

# SAFETY DATA SHEET

According to regulations (CE) No. 1907/2006 and 2015/830



Revision date : 22/11/2016

Version 16.1

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Catalogue No **909**  
Product name **Sodium hydroxide solution (NaOH) = 4 N (4 mol/l)**  
REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

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

Identified uses Reagent for analysis

### 1.3 Details of the supplier of the safety data sheet

Company Laboratoires Dujardin-Salleron 37210 Noizay France Phone +33 (0)2 47 25 58 25  
mail : [info@dujardin-salleron.com](mailto:info@dujardin-salleron.com) - site : [www.dujardin-salleron.com](http://www.dujardin-salleron.com)

1.4 Emergency telephone number France : INRS : +33 (0)1 45 42 59 59

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (Regulation (CE) N° 1272/2008)

Skin corrosion, Category 1A, H314

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

### 2.2 Label elements

#### Labeling (Regulation (CE) N° 1272/2008)

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

*Precautionary statements*

*Prevention*

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.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

### 2.3 Other hazards

None known.

## SECTION 3. Composition/information on ingredients

**Chemical nature:** Aqueous solution

### Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical Name (Concentration):*

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Sodium hydroxide ( $\geq 14 - \leq 16\%$ )

CAS N°	EC N°	REACH N°	Classification
1310-73-2	215-185-5	01-2119457892-27-XXXX	Skin corrosion, Category 1A, H314 Corrosive to metals, Category 1, H290

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:* first aider needs to protect himself.

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Immediately remove contaminated clothing. In case of skin reaction, consult a physician.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Consult an ophthalmologist if necessary.

After swallowing: make victim drink water (two glasses at most). Consult a physician in case of faintness.

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

Irritation and corrosion.

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

No information available.

## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Water, foam, dry powder or carbon dioxide (CO<sub>2</sub>).

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

### 5.3 Advice for firefighters

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### 6.2 Environmental precautions

Do not empty into drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralizing material (e.g. Trivorex® (PREVOR)). Dispose of properly.

Clean up affected area.

### 6.4 Additional information

Clear spills immediately.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

*Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with this mixture.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Requirements for storage areas and containers: no aluminum, tin or zinc containers.

Store at +15°C to +25°C.

Keep containers tightly closed in a cool well-ventilated place.

### 7.3 Specific end use(s)

See exposure scenario in the Annex to this SDS.

## SECTION 8. Exposure controls / personal protection

### 8.1 Control parameters

#### Components with occupational exposure limit values

*Sodium hydroxide (1310-73-2)*

Base	Value	Threshold limit values	Comment
Limit value for occupational exposure (VLEP France)	Time Weighted Average Threshold Limit Value	2 mg/m <sup>3</sup>	Indicative limit values
<b>Derived No Effect Level (DNEL)</b>			
Worker DNEL, long term		Local effects	inhalation 1 mg/m <sup>3</sup>
Consumer DNEL, long term		Local effects	inhalation 1 mg/m <sup>3</sup>

### Recommended control procedures

Measuring methods of workplace atmosphere must meet DIN EN 482 and DIN EN 689 standards.

### 8.2 Exposure controls

#### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. For exposed handling, use devices equipped with a local exhaust ventilation.

See section 7.1.

#### Individual protection measures

*Eye/face protection*

Tightly fitting safety glasses

*Hand protection*

full contact:

Glove material: Nitrile rubber  
Glove thickness: 0.11 mm  
Break through time: > 480 min

Splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0.11 mm  
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

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## *Other protective equipment*

Wear alkali resistant protective clothing, provided with a CE marking.

## *Respiratory protection*

Required when vapors/aerosols are generated.

Recommended filter type: P 2.

The company has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented

## **Environmental exposure controls**

Do not empty into drains.

## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	liquid.
Color	colorless.
Odor	odorless.
Odor Threshold	not applicable.
pH	14 at 20 °C
Melting point	no information available.
Boiling point/boiling range	no information available.
Flash point	no information available.
Evaporation rate	no information available.
Flammability (solid, gas)	not applicable
Lower explosion limit	no information available.
Upper explosion limit	no information available.
Vapor pressure	no information available.
Relative vapor density	no information available.
Relative density	no information available.
Water solubility	at 20°C soluble
Partition coefficient: n- octanol/water	no information available.
Auto-ignition temperature	no information available.
Decomposition temperature	no information available.
Viscosity, dynamic	no information available.
Explosive properties	not classified as explosive.
Oxidizing properties	none

### **9.2 Other data**

Bulk density	no information available.
Refraction index	no information available.
Dissociation constant	no information available.
Surface tension	no information available.
Henry constant	no information available.
Corrosion	May be corrosive to metals.

## **SECTION 10. Stability and reactivity**

### **10.1 Reactivity**

See section 10.3

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## 10.2 Chemical stability

The product is chemically stable for 2 years under standard ambient conditions (room temperature).

## 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Nitriles, ammonium compounds, cyanides, magnesium, organic nitro compounds, organic combustible substances, phenols, powdered alkaline earth metals, acids.

## 10.4 Conditions to avoid

No information available

## 10.5 Incompatible materials

Aluminum, zinc, tin, brass, acids

## 10.6 Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), sodium oxides.

## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

##### *Acute oral toxicity*

If ingested, mixture causes severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

##### *Acute inhalation toxicity*

If inhaled, mixture causes mucosal irritations, cough and shortness of breath, with risk of damage of respiratory tract.

##### *Acute dermal toxicity*

No information available.

##### *Skin irritation*

Mixture causes burns and necrosis.

##### *Eye irritation*

Mixture causes serious eye damage, with risk of necrosis and blindness.

##### *Sensitization*

No information available.

