Sodium nitrite

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 01/06/2022

Doc No: SDS-969.123/2

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

1.1. Product identifier

Product form	:	Substance
Substance name	:	Sodium nitrite
EC Index-No.	:	007-010-00-4
EC-No.	:	231-555-9
CAS-No.	:	7632-00-0
Type of product	:	Pure substance,Hygroscopic substance. Preventive measures apply to the substance in dry state only
Formula	:	$NaNO_2$
Chemical structure	:	
Synonyms	:	anti-rust / diazotizing salts / erinitrit / filmerine / nitrous acid, sodium salt / NNAO2 / Sodium nitrite / sodium nitrite, rat-mediated / sodium salt nitrous acid / STCC 4918747 / synfat 1004
BIG no	:	10370

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Food industry: additive
Anti-corrosion agent
Laboratory chemical
Fertilizer
Cosmetic product: component
Veterinary medicine: active ingredient

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ISOLAB Laborgeräte GmbH
Am Dillhof 2 - 63863 Eschau / GERMANY
Tel: + 49 93 74 / 978 55-0
Fax: +49 93 74 / 978 55-29
prodsafe@isolab.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Ox. Sol. 3	H272
Acute Tox. 3 (Oral)	H301
Aquatic Acute 1	H400
Eye irritation, 2	H319

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS03 GHS06 GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H272 - May intensify fire; oxidiser
H301 - Toxic if swallowed
H319: Causes serious eye irritation
H400 - Very toxic to aquatic life

Precautionary statements (CLP) : P273 Avoid release to the environment.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
Sodium nitrite	(CAS-No.) 7632-00-0 (EC-No.) 231-555-9 (EC Index-No.) 007-010-00-4	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Doctor: administration of corticoid spray.

First-aid measures after skin contact : Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth with water. Give nothing to drink. Victim is fully conscious: immediately induce vomiting. Induce vomiting by giving a 0.9 % saline solution. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital. Doctor: gastric lavage.

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

Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Respiratory difficulties.

Symptoms/effects after skin contact : Slight irritation.

Symptoms/effects after eye contact : Redness of the eye tissue. Irritation of the eye tissue.

Symptoms/effects after ingestion	:	Nausea. Vomiting. Abdominal pain. Diarrhoea. Methemoglobinemia. Headache. Dizziness. Feeling of weakness. Ringing in the ears. Visual disturbances. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Blue/grey discolouration of the skin. Accelerated heart action. Low arterial pressure. Cramps/uncontrolled muscular contractions. AFTER ABSORPTION OF HIGH QUANTITIES: Heartinfarct/cardiac arrest.
Chronic symptoms	:	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Conjunctivitis.

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

No additional information available

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Adapt extinguishing media to the environment.
Unsuitable extinguishing media	:	No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Promotes combustion. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	:	INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

5.3. Advice for firefighters

Precautionary measures fire	:	Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	:	Cool tanks/drums with water spray/remove them into safety. Cool from behind cover/unmanned monitors. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	:	Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	:	Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit. See "Material-Handling" to select protective clothing.
Emergency procedures	:	Mark the danger area. Prevent dust cloud formation. No naked flames. Keep containers closed. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.
Measures in case of dust release	:	In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapour with water spray. Take account of toxic/corrosive precipitation water.
Methods for cleaning up	:	Prevent dispersion by covering with dry sand/earth. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Spill must not return in its original container. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Pulverization rapidly increases toxic concentration.

Precautions for safe handling	:	Comply with the legal requirements. Clean contaminated clothing. Keep the substance free from contamination. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities

Heat and ignition sources	:	KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage	:	KEEP SUBSTANCE AWAY FROM: combustible materials. reducing agents. (strong) acids. organic materials. many substances.
Storage area	:	Store in a dry area. Keep container in a well-ventilated place. Fireproof storeroom. Keep locked up. Unauthorized persons are not admitted. Keep only in the original container. Store at ambient temperature. Meet the legal requirements.
Special rules on packaging	:	SPECIAL REQUIREMENTS: hermetical. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	:	SUITABLE MATERIAL: polyethylene. plastics. MATERIAL TO AVOID: wood.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sodium nitrite (7632-00-0)		
Lithuania	Local name	Natrio nitritas
Lithuania	NRV (mg/m³)	0.1 mg/m³
Lithuania	Remark (LT)	Ū (ūmus poveikis)
Russian Federation	Local name	Натрий нитрит
Russian Federation	OEL Ceiling (mg/m³)	0.1 mg/m³
Russian Federation	Remark (RU)	1 класс опасности - чрезвычайно опасное; а (аэрозоль); О (вещества с остронаправленным механизмом действия, требующие автоматического контроля за их содержанием в воздухе)

