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

1.1. Product identifier

Trade name	:	Developer / Caustic Soda Macropearls
Article-No.	:	E100, E250
Substance name	:	sodium hydroxide
Index-No.	:	011-002-00-6
C&L-No.	:	02-2119752469-26-0000
CAS-No.	:	1310-73-2
EC-No.	:	215-185-5
Registration number	:	01-2119457892-27-xxxx

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

Use of the Substance/Mixture	:	Identified use: See table in front of appendix for a complete overview of identified uses.
Uses advised against	:	At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company	:	Kemo-Electronic GmbH Leher-Landstraße 20 27607 Langen
Telephone	:	+49 (0)4743 9338-0
Telefax	:	+49 (0)4743 9338-22
E-mail address	:	kemo-electronic@t-online.de
Responsible/issuing person	:	Umwelt / Sicherheit

1.4. Emergency telephone number

Emergency telephone number	:	+49 (0)208-7828-0 Available 24h/7d

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	**Hazard category**	**Target Organs**	**Hazard statements**

Corrosive to metals	Category 1	---	H290
Skin corrosion/irritation	Category 1A	---	H314

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

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Directive 67/548/EEC or 1999/45/EC	
Hazard symbol / Category of danger	**Risk phrases**
Corrosive (C)	R35

For the full text of the R-phrases mentioned in this Section, see Section 16.

Most important adverse effects

Human Health : See section 11 for toxicological information.
No further information available.

Physical and chemical hazards : See section 9 for physicochemical information., No further information available.

Potential environmental effects : See section 12 for environmental information.
No further information available.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard symbols :

Signal word : Danger

Hazard statements :
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements

Prevention :
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response :
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

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

Hazardous components which must be listed on the label:

- sodium hydroxide

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.
No other information is available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)		Classification (67/548/EEC)
		Hazard class / Hazard category	Hazard statements	
sodium hydroxide				
Index-No. : 011-002-00-6 CAS-No. : 1310-73-2 EC-No. : 215-185-5 Registration : 01-2119457892-27-xxxx C&L-No. : 02-2119752469-26-0000	<= 100	Met. Corr.1 Skin Corr.1A	H290 H314	Corrosive; C; R35

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice : Take off contaminated clothing and shoes immediately.

If inhaled : In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician immediately. If a person vomits when lying on his back, place him in the recovery position.

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

Symptoms	: No information available.
Effects	: No information available.

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

Treatment	: Treat symptomatically.No further information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.
Unsuitable extinguishing media	:	No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Forms slippery/greasy layers with water.

5.3. Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.Wear appropriate body protection (full protective suit)
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Keep away unprotected persons. Avoid dust formation. Avoid contact with the skin and the eyes. Do not breathe dust. For personal protection see section 8.

6.2. Environmental precautions

Environmental	:	Do not flush into surface water or sanitary sewer system.

precautions	Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up	:	Use mechanical handling equipment. Keep in suitable, closed containers for disposal.
Further information	:	Danger of slipping if spilled Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	:	Keep container tightly closed. Use personal protective equipment. Avoid dust formation. Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with the skin and the eyes. Do not breathe dust. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.
Hygiene measures	:	Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off contaminated clothing and shoes immediately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep in an area equipped with alkali resistant flooring. Store in original container.
Advice on protection against fire and explosion	:	The product is not flammable. Normal measures for preventive fire protection.
Further information on storage conditions	:	Keep tightly closed in a dry and cool place. Product is hygroscopic.
Advice on common storage	:	Keep away from food, drink and animal feedingstuffs. Do not store together with acids and ammonium salts. Materials to avoid: Organic peroxides
German storage class	:	8B: Non-combustible substances, corrosive

7.3. Specific end use(s)

Specific use(s)	:	Identified use: See table in front of appendix for a complete overview of identified uses.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Occupational Exposure Limit Values		
(Additional) Information	:	Contains no substances with occupational exposure limit values.

Component:	sodium hydroxide	CAS-No. 1310-73-2

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL
Workers, Long-term - local effects, Inhalation : 1,0 mg/m3

DNEL
Consumers, Long-term - local effects, Inhalation : 1,0 mg/m3

8.2. Exposure controls

Appropriate engineering controls
Refer to protective measures listed in sections 7 and 8.
Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Personal protective equipment
Respiratory protection

Advice : Required if dust is released
Recommended Filter type:
Particle filter:P2
Particle filter:P3

Hand protection

Advice : The glove material has to be impermeable and resistant to the product / the substance / the preparation.
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
The following materials are suitable:
fluorocarbon rubber
polychloroprene
natural rubber
butyl-rubber
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Protective gloves should be replaced at first signs of wear.

