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| Document # HSE-OHIH/MSDS/019<br>Revision: 02 | <b>Safety Data Sheet</b><br><b>Caustic Soda Flakes</b> | Date Prepared: 15-04-2013<br>Revision Date: 30-11-2017 |
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### Section 1: Chemical Product and Company Identification



**Company Identification:** Engro Polymer & Chemicals Ltd

Engro Polymers & Chemicals Limited.  
12th Floor, Ocean Towers, G-3, Khayaban-e-Iqbal, Block 9, Clifton, Karachi.  
**Emergency Telephone Number:** (+92) 21-111-411-411

Product Identifier : Product name Caustic Soda Flakes

Synonyms Sodium hydroxide

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against For use in industrial installations only

Details of the supplier of the safety data sheet

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### Section 2: Hazard identification

**Classification**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation Category 1 Sub-category A

Serious eye damage/eye irritation Category 1

Acute aquatic toxicity Category 3

**Label Elements**

**EMERGENCY OVERVIEW**

Physical Hazards Corrosive to Metals Category 1

**Precautionary Statements - Prevention**

Keep only in original container

Do not breathe dusts or mists

Wash face, hands and any exposed skin thoroughly after handling

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

Avoid release to the environment

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Precautionary Statements - Response  
 Absorb spillage to prevent material damage  
 IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing  
 Precautionary Statements - Storage  
 Store in corrosive resistant container with a resistant inner liner  
 Store locked up  
 Precautionary Statements - Disposal  
 Dispose of contents/container to an approved waste disposal plant  
 Hazards not otherwise classified

**Section 3 Composition and Information on Ingredients**

Synonyms Sodium hydroxide.  

|                  |           |          |
|------------------|-----------|----------|
| Chemical name    | CAS No    | weight-% |
| Sodium hydroxide | 1310-73-2 | 99-100   |

**Section 4: First Aid Measures**

**FIRST AID MEASURES**  
 General advice In case of accident or un wellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Do not delay care and transport of a seriously injured person.  
 Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required. Call a physician immediately.  
 Appearance white flakes Physical State solid Odor  
 Skin contact For minor skin contact, avoid spreading material on unaffected skin. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove and isolate contaminated clothing and shoes. Wash contaminated clothing before reuse. Immediate medical attention is required. Call a physician. Inhalation Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately. Keep body warm with blankets. Call a physician or poison control center immediately.  
 Ingestion Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or poison control center immediately. Most important symptoms and effects, both acute and delayed  
 Symptoms The product causes burns of eyes, skin and mucous membranes. MAY BE FATAL IF SWALLOWED.  
 Indication of any immediate medical attention and special treatment needed Note to physicians Treat symptomatically. In cases of severe esophageal corrosion, consider the therapeutic use of steroids. Supportive measures including monitoring of electrolytes, acid-base balance, gas exchange and fluid intake

## Safety Data Sheet Caustic Soda Flakes

### Section 5: Fire and Explosion Data

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. ABC-powder. Dry chemical. Unsuitable Extinguishing Media Do not use halon type extinguisher. DO NOT USE WATER, FOAM OR CO2. Water reactive.

Specific hazards arising from the chemical

Containers may explode when heated or if contaminated with water. Hazardous combustion products Non-combustible. In contact with water releases flammable gases. May ignite combustibles (wood paper, oil, clothing, etc.). Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Avoid contact with skin, eyes and inhalation of vapors. Evacuate personnel to safe areas. Environmental Precautions Environmental Precautions Prevent product from entering drains. Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment. See Section 12 for additional

Ecological Information

Methods for Containment Prevent further leakage or spillage if safe to do so. Dike far ahead of spill; use dry sand to contain the flow of material. Methods for cleaning up Spilled caustic soda rapidly absorbs moisture from the atmosphere to form a slippery solution. Collect spillage. Soak up with inert absorbent material. Never soak up spilled or leaked acids and bases with sawdust, wood chips or similar materials. Sweep up and shovel into suitable containers for disposal

### Section 7: Handling and Storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. When blending, always add caustic to water; never the reverse. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. To guarantee the quality and properties of the product keep protected from humidity and bad weather conditions. Packaging materials Corrosive to metal.