8.2. Exposure controls

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: neoprene. PVA. butyl rubber. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: natural fibres

Hand protection:

Gloves

Eye protection:

Safety glasses. In case of dust production: protective goggles

Skin and body protection:

Protective clothing

Respiratory protection:

Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Crystalline solid. Crystalline powder. Grains.
Molecular mass	:	69.00 g/mol
Colour	:	White to light yellow.
Odour	:	Odourless.
Odour threshold	:	No data available
pH	:	9 (100 g/l, H_2O, 20 °C)

pH solution	:	10 %
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	280 °C
Freezing point	:	No data available
Boiling point	:	320 °C
Flash point	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	320 °C
Flammability (solid, gas)	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	2.2
Density	:	2.17 kg/m³ (20 °C)
Solubility	:	Soluble in water. Soluble in ammonia. Water: 82 g/100ml Ethanol: 0.3 g/100ml Ether: 0.3 g/100ml
Log Pow	:	-3.7 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 25 °C)
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	May intensify fire; oxidiser.
Explosive limits	:	No data available

9.2. Other information

VOC content	:	Not applicable (inorganic)
Other properties	:	Hygroscopic. Substance has basic reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Decomposes on exposure to temperature rise: oxidation resulting in increased fire or explosion risk. On burning: release of toxic and corrosive gases/vapours (nitrous vapours). Oxidizes slowly on exposure to air. Reacts with many compounds e.g.: with (strong) reducers: (increased) risk of fire/explosion. Reacts with combustible materials: (increased) risk of fire/explosion. Reacts violently with organic material. Forms with nitrites carcinogenic nitrosamines. Reacts with (some) acids: release of toxic and corrosive gases/vapours (nitrous vapours).

10.2. Chemical stability

Unstable on exposure to air. Hygroscopic.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed.

Sodium nitrite (7632-00-0)	
LD50 oral rat	180 mg/kg (Rat; Other; Experimental value)
LC50 inhalation rat (mg/l)	5.5 mg/l/4h (Rat; Literature study)

Skin corrosion/irritation : Not classified
pH: 9 (10 %)

Serious eye damage/irritation	:	Not classified pH: 9 (10 %)
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	Dangerous for the environment.
Ecology - air	:	Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5/I.
Ecology - water	:	Ground water pollutant. Maximum concentration in drinking water: 0.50 mg/l (nitrite) (Directive 98/83/EC); 200 mg/l (sodium) (Directive 98/83/EC). Highly toxic to fishes. Harmful to invertebrates (Daphnia). Slightly harmful to algae (EC50 (72h) > 100 mg/l). May cause eutrophication. No inhibition of activated sludge.

12.2. Persistence and degradability

Sodium nitrite (7632-00-0)	
Persistence and degradability	Biodegradable in water. Autooxidation in water. No (test)data on mobility of the substance available.

12.3. Bioaccumulative potential

Sodium nitrite (7632-00-0)	
Log Pow	-3.7 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

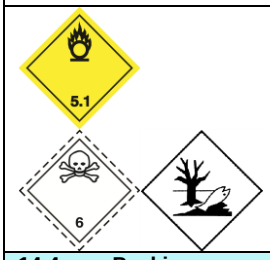
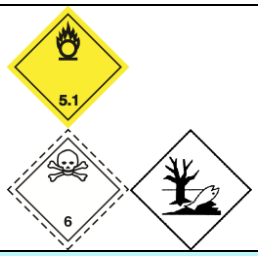
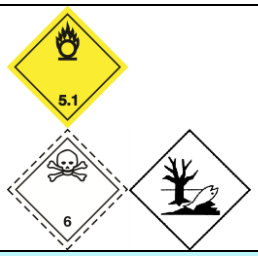
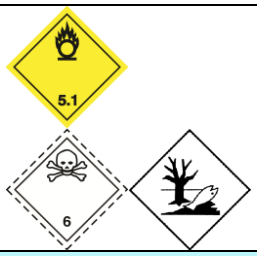
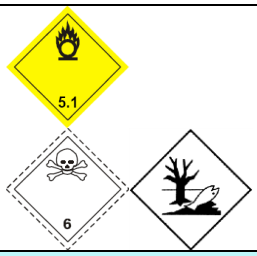
SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	:	Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Refer to manufacturer/supplier for information on recovery/ recycling. Dissolve or mix with a combustible solvent. Detoxicate. Remove to an authorized dump (Class I). Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Do not discharge into surface water. May be discharged to wastewater treatment installation.
Additional information	:	LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.
European List of Waste (LoW) code	:	06 10 02* - wastes containing dangerous substances