Eye protection

Advice : Tightly fitting safety goggles

Skin and body protection

Advice : impervious clothing

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	:	solid
Colour	:	white
Odour	:	odourless
Odour Threshold	:	no data available
pH	:	> 14 (100 g/l; 20 °C)
Melting point/range	:	ca. 319 - 322 °C
Boiling point/boiling range	:	1.390 °C
Flash point	:	not applicable
Evaporation rate	:	not applicable
Flammability (solid, gas)	:	not applicable
Upper explosion limit	:	not applicable
Lower explosion limit	:	not applicable
Vapour pressure	:	ca. 3,5 hPa (800 °C)
Relative vapour density	:	no data available
Density	:	ca. 2,13 g/cm3 (20 °C)
Water solubility	:	ca. 1090 - 1260 g/l (20 °C)
Partition coefficient: n-octanol/water	:	no data available

Auto-ignition temperature	:	not applicable
Thermal decomposition	:	no data available
Viscosity, dynamic	:	not applicable
Viscosity, kinematic	:	not applicable
Explosivity	:	Product is not explosive.
Oxidizing properties	:	not oxidising

9.2. Other information

Corrosion to metals	:	Corrosive to metals

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : No information available.

10.2. Chemical stability

Advice : No decomposition if stored and applied as directed.
No further information available.

10.3. Possibility of hazardous reactions

Hazardous reactions : Gives off hydrogen by reaction with base metals (zinc, aluminium). Reacts exothermic with water Reacts exothermic with acids.

10.4. Conditions to avoid

Conditions to avoid : Protect from humidity and keep away from water.Product is hygroscopic.

Thermal decomposition : no data available

10.5. Incompatible materials

Materials to avoid : Materials to avoid: Acids, Light metals, Water, Alcohols

10.6. Hazardous decomposition products

Hazardous decomposition products : no data available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Component:	sodium hydroxide	CAS-No. 1310-73-2

Acute toxicity

Oral

no data available

Inhalation

no data available

Dermal

no data available

Irritation

Skin

Result : Very corrosive (rabbit)

Eyes

Result : Very corrosive (rabbit)
Risk of serious damage to eyes.

Sensitisation

Result : Patch test on human volunteers did not demonstrate sensitisation properties.
Did not cause sensitisation on laboratory animals.

CMR effects

CMR Properties

Carcinogenicity : No experimental references for cancerogenity available.

Mutagenicity : In vitro tests did not show mutagenic effects
In vivo tests did not show mutagenic effects

Teratogenicity : no data available

Reproductive toxicity : Not expected to be impair fertility.

Specific Target Organ Toxicity

Single exposure

remark	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure		
remark	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties
Aspiration hazard
No aspiration toxicity classification

SECTION 12: Ecological information

12.1. Toxicity

Component:	sodium hydroxide	CAS-No. 1310-73-2
Acute toxicity		
Fish		
LC50	:	125 mg/l (Gambusia affinis; 96 h)
Toxicity to daphnia and other aquatic invertebrates		
EC50	:	76 mg/l (Daphnia magna; 24 h)
algae		
no data available		
Bacteria		
EC50	:	22 mg/l (Photobacterium phosphoreum; 15 min)

12.2. Persistence and degradability

Component:	sodium hydroxide	CAS-No. 1310-73-2
Persistence and degradability		
Persistence		

Result : no data available

Biodegradability

Result : The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Component:	sodium hydroxide	CAS-No. 1310-73-2
Bioaccumulation		

Result : Does not bioaccumulate.

12.4. Mobility in soil

Component:	sodium hydroxide	CAS-No. 1310-73-2
Mobility		

Water : The product is mobile in water enviroment.

12.5. Results of PBT and vPvB assessment

Component:	sodium hydroxide	CAS-No. 1310-73-2
Results of PBT and vPvB assessment		

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

Component:	sodium hydroxide	CAS-No. 1310-73-2
Additional ecological information		

Result : Harmful effects to aquatic organisms due to pH-shift. Neutralization is normally necessary before waste water is discharged into water treatment plants.

