

Creation Date 16-Jun-2009

Revision Date 01-Jan-2021

Revision Number 11

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1. Product identifier**

**Product Description:** Sodium hydroxide - pearl  
**Cat No. :** S/4800/60, S/4800/70, S/4800/68, S/4800/65, S/4800  
**Synonyms** Caustic soda  
**CAS-No** 1310-73-2  
**EC-No.** 215-185-5  
**Molecular Formula** H Na O  
**Reach Registration Number** 01-2119457892-27

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

**Recommended Use** Laboratory chemicals.  
**Sector of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Product category** PC21 - Laboratory chemicals  
**Process categories** PROC15 - Use as a laboratory reagent  
**Environmental release category** ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)  
**Uses advised against** No Information available

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

**Company** **UK entity/business name**  
 Fisher Scientific UK  
 Bishop Meadow Road, Loughborough,  
 Leicestershire LE11 5RG, United Kingdom

**EU entity/business name**  
 Acros Organics BVBA  
 Janssen Pharmaceuticaaan 3a  
 2440 Geel, Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

**1.4. Emergency telephone number**

Tel: 01509 231166  
 Chemtrec US: (800) 424-9300  
 Chemtrec EU: 001 (202) 483-7616

**SECTION 2: HAZARDS IDENTIFICATION**

**2.1. Classification of the substance or mixture**

**CLP Classification - Regulation (EC) No 1272/2008**

**Physical hazards**

# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

Substances/mixtures corrosive to metal

Category 1 (H290)

## Health hazards

Skin Corrosion/Irritation  
Serious Eye Damage/Eye Irritation

Category 1 A (H314)  
Category 1 (H318)

## Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## 2.2. Label elements



Signal Word

Danger

## Hazard Statements

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

## Precautionary Statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection  
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  
P310 - Immediately call a POISON CENTER or doctor/physician  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

## 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

Toxic to terrestrial vertebrates

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Sodium hydroxide	1310-73-2	EEC No. 215-185-5	100	Met. Corr. 1 (H290) Skin Corr. 1A (H314) Eye Dam. 1 (H318)

Component	Specific concentration limits	M-Factor	Component notes
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# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

	(SCL's)		
Sodium hydroxide	Skin Corr. 1A :: C $\geq$ 5% Skin Corr. 1B :: 2% $\leq$ C $<$ 5% Eye Irrit. 2 :: 0.5% $\leq$ C $<$ 2% Skin Irrit. 2 :: 0.5% $\leq$ C $<$ 2%	-	-

<b>Reach Registration Number</b>	01-2119457892-27
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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General Advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.
<b>Ingestion</b>	Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Drink plenty of water.
<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Causes burns by all exposure routes. . Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

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

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

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

The product causes burns of eyes, skin and mucous membranes.

# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

## Hazardous Combustion Products

Hydrogen, Sodium oxides.

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

### 6.2. Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

### 6.3. Methods and material for containment and cleaning up

Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK)  
(Germany)

Class 8B

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): **UK** - EH40/2005 Work Exposure Limits, Third edition. Published 2018. **IRE** - 2018 Code of Practice for the Chemical

# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Sodium hydroxide	2 mg/m <sup>3</sup> STEL		STEL: 2 mg/m <sup>3</sup> 15 min

## Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

## Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

**Derived No Effect Level (DNEL)** See table for values

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral Dermal Inhalation	1 mg/m <sup>3</sup>			

**Predicted No Effect Concentration (PNEC)** No information available.

## 8.2. Exposure controls

### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Neoprene	> 480 minutes	0.45 mm	Level 6	As tested under EN374-3 Determination of Resistance to Permeation by Chemicals
Butyl rubber	> 480 minutes	0.35 mm	EN 374	
Viton (R)	> 480 minutes	0.30 mm		

**Skin and body protection** Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143

## Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141  
When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls** Prevent product from entering drains.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

