

# SAFETY DATA SHEET

Version 8.12  
Revision Date 03/08/2024  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Sodium hydroxide pellets EMPLURA®  
Product Number : 1.06462  
Catalogue No. : 106462  
Brand : Millipore  
Index-No. : 011-002-00-6  
CAS-No. : 1310-73-2

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

Identified uses : Chemical production, Reagent for analysis  
Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

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

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES  
Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

### 1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Corrosive to Metals (Category 1), H290  
Skin corrosion (Category 1A), H314  
Serious eye damage (Category 1), H318  
Short-term (acute) aquatic hazard (Category 3), H402

Millipore - 1.06462

Page 1 of 11

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

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard Statements

H290

May be corrosive to metals.

H314

Causes severe skin burns and eye damage.

H402

Harmful to aquatic life.

Precautionary Statements

P234

Keep only in original container.

P260

Do not breathe dust.

P264

Wash skin thoroughly after handling.

P273

Avoid release to the environment.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

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

P304 + P340 + P310

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 +

IF IN EYES: Rinse cautiously with water for several minutes.

P310

Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P363

Wash contaminated clothing before reuse.

P390

Absorb spillage to prevent material damage.

P405

Store locked up.

P406

Store in corrosive resistant container with a resistant inner liner.

P501

Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Formula : NaOH  
 Molecular weight : 40 g/mol  
 CAS-No. : 1310-73-2  
 EC-No. : 215-185-5  
 Index-No. : 011-002-00-6

Component	Classification	Concentration
<b>sodium hydroxide</b>		
	Met. Corr. 1; Skin Corr. 1A; Eye Dam. 1; Aquatic	<= 100 %

	Acute 3; H290, H314, H318, H402 Concentration limits: >= 0.4 %: Met. Corr. 1, H290; >= 5 %: Skin Corr. 1A, H314; 2 - < 5 %: Skin Corr. 1B, H314; 0.5 - < 2 %: Skin Irrit. 2, H315; 0.5 - < 2 %: Eye Irrit. 2, H319;	
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For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

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

## 5.2 Special hazards arising from the substance or mixture

Sodium oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

## 5.3 Advice 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.

## 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

For precautions see section 2.2.

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

#### Storage conditions

No aluminium, tin, or zinc containers. No metal containers.

Tightly closed. Dry.

Recommended storage temperature see product label.

#### Storage class

Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
sodium hydroxide	1310-73-2	C	2 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		C	2 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	2 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		C	2 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

### 8.2 Exposure controls

#### Appropriate engineering controls

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

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

### **Body Protection**

protective clothing

### **Respiratory protection**

Recommended Filter type: Filter type P2

The entrepreneur 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.

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### **Control of environmental exposure**

Do not let product enter drains.

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

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

- |   |   |
|---|---|
| a) Appearance                                   | Form: solid<br>Color: white             |
| b) Odor   | odorless                                |
| c) Odor Threshold                               | Not applicable                          |
| d) pH   | ca. > 14 at 100 g/l at 20 °C (68 °F)    |
| e) Melting point/freezing point                 | Melting point: 318 °C (604 °F)          |
| f) Initial boiling point and boiling range      | 1,390 °C 2,534 °F at 1,013 hPa          |
| g) Flash point                                  | ( )Not applicable                       |
| h) Evaporation rate                             | No data available                       |
| i) Flammability (solid, gas)                    | No data available                       |
| j) Upper/lower flammability or explosive limits | No data available                       |
| k) Vapor pressure                               | No data available                       |
| l) Vapor density                                | 1.38 - (Air = 1.0)                      |
| m) Density                                      | 2.13 g/cm <sup>3</sup> at 20 °C (68 °F) |
| Relative density                                | No data available                       |
| n) Water solubility                             | 1,090 g/l at 20 °C (68 °F)              |
| o) Partition coefficient: n-octanol/water       | Not applicable for inorganic substances |
| p) Autoignition                                 | No data available                       |

Millipore - 1.06462

Page 6 of 11

- temperature
- q) Decomposition temperature No data available
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties none

## 9.2 Other safety information

Dissociation constant 14.8 at 25 °C (77 °F)

Relative vapor density 1.38 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Acetone

Chlorine

Ethylene oxide

Fluorine

Hydrogen halides

Hydrazine hydrate

hydroxylamine

Acid anhydrides

Acrolein

Acid chlorides

Acids

sulfuric acid

Chloroform

Water

hydrogen peroxide

anhydrides

phosphides

halogen-halogen compounds

trichloroethene

can decompose violently in contact with:

Organic Substances

hydrogen sulphide

Risk of ignition or formation of inflammable gases or vapours with:

powdered aluminium

Ammonium salts

persulfates

Millipore - 1.06462

Page 7 of 11

Sodium borohydride  
phosphorus  
Oxides of phosphorus  
Halogenated hydrocarbon  
Light metals  
Metals  
Risk of explosion/exothermic reaction with:  
Bromine  
Calcium  
in powder form  
furfuryl alcohol  
Nitromethane  
Peroxides  
organic nitro compounds  
Nitriles  
Acrylic monomers  
Chloroform  
with  
Acetone  
Nitrobenzene  
with  
Methanol  
Nitrobenzene  
with  
salts  
magnesium  
Zinc  
and  
Tin  
(in the presence of atmospheric oxygen and/or moisture)

#### **10.4 Conditions to avoid**

no information available

#### **10.5 Incompatible materials**

No data available

#### **10.6 Hazardous decomposition products**

In the event of fire: see section 5

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## **SECTION 11: Toxicological information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

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

Inhalation: Corrosive to respiratory system.

Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages: , damage of respiratory tract

Dermal: No data available



**Skin corrosion/irritation**

Skin - Rabbit

Result: Causes burns.

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Remarks: Causes serious eye damage.

**Respiratory or skin sensitization**

Patch test: - In vitro study

Result: negative

Remarks: (ECHA)

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish	LC50 - <i>Gambusia affinis</i> (Mosquito fish) - 125 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	EC50 - <i>Ceriodaphnia</i> (water flea) - 40.4 mg/l - 48 h Remarks: (ECHA)
Toxicity to bacteria	EC50 - <i>Photobacterium phosphoreum</i> - 22 mg/l - 15 min Remarks: (External MSDS)

### 12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Endocrine disrupting properties

No data available

### 12.7 Other adverse effects

Harmful effect due to pH shift.  
Forms corrosive mixtures with water even if diluted.  
Neutralisation possible in waste water treatment plants.  
Discharge into the environment must be avoided.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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**SECTION 14: Transport information****DOT (US)**

UN number: 1823 Class: 8 Packing group: II  
Proper shipping name: Sodium hydroxide, solid  
Reportable Quantity (RQ): 1000 lbs  
Poison Inhalation Hazard: No

**IMDG**

UN number: 1823 Class: 8 Packing group: II EMS-No: F-A, S-B  
Proper shipping name: SODIUM HYDROXIDE, SOLID

**IATA**

UN number: 1823 Class: 8 Packing group: II  
Proper shipping name: Sodium hydroxide, solid

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**SECTION 15: Regulatory information****SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
sodium hydroxide	1310-73-2	

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**SECTION 16: Other information****Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 8.12 Revision Date: 03/08/2024 Print Date: 06/08/2024