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	:	Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
Contaminated packaging	:	Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
European Waste Catalogue Number	:	No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

14.1. UN number

1823

14.2. UN proper shipping name

ADR : SODIUM HYDROXIDE, SOLID
RID : SODIUM HYDROXIDE, SOLID
IMDG : SODIUM HYDROXIDE, SOLID

14.3. Transport hazard class(es)

ADR-Class (Labels; Classification Code; Hazard identification No; Tunnel restriction code)	:	8 8; C6; 80; (E)
RID-Class (Labels; Classification Code; Hazard identification No)	:	8 8; C6; 80
IMDG-Class (Labels; EmS)	:	8 8; F-A, S-B

14.4. Packaging group

ADR : II
RID : II
IMDG : II

14.5. Environmental hazards

Labeling according to 5.2.1.8 ADR	:	no
Labeling according to 5.2.1.8 RID	:	no
Labeling according to 5.2.1.6.3 IMDG	:	no
Classification as environmentally hazardous according to 2.9.3 IMDG	:	no
Classified as "P" according to 2.10 IMDG	:	no

14.6. Special precautions for user

Note : not applicable

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

IMDG : Not applicable.

SECTION 15: Regulatory information

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

WGK (DE)	:	sodium hydroxide: WGK Identification Number: 142; WGK:1; slightly water endangering; Classification source is Annex 2.
Major Accident Hazard Legislation	:	Does not fall under the German StörfallV. -
Other regulations	:	Occupational restrictions: Take note of Dir 92/85/EEC on the safety and health of pregnant workers at work and of Dir 94/33/EC on the protection of young people at work.

sodium hydroxide

EU. Regulation No 1451/2007 [Biocides], Annex I, Active substances identified as existing (OJ (L 325)
Listed EC Number: 215-185-5

Notification status

sodium hydroxide:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	215-185-5
ENCS (JP)	YES	(2)-1972
ENCS (JP)	YES	(1)-410
INV (CN)	YES	
ISHL (JP)	YES	(2)-1972
ISHL (JP)	YES	(1)-410
KECI (KR)	YES	KE-31487
KECI (KR)	YES	97-1-136
NZIOC	YES	HSR001547
PICCS (PH)	YES	
TSCA	YES	

IECSC YES

15.2. Chemical Safety Assessment

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

SECTION 16: Other information

Full text of R-phrases referred to under sections 2 and 3.

R35	Causes severe burns.

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

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Further information

Key literature references and sources for data	:	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Other information	:	Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use.The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

|| Indicates updated section.

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

· **Date of compilation:** 09.03.2004
· **1.1 Product identifier**

· **Trade name: Disodium peroxodisulphate**
· **Article-No.:** Corrosive agent Ä100
· **Synonym(s):** Natriumpersulfat
· **CAS Number:**
7775-27-1
· **EC number:**
231-892-1
· **Registration number:** REACH: 01-2119495975-15
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Application of the substance / the preparation:**
Chemicals for various applications
Oxidizing agent

· **1.3 Details of the supplier of the safety data sheet**

Firma	:	Kemo-Electronic GmbH Leher Landstraße 20 27607 Langen
Telefon	:	+49 (0)4743 9338-0
Telefax	:	+49 (0)4743 9338-22
Email-Adresse	:	kemo-electronic@t-online.de
Verantwortliche/ausstellende Person	:	Umwelt / Sicherheit

1.4 Emergency telephone number:
Next toxicological information centre or for Germany:
Beratungsstelle für Vergiftungserscheinungen Mainz (Poison Information Center)
Phone: +49 6131 / 19 24 0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

GHS03 flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.


GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.


GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**


Xn; Harmful

R22: Harmful if swallowed.


Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.


Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.


O; Oxidising

R8: Contact with combustible material may cause fire.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms**


GHS03 GHS07 GHS08

· **Signal word** Danger

· **Hazard statements**
H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

· **Precautionary statements**

P221	Take any precaution to avoid mixing with combustibles.
P285	In case of inadequate ventilation wear respiratory protection.
P220	Keep/Store away from clothing/combustible materials.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.

· **Additional information:**
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Chemical characterization: Substances**
· **CAS No. Designation:**
7775-27-1 Disodium peroxodisulphate
· **Identification number(s):**
· **EC number:** 231-892-1

* SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Immediately remove any clothing contaminated by the product.
Take affected persons out of danger area and instruct to lie down.
Do not leave affected persons unsupervised.
Personal protection for the person providing first aid.
· **After inhalation:**
Supply fresh air and call for doctor for safety reasons.
Do not use mouth to mouth or mouth to nose resuscitation.
Use a respiration bag or breathing device.
In case of unconsciousness bring patient into stable side position for transport.
· **After skin contact:**
Instantly wash with water and soap and rinse thoroughly.
Consult doctor in case of symptoms.
· **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult doctor.
Remove contact lenses, if present and easy to do.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting!
Instantly call for doctor.
· **4.2 Most important symptoms and effects, both acute and delayed** Allergic reactions
· **4.3 Indication of any immediate medical attention and special treatment needed** Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents**
Water haze
Water spray jet
· **For safety reasons unsuitable extinguishing agents**
· **5.2 Special hazards arising from the substance or mixture**
Oxidising by development of oxygen
Danger of bursting
Can be released in case of fire:

Irritant gases/vapours
Sulphur dioxide (SO2)
Danger of toxic pyrolysis products
Under certain fire conditions, traces of other toxic gases cannot be excluded.

