1. **PRODUCT:** Solid Caustic Soda  
   Chemical name: Sodium Hydroxide  
   1.1 **REACH registration number:** 01-2119457892-27  
   1.2 **USE:** Heavy Duty Cleaner

2. **HAZARD IDENTIFICATION**
   2.1 **GHS Classification**
   2.1.1 Classified as hazardous according to the European regulation (EC) 1272/2008, as amended
   
<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Hazard Category</th>
<th>Route of exposure</th>
<th>H Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion</td>
<td>Category 1A</td>
<td></td>
<td>H314</td>
</tr>
<tr>
<td>Corrosive to metals</td>
<td>Category 1</td>
<td></td>
<td>H290</td>
</tr>
</tbody>
</table>

   2.1.2 Classified as hazardous according to the European Directive 67/548/EEC or 1999/45/EC, as amended
   
<table>
<thead>
<tr>
<th>Hazard Class/Hazard Category</th>
<th>R-Phrase(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>R35</td>
</tr>
</tbody>
</table>

2.2 **EC Label- According to Regulation (EC) 1272/2008, as amended**

2.2.1 **Names on label**
   Hazardous Components: Sodium Hydroxide

2.2.2 **Signal Word**
   Danger

2.2.3 **Hazard Symbols**

2.2.4 **Hazard Statements**
   - H314 - Causes severe skin burns and eye damage
   - H290 - may be corrosive to metals
2.2.5 Precautionary statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response: P303+P361+P353 - IF ON SKIN (or hair): Remove/take off immediately all Contaminated clothing. Rinse skin with water/shower.
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 CENTRE or doctor/physician.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Conc.Range</th>
<th>CAS No.</th>
<th>EC No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>&gt;= 99%</td>
<td>1310-73-2</td>
<td>215-185-5</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1 Speed is essential. Always obtain immediate medical attention.

Inhalation: Remove patient from exposure, keep warm and at rest. Administer Oxygen if necessary.

Ingestion: Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300ml (half a pint) of water to drink.

Skin Contact: Remove contaminated clothing. Drench with large quantities of water. Continue to wash the affected area for at least 20 minutes.

Eye Contact: Immediately irrigate with eyewash solution or fresh water, holding the eyelids apart, for at least 20 minutes. Continue irrigation until medical attention can be obtained.

4.2 Most Important symptoms/effects

Inhalation: - Corrosive to respiratory system
- Symptoms: Breathing difficulties. Cough, chemical pneumonitis, pulmonary oedema
- Repeated or prolonged exposure: Risk of sore throat, nose bleeds, chronic bronchitis

Skin contact - Causes severe burns.
- Symptoms: Redness, swelling of tissue, burn.

Eye contact - Causes severe burns.
- Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
- May cause permanent eye injury.
- Symptoms: Redness, lachrymation, swelling of tissue, burn.

Ingestion - Severe burns of the mouth and throat, as well as danger of perforation of the Oesophagus and the stomach.
- Symptoms: Nausea, abdominal pain, bloody vomiting, diarrhea, suffocation, cough, Severe shortness of breath.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Non combustible. For adjacent fires use foam, powder or carbon dioxide. Do not use water.

Hazardous decomposition products: Can react with some metals generating hydrogen gas with its associated hazard.

Special protective equipment: Wear protective clothing, goggles and gloves.

Other information: Reaction with moisture may generate sufficient heat to ignite with combustible material.
6. ACCIDENTAL RELEASE MEASURES
Evacuate all unnecessary personnel from the area.
Personal precautions: Ensure suitable personal protection (including respiratory protection) during the removal of spillage. Protect against dust. See sections 7 and 8.
Environmental precautions: See section 12
Methods for cleaning: Contain spillage
Transfer to container for disposal or recovery.
Wash the spillage with copious amounts of water.
Spillage or uncontrolled discharges into watercourses, drain or sewers must be immediately alerted to the National Rivers Authority or other appropriate regulatory body.

7. HANDLING AND STORAGE
Useage precautions: Avoid contact with skin and eyes.
Avoid inhalation of high concentrations of dust.
Keep away from aluminium, zinc, lead, tin, acids and chlorinated hydrocarbons.
Care should be taken when dissolving.
Atmospheric levels should be controlled in compliance with the occupational exposure limit.
Storage precautions: Keep containers tightly closed. Keep container dry.
Suitable materials for storage containers: Stainless steel, Polyethylene.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Engineering measures: Ensure adequate ventilation
Exposure Limits:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Occupational Exposure Limits</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8 hr LTEL (1) ppm, mg/m³</td>
<td>15 min STEL(2) ppm, mg/m³</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

(1) Long-term exposure limit - 8 hour time weighted average.
(2) Short-term exposure limit - 15 mins time weighted average.
(S) Occupational Exposure Standard (OES)
(M) Maximum Exposure Limit (MEL)
(R) Recommended by suppliers
(A) Allocated limits by analogy with similar materials
(SK) Risk of absorption through unbroken skin
(Sen) Capable of causing sensitisation by inhalation

OEL's are taken from the current version of EH40, except those marked (R) or (A) which are assigned by the supplier of the substance.

Personal Protection:
Wear close fitting goggles or face shield.
Wear suitable protective clothing and gloves.
Wear suitable respiratory protective equipment if exposure to levels above the occupational limit is likely.

