## 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 Pharmaceuticalaan 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**
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

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

3.1. Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>EC-No.</th>
<th>Weight %</th>
<th>CLP Classification - Regulation (EC) No 1272/2008</th>
</tr>
</thead>
</table>
                        |          |                |          | Skin Corr. 1A (H314)  
                        |          |                |          | Eye Dam. 1 (H318) |

---

FSUS4800
SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice
Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact
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.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

Ingestion
Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Drink plenty of water.

Inhalation
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.

Self-Protection of the First Aider
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
CO₂, 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.
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
SAFETY DATA SHEET

Sodium hydroxide - pearl

Revision Date 01-Jan-2021

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

<table>
<thead>
<tr>
<th>Component</th>
<th>The United Kingdom</th>
<th>European Union</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>2 mg/m³ STEL</td>
<td></td>
<td>STEL: 2 mg/m³ 15 min</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Acute effects (local)</th>
<th>Acute effects (systemic)</th>
<th>Chronic effects (local)</th>
<th>Chronic effects (systemic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>1 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>EU standard</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neoprene</td>
<td>&gt; 480 minutes</td>
<td>0.45 mm</td>
<td>Level 6</td>
<td>As tested under EN374-3 Determination of Resistance to Permeation by Chemicals</td>
</tr>
<tr>
<td>Butyl rubber</td>
<td>&gt; 480 minutes</td>
<td>0.35 mm</td>
<td>EN 374</td>
<td></td>
</tr>
<tr>
<td>Viton (R)</td>
<td>&gt; 480 minutes</td>
<td>0.30 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
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

**Physical State**
Solid

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>318 °C / 604.4 °F</td>
</tr>
<tr>
<td>Softening Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>1390 °C / 2534 °F @ 760 mmHg</td>
</tr>
<tr>
<td>Flammability (liquid)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Autignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>14</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Completely soluble</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>1 mbar @ 700 °C</td>
</tr>
<tr>
<td>Density / Specific Gravity</td>
<td>No data available</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>2.13 g/cm³</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Particle characteristics</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

**Molecular Formula**
H Na O

**Molecular Weight**
40

**Explosive Properties**
Not explosive

**Evaporation Rate**
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.
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


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

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>140 - 340 mg/kg (Rat)</td>
<td>1350 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
</tbody>
</table>

(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;
   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.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Fish</th>
<th>Water Flea</th>
<th>Freshwater Algae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>LC50: = 45.4 mg/L, 96h static (Oncorhynchus mykiss)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
This product does not contain any known or suspected substance

Ozone Depletion Potential
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
Other Information

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).

<table>
<thead>
<tr>
<th>Component</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>PICCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>AICS</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>215-185-5</td>
<td>-</td>
<td></td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>KE-3148 7</td>
</tr>
</tbody>
</table>


Not applicable

National Regulations

WGK Classification See table for values
SAFETY DATA SHEET

Sodium hydroxide - pearl

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

Revision Date 01-Jan-2021

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
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
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
KECL - Korean Existing and Evaluated Chemical Substances
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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

FSUS4800
SAFETY DATA SHEET

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