· **5.3 Advice for firefighters**
· **Protective equipment:** Wear self-contained breathing apparatus.
· **Additional information**
Cool endangered containers with water spray jet.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
If without risk possible, move drums with material away from dangerous area.

* SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
Avoid causing dust.
Do not breathe dust.
Use breathing protection against the effects of fumes/dust/aerosol.
Avoid contact with skin and eyes.
Remove all ignition sources.
Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:**
Damp down dust with water spray jet.
Do not allow to enter drainage system, surface or ground water.
Inform respective authorities in case of a large amount of product reaches water or sewage system.
· **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Collect mechanically.
Clean up affected area.
Send for recovery or disposal in suitable containers.
Dispose of the material collected according to regulations.
· **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Any deposit of dust which cannot be avoided must be removed regularly.
Do not breathe dust.
Make sure that all applicable workplace limits are observed.
Avoid contact with skin and eyes.
Do not replace residual quantities in storage containers.

ATTENTION:
Contaminated organic solids (like textiles/paper) may ignite without an external source of ignition (self ignition). Wash contaminated material at once with plenty of water.

· **Information about protection against explosions and fires:**
Substance/product is oxidizing when dry.
Substance/product can reduce the ignition temperature of flammable substances.
Potentially explosive when mixed with organic substances.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Protect from heat and direct sunlight.

Keep breathing equipment ready.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and containers:**
Observe all local and national regulations for storage of water polluting products.
· **Information about storage in one common storage facility:**
Store away from flammable substances.
Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
· **Further information about storage conditions:**
Store container in a well ventilated position.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
This product is hygroscopic.
Protect from contamination.
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical systems:**

· **8.1 Control parameters**
· **Components with critical values that require monitoring at the workplace:** Observe all workplace limits for dust.
· **DNELs** no data available
· **PNECs** no data available
· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
Keep away from foodstuffs, beverages and food.
Instantly remove any contaminated garments.
Do not eat, drink or smoke while working.
Do not carry cleaning cloths impregnated with the product in trouser pockets.
Avoid contact with the eyes and skin.
Do not breathe dust.
Wash hands during breaks and at the end of the work.
Use skin protection cream for preventive skin protection.
· **Breathing equipment:**
Use breathing protection in case of dust formation.
If all workplace limits are observed and good ventilation is ensured, no special precautions necessary.
· **Recommended filter device for short term use:**
Partikelfilter EN 143 Type P2
Combination filter ABEK-P2
· **Protection of hands:**
Impervious gloves
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Check the permeability prior to each renewed use of the glove.
To avoid skin problems reduce the wearing of gloves to the required minimum.
· **Material of gloves**
Butyl rubber - BR
Recommended thickness of the material: ≥ 0.5 mm
Poly vinyl chloride - PVC
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies frommanufacturer to manufacturer.
· **Penetration time of glove material**
Penetration time: ≥ 8 hours
Protective gloves should be replaced at first signs of wear.

· **Eye protection:**Tightly sealed safety glasses
· **Body protection:**
Protective work clothing
Body protection must be chosen depending on activity and possible exposure.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	solid
Colour:	white
· **Smell:**	odourless
· **Odour threshold:**	not applicable
· **pH-value (250 g/l) at 25 °C:**	~4.3
· **Change in condition**	
Melting point/Melting range:	Decomposes before melting.
Boiling point/Boiling range:	not applicable
· **Flash point:**	not applicable
· **Inflammability (solid, gaseous)**	Contact with combustible material may cause fire.
· **Ignition temperature:**	
Decomposition temperature:	~180 °C (SADT (UN-Test H.4))
· **Self-inflammability:**	Product is not selfigniting.
· **Danger of explosion:**	Explosive when mixed with combustible material.
· **Critical values for explosion:**	
Oxidizing properties	oxidising
· **Vapor pressure:**	no data available
· **Density at 20 °C:**	1.20 ~ 2.59 g/cm³
· **Bulk density:**	1150 ~ 1350 kg/m³
· **Relative density**	no data available
· **Vapour density (AIR = 1):**	not applicable
· **Evaporation rate**	not applicable
· **Solubility in / Miscibility with**	
Water at 20 °C:	545 ~ 556 g/l
· **Organic solvents:**	not determined
· **Partition coefficient (n-octanol/water):**	Not bioaccumulative
· **Viscosity:**	
dynamic:	Not applicable.
kinematic:	Not applicable.
· **9.2 Other information**	No further relevant information available.

