	<b>SAFETY DATA SHEET (SDS)</b>	
	<b>CAUSTIC SODA FLAKES</b>	
	Document #: <b>SCIL-SDS-02</b>	Issue Date: <b>01-Jan-2023</b>
	Revision: <b>1st</b>	1st Rev: <b>02-Jan-2025</b> Next Rev: <b>01-Jan-2027</b>

## SAFETY DATA SHEET

### 1. IDENTIFICATION

- 1.1 Product identifier:** Sodium Hydroxide,  
**Synonym(s):** Caustic soda, Sodium hydrate solution  
**Recommended use:** For Laboratory, Research or Manufacturing Use.  
**Restrictions on use:** Not determined.  
**Reach No.** A registration number is not available for this substance as the substance or its uses are exempted from registration
- 1.2 Details of the supplier of the Safety data sheet Manufacturer**  
**Company Name** Sitara Chemical Industries Ltd.  
**Address:** 32-K.M, Sheikhpura Road, Faisalabad  
**Telephone Number:** (+92)041-4689141-5  
**Emergency Number** (+92)041-4689141-5 (Ext.1161)  
**Website** <http://www.sitara.com.pk>

### 2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or Mixture.**  
**Classification according to Regulation (EC) No 1272/2008**  
Corrosive to metals Category 1  
Skin corrosion Sub-category 1A  
Serious eye damage Category 1  
For the full text of the H-Statements mentioned in this Section, see Section 16.
- 2.2 Label Elements**  
**Labeling according Regulation (EC) No 1272/2008**



**Signal Word:** Danger

**Hazard Statement(s):**

May be corrosive to metals

Causes severe skin burns and eye damage

**Precautionary Statements**

Keep only in original packaging. Do not breathe dusts or mists, Wear protective gloves/ protective clothing/ eye protection/ face protection.


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

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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

None

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### 2.3 Other hazards:

This substance/mixture contains no components considered to be persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms : Caustic soda  
 Formula : NaOH  
 Molecular weight : 40,00 g/mol

Chemical Identity	CAS number	EC-No.	Content in percent (%)*
Sodium hydroxide	1310-73-2	215-185-5	<= 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. FIRST AID MEASURES

### 4.1 Description of first-aid measures

#### General information:

**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

Make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralize.

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

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

### 4.3 Indication of any immediate medical attention and special treatment needed: No data available

## 5. FIRE FIGHTING 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

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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.

**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, and 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.

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

**Advice on safe handling:** Observe label precautions.

**Hygiene measures:** Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

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

**Storage conditions**

No aluminium, tin, or zinc containers.

Tightly closed. No metal containers.

**Storage class**

Storage class (TRGS 510): 8B: Non-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


**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

Ingredients with workplace control parameters derived

No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>
Consumers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>

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## 8.2 Exposure controls

### 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** Chemical resistant gloves

**Body Protection:** protective clothing

**Respiratory protection:** Required when dusts are generated.

**Other:** Wear suitable protective clothing.

**Control of environmental exposure:** Do not let product enter drains.

## 9. PHYSICAL & CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state:

Form: Flakes

Color: White

**Odor:** Odorless

**Odor threshold:** No data available.

**pH:** ca. > 14 at 100 g/l at 20 °C

**Melting point/freezing point:** Melting point/range: 318 °C

**Initial boiling point and boiling range:** 1390 deg C @ 760 mmHg

**Flash Point:** Not applicable

**Evaporation rate:** No data available.

**Flammability (solid, gas):** The product is not flammable.

#### Upper/lower limit on flammability or explosive limits

**Vapor pressure:** < 24 hPa at 20 °C

**Vapor density:** 1,38 - (Air = 1.0).

**Density:** 2,13 g/cm<sup>3</sup> at 20 °C

**Relative density:** No data available

**Solubility in water:** 1.090 g/l at 20 °C

**Partition coefficient (n-octanol/water):** Not applicable for inorganic substances

**Auto-ignition temperature:** No data available

**Decomposition temperature:** No data available.

**Viscosity:** Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

**Explosive properties** No data available

**Oxidizing properties** none


### 9.2 Other safety information

Relative vapor density = 1,38 - (Air 1.0)

## 10. Chemical Stability & Reactivity Information

**10.1 Reactivity:** Reacts violently with strong acids.

**10.2 Chemical Stability:** Material is stable under standard ambient conditions.

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**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, Sodium borohydride phosphorus, Oxides of phosphorus, Halogenated hydrocarbon Light metals, Metals.