9. PHYSICAL AND CHEMICAL PROPERTIES
Physical state: Deliquescent white solid in form of small pellets
Specific gravity: 2.13
Solubility in water: Soluble with evolution of heat
pH (in water): >12
flammability: the product is not flammable

10. STABILITY AND REACTIVITY
Stability: Stable when stored as recommended.
Conditions to avoid: Can react violently in contact with acids and chlorinated hydrocarbons. Highly reactive with aluminium, zinc, lead, tin and alloys of these metals. Can react violently in contact with water.
Hazardous decomposition products: Usually flammable hydrogen gas.
11. TOXICOLOGICAL INFORMATION

Inhalation: Dust is severely irritant to the respiratory tract. Effect may vary from irritation of the nasal mucous membrane to severe lung irritation.

Skin contact: Corrosive. May cause severe burns with permanent skin damage which are slow to heal.

Eye contact: Extremely severe irritant/corrosive. May cause severe damage with formation of corneal ulcers and permanent impairment of vision.

Ingestion: Will immediately cause corrosion of and damage to the gastrointestinal tract. Lethal dose for man is approximately 5g.

Long term exposure: The severity of acute effects is such that significant repeated or prolonged exposure is unlikely.

12. ECOLOGICAL INFORMATION

The product is soluble in water and does not bioaccumulate. It degrades readily by reaction with natural carbon dioxide in the air. Concentrations greater than 10 ppm or a value above pH 10.5 may be fatal to freshwater fish and other aquatic organisms. Can cause damage to aquatic plants and vegetation. Concentrations sufficient to render effluent alkaline may cause damage to effluent treatment organisms.

Toxicity: Fishes, various species, LC50, 96 h, 35 – 189 mg/l
Crustaceans, Ceriodaphnia sp., EC50, 48 h, 40.4mg/l

PBT and vPvB assessment
This substance is not considered to be persistent, bioaccumulating and toxic (PBT)
This substance is not considered to be very persistent and very bioaccumulating (vPvB)

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local and national legislation. Solutions must be neutralised with acid before discharge.

Do not allow to enter drains or water courses or dispose of where ground or surface waters may be affected.

Waste material should be disposed of in accordance with the Control of Pollution (Special Waste) Regulations 1980.

14. TRANSPORT INFORMATION

Always transport in closed containers that are upright and secure. Ensure persons transporting the product know what to do in the event of an accident or spillage.

<table>
<thead>
<tr>
<th>Transport mode</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road/Rail – ADR/RID/AND</td>
<td>UN Number 1823</td>
</tr>
<tr>
<td></td>
<td>Class 8</td>
</tr>
<tr>
<td></td>
<td>Packaging Group II</td>
</tr>
<tr>
<td></td>
<td>ADR/RID labels 8-Corrosive</td>
</tr>
<tr>
<td></td>
<td>HI/UN No. 80/1823</td>
</tr>
<tr>
<td></td>
<td>Proper shipping name SODIUM HYDROXIDE, SOLID</td>
</tr>
</tbody>
</table>

| Sea - IMDG | UN Number 1823 |
| Class 8 |
| Packaging Group II |
| IMDG labels 8-Corrosive |
| HI/UN No. 1823 |
| EmS F-A |
| S-B |
| Proper shipping name SODIUM HYDROXIDE, SOLID |

| Air – IATA-DGR | UN Number 1823 |
| Class 8 |
| Packaging Group II |
| ICAO labels 8-Corrosive |
| Proper shipping name SODIUM HYDROXIDE, SOLID |
15. **REGULATORY INFORMATION**

This product is classified under the relevant EEC Regulations and Directives (REACH)

**Names:**
Contains Sodium Hydroxide 99-100% w/w  
EC Label  EC No 215-185-5  

**DANGER** Causes severe skin burns and eye damage

16. **OTHER INFORMATION**

Keep out of reach of children  
Read label before use  
Do not breathe dust  
Wash exposed skin thoroughly after handling  
Store locked up

**REFERENCE DOCUMENTS**

**STATUTORY**

Air Navigation (Dangerous Substances ) Regulations  
Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations 1996  
Control of Pollution (Amendment) Act 1989  
Control of Substances Hazardous to Health Regulations 1999  
Environmental Protection (Duty of Care) Regulations 1992  
Environmental Protection Act 1990  
Health and Safety at Work Act 1974  
International Rail/Road Transport - RID and ADR (Current Editions)  
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations  
Personal Protective Equipment at Work Regulations 1992  
Protection of Eyes Regulations 1974  
Provision and use of Personal Protective Equipment Regulations 1992  
Special Waste Regulations 1996  
The Pharmacy and Poisons Act 1933  
The Poisons Act 1972  
The Poisons Act List Order 1982 and amendments  
The Poisons Rules 1982 and amendments

**HEALTH AND SAFETY EXECUTIVE**

**GUIDANCE NOTES**

EH40  Occupational Exposure Limits  
EH44  Dust: General Principles of Protection  
HS(G)53  Respiratory Protective Equipment - A Practical Guide for Users  
HS(G)71  Storage of Packaged Dangerous Substances  
HS(G)193  COSHH Essentials: easy steps to control chemicals

**BRITISH STANDARDS PUBLICATIONS**

BS2091:  Respirators for Protection Against Harmful Dusts and Gases  
BS2092:  Eye Protection for Industrial and Non-Industrial Users  
BS4275:  Recommendations for the Selection, Use and Maintenance of Respiratory Protective Equipment  
BS7028:  Selection, use and Maintenance of Respiratory Protective Equipment

The information contained in the Health and Safety Data Sheet is provided in accordance with current regulations. The product should not be used for purposes other than those identified without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. This information contained in the safety data sheet is based on present knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular application.