nitrate			
Parameter	Value	Result	Source
		High	ECHA

nitric acid ... %			
Parameter	Value	Result	Source
		High, Hydrolytically unstable	SDL

12.5. Results of PBT and vPvB assessment

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any PBT or vPvB components.

12.6. Endocrine disrupting properties

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any components that may cause endocrine disruption in the environment.

12.7. Other adverse effects

Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Packaging waste type code

15 01 02 plastic packaging

15 01 10* packaging containing residues of or contaminated by hazardous substances

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

SECTION 14: Transport information

14.1. UN number or ID number

not subject to transport regulations

14.2. UN proper shipping name

not relevant

14.3. Transport hazard class(es)

not relevant

14.4. Packing group

not relevant

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Product contains regulated explosives precursor: Making available, introduction, possession and use of those precursors by member of the general public according to Regulation (EU) 2019/1148, Article 5 to 9. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

not available

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

EUH071	Corrosive to the respiratory tract.
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H373	May cause damage to lungs (by inhalation), the brain through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Guidelines for safe handling used in the safety data sheet

P260	Do not breathe dust/fume/gas/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.
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 doctor.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

Acute Tox.	Acute toxicity

ADR	European agreement concerning the international carriage of dangerous goods by road
Aquatic Chronic	Hazardous to the aquatic environment (chronic)
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EC_{50}	Concentration of a substance when it is affected 50 % of the population
Eye Dam.	Serious eye damage
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC_{50}	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD_{50}	Lethal dose of a substance in which it can be expected death of 50% of the population
LL_{50}	Lethal Loading for 50 % of tested organisms
log Kow	Octanol-water partition coefficient
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
OEL	Occupational Exposure Limits
Ox. Liq.	Oxidising liquid
PBT	Persistent, bioaccumulative and toxic
PMT	Persistent, mobile and toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
Skin Corr.	Skin corrosion
STOT RE	Specific target organ toxicity - repeated exposure
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative
vPvM	Very persistent and very mobile

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.