### Section 8: Exposure Controls/Personal Protection

Control parameters

Chemical name ACGIH TLV OSHA PEL NIOSH

Sodium hydroxide

1310-73-2

Ceiling: 2 mg/m<sup>3</sup> TWA: 2 mg/m<sup>3</sup>

(vacated) Ceiling: 2 mg/m<sup>3</sup>

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IDLH: 10 mg/m<sup>3</sup> Ceiling: 2 mg/m<sup>3</sup> Appropriate engineering controls Engineering controls Ensure adequate ventilation, especially in confined areas Individual protection measures, such as personal protective equipment  
 Eye/face Protection Wear safety glasses with side shields (or goggles). Face protection shield. Contact lenses should not be worn. Skin and Body Protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.  
 Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly after handling.

**Section 9: Physical and Chemical Properties**

Physical State solid Appearance white flakes  
 Odor Odorless Odor threshold No information available  
 Property Values Remarks•Method  
 pH 13-14 solution (0.5 %)

Melting point/freezing point 318 °C / 604 °F Melting point / melting range  
 Boiling point / boiling range 1390 °C / 2534 °F - Flash Point Not applicable  
 Evaporation Rate Not applicable  
 Flammability (solid, gas) Not applicable  
 Flammability Limit in Air  
 Upper flammability limit: Not applicable  
 Lower flammability limit: Not applicable  
 Vapor pressure Negligible  
 Vapor Density >1.0 @ Air = 1  
 Specific gravity 2.13 - Water solubility No information available  
 Solubility(ies) No information available  
 Partition coefficient No data available  
 Autoignition Temperature Not applicable  
 Decomposition temperature Not applicable  
 Flammable properties Not flammable  
 Explosive properties Not an explosive.  
 Oxidizing properties None known

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### Section 10: Stability and Reactivity Data

Stability Stable under recommended storage conditions. Possibility of hazardous reactions Hygroscopic, Incompatible Materials, Reacts with many compounds  
Hazardous polymerization None under normal processing  
Conditions to Avoid Reacts with water.  
Incompatible Materials Aluminum Brass Tin Zinc organic materials  
Chlorinated hydrocarbons  
Strong reducing agents  
Combustible material  
Hazardous decomposition products None known based on information supplied

### Section 11: Toxicological Information

Information on likely routes of exposure

Inhalation Irritating to respiratory system. Eye Contact Risk of serious damage to eyes. Corrosive to the eyes and may cause severe damage including blindness. Skin contact Causes severe burns. Ingestion Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Severe irritation of the mucous membranes causes vomiting, nausea and burns.

Chemical name                      Dermal LD50 Inhalation LC50

Sodium hydroxide                1350 mg/kg ( Rabbit ) -

Information on toxicological effects

Symptoms No information available. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes severe burns.

Serious eye damage/eye irritation Risk of serious damage to eyes. Sensitization No information available. Germ Cell Mutagenicity None known. Carcinogenicity There are no known carcinogenic chemicals in this product. Reproductive Toxicity No known effect based on information supplied. Developmental Toxicity None known.

STOT - single exposure Target Organs, Respiratory System, Skin, Eyes, Lungs, Mucous membrane

STOT - repeated exposure Not classified. Aspiration Hazard Not applicable

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### Section 12: Ecological Information

Ecotoxicity Harmful to aquatic life

Chemical name

Fish Crustacea

Sodium hydroxide

45.4: 96 h Oncorhynchus mykiss mg/L LC50 static

Persistence and degradability not persistent. Bioaccumulation Material does not bioaccumulate. Mobility Reacts with water. Other adverse effects No information available.

### Section 13: Disposal Considerations

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and Regulations. This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Do not empty into drains; dispose of this material and its container in a safe way. Contaminated packaging Improper disposal or reuse of this container may be dangerous and illegal.

### Section 14: Transport Information

DOT

UN/ID no UN1823

Proper Shipping Name Sodium Hydroxide, solid

Hazard Class 8

Packing group II

Reportable Quantity (RQ) 1000 lbs / 454 kg

Quantity Limitations Authorized weight in passenger aircraft is limited to 15 kg per parcel; therefore, not possible for 25 kg bags. Cargo aircraft authorizes 50 kg per parcel. Description UN 5H3/Y25/S97/K.S.A./APCI

Labels Placard Required: Corrosive

### Section 15: Other Regulatory Information

**OSHA REGULATORY STATUS:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Pakistan Environmental Protection Act, 1997 and rules & regulation made thereunder, including in particular the Hazardous Substance Rules 2014.

### Section 16: Other Information

Prepared by : Engro Polymer & Chemicals Ltd

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