according to Regulation (EC) No. 1907/2006



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## 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 : Identified use: See table in front of appendix for a complete

Substance/Mixture 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 : Umwelt / Sicherheit

person

## 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

according to Regulation (EC) No. 1907/2006



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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

according to Regulation (EC) No. 1907/2006



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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

Haza	rdous components	Amount [%]	Classifi (REGULATION (EG Hazard class / Hazard category		Classification (67/548/EEC)
sodium hydro Index-No. CAS-No. EC-No. Registration C&L-No.	: 011-002-00-6 : 1310-73-2 : 215-185-5 : 01-2119457892-27-xxxx : 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.

according to Regulation (EC) No. 1907/2006



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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.

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> Avoid subsoil penetration. If the product contaminates rivers precautions

and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up

containment and cleaning

up

Methods and materials for : 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".

#### 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.

: Keep away from food, drink and animal feedingstuffs. Smoking, Hygiene measures

> 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)

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

overview of identified uses.

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## 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)

DNFL

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

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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 :  $> 14 (100 \text{ g/l}; 20 ^{\circ}\text{C})$ 

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

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> 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 : no data available

products

## **SECTION 11: Toxicological information**

## 11.1. Information on toxicological effects

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Component:	sodium hydroxide	CAS-No.	
	Acute toxicity	1310-73-2	
	Acute toxicity Oral		
	Orai		
	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	<ul><li>Patch test on human volu properties.</li><li>Did not cause sensitisatio</li></ul>	nteers did not demonstrate sensitisan n on laboratory animals.	ation
	CMR effects		
	CMR Propertie	s	
Carcinogenicity	: No experimental reference	es for cancerogenity available.	
Mutagenicity	: In vitro tests did not show In vivo tests did not show		
Teratogenicity	: no data available		
Reproductive toxicity	: Not expected to be impair	fertility.	
	Specific Target Organ	Toxicity	

Single exposure

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	remark : The substance or mixture is not classified as specific target organ toxicant, single exposure.			cific target organ	
	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 phosph	oreum; 15 min)		

# 12.2. Persistence and degradability

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

according to Regulation (EC) No. 1907/2006



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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 environment.

# 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 informat	tion
Result	: Harmful effects to aquatic organi	•

Neutralization is normally necessary before waste water is

discharged into water treatment plants.

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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.

Empty contaminated packagings thoroughly. They can be Contaminated packaging

> 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

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

## 14.3. Transport hazard class(es)

**ADR-Class** : 8

(Labels; Classification Code; Hazard 8; C6; 80; (E)

identification No; Tunnel restriction code)

RID-Class : 8

(Labels; Classification Code; Hazard 8; C6; 80

identification No)

**IMDG-Class** 

(Labels; EmS) 8; F-A, S-B

## 14.4. Packaging group

**ADR** : II RID : 11 **IMDG** : 11

## 14.5. Environmental hazards

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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 : no hazardous according to 2.9.3 IMDG 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:

Journal 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	ŘÉ-31487
KECI (KR)	YES	97-1-136
NZIOC	YES	HSR001547
PICCS (PH)	YES	
TSCA	YES	

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> **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.

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.



according to 1907/2006/EC, Article 31

CORROSIVE AGENT - Ä100/Disodium peroxodisulphate

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# 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

 $\cdot$  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/ausstellen- : Umwelt / Sicherheit

de Person

# 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

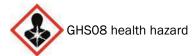
Ox. Sol. 2 H272 May intensify fire; oxidiser.



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



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 G

· 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.



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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:

Kemo<sup>®</sup>
Electronic

according to 1907/2006/EC, Article 31

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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.

## $\cdot$ 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.

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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) to 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.

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- · 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 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/m<sup>3</sup>

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



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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 (Ives)

- 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 tha	t are relev	ant for clas	sification:
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Oral	LD50	920 mg/kg (rat) (IUCLID)
Dermal		> 10000 mg/kg (rabbit)
Inhalative	I CO/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:

	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

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- · 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

SECTIO	N 14: Tra	ansport i	nformation
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· 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

• 14.5 Environmental hazards: Not applicable.

· Marine pollutant:

• 14.6 Special precautions for user Warning: Oxidising substances.

Kemler Number: 50EMS Number: F-A,S-Q



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<ul> <li>14.7 Transport in bulk according to Anne MARPOL73/78 and the IBC Code</li> </ul>	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.

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