##### *Specific target organ toxicity - single exposure*

No information available.

##### *Specific target organ toxicity - repeated exposure*

No information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

##### *Germ cell mutagenicity*

No information available.

##### *Carcinogenicity*

No information available.

##### *Reproductive toxicity*

No information available.

##### *Teratogenicity*

No information available.

##### *Aspiration hazards*

No information available.

### 11.2 Further information

Handle in accordance with good industrial hygiene and safety practice.

#### Components

##### **sodium hydroxide**

###### *Acute oral toxicity*

LD50 rat: 1350 mg/kg (IUCLID)

###### *Skin irritation*

Rabbit: Result: Causes burns. (RTECS)

###### *Eye irritation*

Rabbit: Result: Causes burns. (RTECS)

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*Germ cell mutagenicity*  
*Genotoxicity in vitro*  
Mutagenicity (mammal cell test): micronucleus. Result: negative (Lit.)  
*Ames test*  
Result: negative (IUCLID)  
*Teratogenicity*  
Did not show teratogenic effects in animal experiments. (Lit.)

## SECTION 12. Ecological information

### Mixture

#### 12.1 Ecotoxicity

Acute (short-term) fish toxicity LC50 - EC50 - species - exposure time	No information available.
Chronic (long-term) fish toxicity LC50 - EC50 - species - exposure time	No information available.
Acute (short-term) daphnia toxicity LC50 - EC50 - species - exposure time	No information available.
Chronic (long-term) daphnia toxicity LC50 - EC50 - species - exposure time	No information available.
Acute (short-term) algae toxicity LC50 - EC50 - species - exposure time	No information available.
Chronic (long-term) algae toxicity LC50 - EC50 - species - exposure time	No information available.

**12.2 Persistence and degradability - Biodegradability** No information available.

**12.3 Bioaccumulative potential** No information available.

**12.4 Mobility in soil** No information available.

**12.5 Results of PBT and vPvB assessment** No information available.

#### 12.6 Other adverse effects

Discharge into the environment must be avoided.

### Components

#### *sodium hydroxide*

*Toxicity to fish*  
LC50 Oncorhynchus mykiss (rainbow trout): 45.4 mg/l; 96 h (50% solution) (IUCLID)  
*Toxicity to daphnia and other aquatic invertebrates*  
EC50 Daphnia magna (Water flea): 76 mg/l; 24 h (50% solution) (External SDS)  
*Toxicity to bacteria*  
CE50 Photobacterium phosphoreum: 22 mg/l; 15 min (External SDS).  
*Biodegradability*  
The methods for determining biodegradability are not applicable to inorganic substances.  
*Bioaccumulation*  
Bioaccumulation is unlikely.

## SECTION 13. Disposal considerations

### *Waste treatment methods*

Waste must be disposed of in accordance with the Directive on waste 2008/98/EC and with local and national regulations. Leave chemicals in original containers. No mixing with other waste. Treat uncleaned containers like the product itself.

## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number	1824
14.2 Proper shipping name	SODIUM HYDROXIDE SOLUTION
14.3 Class	8
14.4 Packing group	II

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14.5 Environmentally hazardous --  
14.6 Special precautions for users yes  
Tunnel restriction code E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

UN number 1824  
Proper shipping name SODIUM HYDROXIDE SOLUTION  
Class 8  
Packing group II  
Environmentally hazardous --  
Special precautions for users yes

### Sea transport (IMDG)

UN number 1824  
Proper shipping name SODIUM HYDROXIDE SOLUTION  
Class 8  
Packing group II  
Environmentally hazardous --  
Special precautions for users yes  
EMS F-A S-B  
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not relevant

## SECTION 15. Regulatory information

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

Aquatic Class risk (WGK) WGK1 (slightly hazardous for water).  
Occupational restrictions Take note of Directive 94/33/EC on the protection of young people at work and Directive 92/85/EEC on the safety and health at work of pregnant women  
Substances of very high concern (SVHC) This product does not contain substances of very high concern above the respective regulatory limit (> 0.1% (w/w) Regulation (EC) N° 1907/2006 (REACH), Article 57

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16. Other information

### 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.

### Training advice

Provide adequate information, instruction and training for operators.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

*The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*

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ANNEX: Extract of the exposure scenario (ES n°2) of workers and environment for professional use of substance sodium hydroxide in accordance with REACH regulation (EC) No 1907/2006

## 1. Professional use (Reagent for analysis)

### Sectors of end-use

SU 22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

### Chemical product category

PC 21 Laboratory chemicals

### Process categories

PROC 15 Use as laboratory reagent

### Environmental Release Categories

ERC 2 Formulation of preparations

ERC 6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC 6b Industrial use of reactive processing aids

## 2. Contributing scenarios: Operational conditions and risk management

### 2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC6a, ERC6b

#### Technical conditions and measures / Organizational measures

Water Solutions with high pH-value must be neutralized before discharge.

Remarks Do not allow uncontrolled discharge of product into the environment..

### 2.2 Contributing scenario controlling worker exposure for: PROC15

#### Product characteristics

Concentration of the Substance in Mixture/Article covers the percentage of the substance in the product up to 100 %.

Physical Form (at time of use) Aqueous solution

#### Frequency and duration of use

Frequency of use 600 minutes / day

Frequency of use 200 days / year

#### Other operational conditions affecting workers exposure

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

#### Technical conditions and measures

Good work practice required. Ensure adequate ventilation, especially in confined areas.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves (tested to EN374), coverall and eye protection. Breathing apparatus only if aerosol or dust is formed.

## 3. Exposure estimation and reference to its source

For (other) local effects risk management measures are based on qualitative risk characterization.

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).