<b>Physical State</b>	Solid	
<b>Appearance</b>	White	
<b>Odor</b>	Odorless	
<b>Odor Threshold</b>	No data available	
<b>Melting Point/Range</b>	318 °C / 604.4 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	1390 °C / 2534 °F	@ 760 mmHg
<b>Flammability (liquid)</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	Not flammable	
<b>Explosion Limits</b>	No data available	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>pH</b>	14	(5 %)
<b>Viscosity</b>	Not applicable	Solid
<b>Water Solubility</b>	Completely soluble	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Vapor Pressure</b>	1 mbar @ 700 °C	
<b>Density / Specific Gravity</b>	No data available	
<b>Bulk Density</b>	2.13 g/cm <sup>3</sup>	
<b>Vapor Density</b>	Not applicable	Solid
<b>Particle characteristics</b>	No data available	

### 9.2. Other information

<b>Molecular Formula</b>	H Na O
<b>Molecular Weight</b>	40
<b>Explosive Properties</b>	Not explosive
<b>Evaporation Rate</b>	Not applicable - Solid

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

Yes  
Contact with metals may evolve flammable hydrogen gas

### 10.2. Chemical stability

Stable under normal conditions.

# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

## 10.3. Possibility of hazardous reactions

**Hazardous Polymerization** Hazardous polymerization does not occur.  
**Hazardous Reactions** None under normal processing.

## 10.4. Conditions to avoid

Incompatible products. Excess heat.

## 10.5. Incompatible materials

Strong oxidizing agents. Acids. Metals. Water. Alcohols.

## 10.6. Hazardous decomposition products

Hydrogen. Sodium oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Product Information

##### (a) acute toxicity;

**Oral**

Based on available data, the classification criteria are not met

**Dermal**

Based on available data, the classification criteria are not met

**Inhalation**

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hydroxide	140 - 340 mg/kg ( Rat )	1350 mg/kg ( Rabbit )	-

(b) skin corrosion/irritation; Category 1 A

(c) serious eye damage/irritation; Category 1

##### (d) respiratory or skin sensitization;

**Respiratory**

Based on available data, the classification criteria are not met

**Skin**

Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met  
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Based on available data, the classification criteria are not met

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

**Target Organs**

None known.

(j) aspiration hazard; Not applicable  
Solid

# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

## 11.2. Information on other hazards

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecotoxicity effects** Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Sodium hydroxide	LC50: = 45.4 mg/L, 96h static (Oncorhynchus mykiss)		

### 12.2. Persistence and degradability

**Persistence** Soluble in water, Persistence is unlikely, based on information available.  
**Degradability** Not relevant for inorganic substances.  
**Degradation in sewage treatment plant** Neutralization is normally necessary before waste water is discharged into water treatment plants.

**12.3. Bioaccumulative potential** MATERIAL DOES NOT BIOACCUMULATE

**12.4. Mobility in soil** The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

**12.5. Results of PBT and vPvB assessment** Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

### 12.6. Endocrine disrupting properties

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

### 12.7. Other adverse effects **Persistent Organic Pollutant** **Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from Residues/Unused Products** Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**European Waste Catalogue (EWC)** According to the European Waste Catalog, Waste Codes are not product specific, but



# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

**Other Information** application specific.  
Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Solutions with high pH-value must be neutralized before discharge.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

**14.1. UN number** UN1823  
**14.2. UN proper shipping name** Sodium hydroxide, solid  
**14.3. Transport hazard class(es)** 8  
**14.4. Packing group** II

### ADR

**14.1. UN number** UN1823  
**14.2. UN proper shipping name** Sodium hydroxide, solid  
**14.3. Transport hazard class(es)** 8  
**14.4. Packing group** II

### IATA

**14.1. UN number** UN1823  
**14.2. UN proper shipping name** Sodium hydroxide, solid  
**14.3. Transport hazard class(es)** 8  
**14.4. Packing group** II

**14.5. Environmental hazards** No hazards identified  
**14.6. Special precautions for user** No special precautions required  
**14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

#### International Inventories

X = listed, Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), China (IECSC), Japan (ENCS), Australia (AICS), Korea (ECL).

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Sodium hydroxide	215-185-5	-		X	X	-	X	X	X	X	KE-3148 7

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals  
Not applicable

#### National Regulations

**WGK Classification** See table for values

# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Sodium hydroxide	WGK1	

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has been conducted by the manufacturer/importer

## 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  
H318 - Causes serious eye damage

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

VOC (volatile organic compound)

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

**Creation Date** 16-Jun-2009

**Revision Date** 01-Jan-2021

**Revision Summary** Update to CLP Format.

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006  
COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No**

# SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

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1907/2006

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**