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1500	1500	1500	1500	1500
14.2. UN proper shipping name				
SODIUM NITRITE	SODIUM NITRITE	Sodium nitrite	SODIUM NITRITE	SODIUM NITRITE
Transport document description				
UN 1500 SODIUM NITRITE, 5.1 (6.1), III, (E), ENVIRONMENTALLY HAZARDOUS	UN 1500 SODIUM NITRITE, 5.1 (6.1), III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 1500 Sodium nitrite, 5.1 (6.1), III, ENVIRONMENTALLY HAZARDOUS	UN 1500 SODIUM NITRITE, 5.1 (6.1), III, ENVIRONMENTALLY HAZARDOUS	UN 1500 SODIUM NITRITE, 5.1 (6.1), III, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
5.1 (6.1)	5.1 (6.1)	5.1 (6.1)	5.1 (6.1)	5.1 (6.1)
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	:	OT2
Limited quantities (ADR)	:	5kg
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P002, IBC08, R001
Mixed packing provisions (ADR)	:	MP10
Portable tank and bulk container instructions (ADR)	:	T1
Portable tank and bulk container special provisions (ADR)	:	TP33
Tank code (ADR)	:	SGAN
Tank special provisions (ADR)	:	TU3
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	3
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV24, CV28
Hazard identification number (Kemler No.)	:	56
Orange plates	:	56 1500
Tunnel restriction code (ADR)	:	E
EAC code	:	1Z

- Transport by sea

Transport regulations (IMDG)	:	Subject

Limited quantities (IMDG)	:	5 kg
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P002
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B3
Tank instructions (IMDG)	:	T1
Tank special provisions (IMDG)	:	TP33
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-Q
Stowage category (IMDG)	:	A
Segregation (IMDG)	:	SG38, SG49
Properties and observations (IMDG)	:	Colourless deliquescent solid. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Mixtures with ammonium compounds or cyanides may explode. Decomposes if heated, giving off toxic nitrous fumes and gases supporting combustion. Harmful if swallowed or by dust inhalation.
MFAG-No	:	140

- Air transport

Transport regulations (IATA)	:	Subject to the provisions
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y546
PCA limited quantity max net quantity (IATA)	:	10kg
PCA packing instructions (IATA)	:	559
PCA max net quantity (IATA)	:	25kg
CAO packing instructions (IATA)	:	563
CAO max net quantity (IATA)	:	100kg
ERG code (IATA)	:	5P

- Inland waterway transport

Classification code (ADN)	:	OT2
Special provisions (ADN)	:	802
Limited quantities (ADN)	:	5 kg
Excepted quantities (ADN)	:	E1
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

- Rail transport

Transport regulations (RID)	:	Subject
Classification code (RID)	:	OT2
Limited quantities (RID)	:	5kg
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P002, IBC08, R001
Special packing provisions (RID)	:	B3
Mixed packing provisions (RID)	:	MP10
Portable tank and bulk container instructions (RID)	:	T1
Portable tank and bulk container special provisions (RID)	:	TP33
Tank codes for RID tanks (RID)	:	SGAN
Special provisions for RID tanks (RID)	:	TU3
Transport category (RID)	:	3
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW24, CW28
Colis express (express parcels) (RID)	:	CE11
Hazard identification number (RID)	:	56

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Sodium nitrite is not on the REACH Candidate List

Sodium nitrite is not on the REACH Annex XIV List

VOC content : Not applicable (inorganic)

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 2, hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 161)

WGK remark : Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

Waterbezwaarlijkheid : 5 - Very toxic to aquatic organisms

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

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
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
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
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Ox. Sol. 3	Oxidising Solids, Category 3
H272	May intensify fire; oxidiser
H301	Toxic if swallowed
H400	Very toxic to aquatic life
H319	Causes serious eye irritation

SDS ISOLAB

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product