**Risk of explosion/exothermic reaction with:** Bromine, Calcium in powder form, Nitro methane, Peroxides organic nitro compounds, Nitriles, Acrylic monomers.

(in the presence of atmospheric oxygen and/or moisture)

**10.4 Conditions to avoid:** Avoid contact with oxidizing agents. It reacts violently with strong acids.

**10.5 Incompatible Materials:** Acids, Aluminum, brass, Metals, metal alloys, Zinc, Tin.

**10.6 Hazardous Decomposition Products:** Sodium oxides, In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**

**Acute toxicity:**

Oral: No data available

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

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)

Causes serious eye damage.

**Respiratory or skin sensitization**

Patch test: In vitro study

Result: negative

Remarks: (ECHA)

**Germ cell mutagenicity:** No data available

**Carcinogenicity:** No data available

**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**

**Endocrine disrupting properties**

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**Product:**

**Assessment**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

**Toxicity to fish**

LC50 - *Gambusia affinis* (Mosquito fish) - 125 mg/l - 96 h

Remarks: (ECOTOX Database)

**Toxicity to daphnia and other aquatic invertebrates**

EC50 - *Ceriodaphnia* (water flea) - 40,4 mg/l - 48 h

Remarks: (ECHA)

**Toxicity to bacteria**      EC50 - *Photobacterium phosphoreum* - 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**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Endocrine disrupting properties**

**Product:**

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**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.


## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

**Product**

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

**Contaminated packaging:** Dispose of as unused product.

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#### 14. TRANSPORT INFORMATION

- 14.1 UN number**  
ADR/RID: 1823                      IMDG: 1823                                      IATA: 1823
- 14.2 UN proper shipping name**  
ADR/RID:                      Sodium Hydroxide, Solid  
IMDG:                              Sodium Hydroxide, Solid  
IATA:                              Sodium hydroxide, solid
- 14.3 Transport hazard class(es)**  
ADR/RID: 8                      IMDG: 8                                      IATA: 8
- 14.4 Packaging group**  
ADR/RID: II                      IMDG: II                                      IATA: II
- 14.5 Environmental hazards**  
ADR/RID: no                      IMDG Marine pollutant: no                      IATA: no
- 14.6 Special precautions for user:**                      No data available

#### 15. REGULATORY INFORMATION

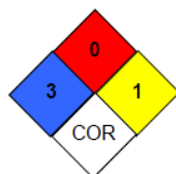
- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**  
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.  
**Other regulations:**                      Take note of Dir 94/33/EC on the protection of young people at work.
- 15.2 Chemical Safety Assessment:** A Chemical Safety Assessment has been carried out for this substance.

#### 16. LABELING INFORMATION

**Full text of H-Statements referred to under sections 2 and 3.**

May be corrosive to metals.  
Causes severe skin burns and eye damage.  
Causes skin irritation.  
Causes serious eye damage.  
Causes serious eye irritation.

**NFPA Hazard ID**



	Flammability
	Health
	Reactivity
	Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible COR: Corrosive

**Disclaimer:**

All information given in this data sheet by the company's technical staff is compiled based on data available at this time. The company accepts no responsibility whatsoever for its accuracy or for any results which may be obtained by customers. Any customer who relies upon any advice or information given in this data sheet by the company or by its technical staff does so entirely at its own risk and the company will not be liable for any loss or damage thereby suffered notwithstanding any want of care on the part of the company or its staff in compiling or giving the advice or information.