* SECTION 10: Stability and reactivity

· **10.1 Reactivity**
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
To avoid thermal decomposition do not overheat.
Sources of ignition

Take precautionary measures against static discharge.
Protect from moisture.

· **Decomposition will begin at:** ~180 °C (SADT)
· **10.3 Possibility of hazardous reactions**
Danger of bursting
Reacts with flammable substances
Acts as an oxidizing agent on organic materials such as wood, paper and fats.
Reacts with fabric soaked in the product (e.g. cleaning wool)
Reacts with fats and oils
Reacts with reducing agents
Reacts with acids
Reacts with alkali (lyes)
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:**
Strong acids
Alkaline materials
Reducing agents
Flammable materials
Heavy metal compounds
· **10.6 Hazardous decomposition products:**
Irritant gases/vapours
Sulphur oxides (SOx)
Oxygen
Danger of toxic pyrolysis products

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	920 mg/kg (rat) (IUCLID)
Dermal	LD50	> 10000 mg/kg (rabbit)
Inhalative	LC0/4 h	> 5.1 mg/l (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant for skin and mucous membranes.
· **on the eye:** Causes serious eye irritation.
· **Other information (about experimental toxicology):** Ames test: negative
· **Experience with humans:** May cause respiratory irritation.
· **Sensitisation** May cause sensitisation by inhalation and skin contact.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
According to present knowledge no CMR-effects known.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

EC50/48 h	133 mg/l (water flea (daphnia magna)) (IUCLID)
EC50/72 h	116 mg/l (bacteriums)
LC50/96 h	771 mg/l (rainbow trout (oncorhynchus mykiss)) (IUCLID)

· **12.2 Persistence and degradability** Anorganic product, is not removable from water by biological cleaning process
· **12.3 Bioaccumulative potential** Not bioaccumulative
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **Chemical Oxygen Demand (COD-value):** no data available

· **Biochemical Oxygen Demand (BOD5-value):** no data available
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Water hazard class 1 (Assessment by list): slightly hazardous for water
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation** Disposal must be made according to official regulations.
· **Waste disposal key number:** According to local/national regulations.
· **European waste catalogue:** Waste disposal key numbers from EWC have to be assigned depending on origin and processing.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleaning agent:** Water

SECTION 14: Transport information

· **14.1 UN-Number**	
· **ADR, IMDG, IATA**	UN1505
· **14.2 UN proper shipping name**	
· **ADR**	UN 1505 SODIUM PERSULPHATE
· **IMDG, IATA**	SODIUM PERSULPHATE
· **14.3 Transport hazard class(es)**	
· **ADR**	

· **Class**	5.1 (O2) Oxidising substances.
· **Label**	5.1
· **IMDG, IATA**	

· **Class**	5.1 Oxidising substances.
· **Label**	5.1
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **Marine pollutant:**	NO
· **14.6 Special precautions for user**	Warning: Oxidising substances.
· **Kemler Number:**	50
· **EMS Number:**	F-A,S-Q

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	not determined
· **Transport/Additional information:**	Transport by post may be prohibited or restricted.
· **ADR**	
· **Excepted quantities (EQ):**	E1
· **Limited quantities (LQ):**	5 kg
· **Transport category:**	3
· **Tunnel restriction code:**	E
· **UN "Model Regulation":**	UN1505, SODIUM PERSULPHATE, 5.1, III

SECTION 15: Regulatory information

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

· **National regulations**

· **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.
Employment restrictions concerning young persons must be observed.

· **Decree to be applied in case of technical fault:** Quantity limits according to "EC Seveso directive" should be observed.

· **Water hazard class:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
ID-Number: 1352

· **Other regulations, limitations and prohibitive regulations**
Observe restrictions on the marketing and use according to Annex XVII of Regulation (EC) No 1907/2006.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Reasons for changes:**
The Material Safety Data Sheet has been revised. Changes in the respective chapters are characterized in the left side edge by *.

· **Recommended restriction of use:** Industrial use

· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

· **Sources:** These data are based on information submitted by pre-suppliers.

· *** Data compared to the previous version altered.**