MATERIAL SAFETY DATA SHEET

Section 1 – Chemical product and Company identification

MSDS Name:	SODIUM HYDROXIDE,(NaOH)
RECOMMENDED USAGE	Intermediate and a reactant in processes, soap and detergent, oil and gas, and textile industries.
MANUFACTURER:	ORIENT PAPER MILLS, CAUSTIC SODA UNIT, AMLAI, DIST: ANUPPUR (M.P.) INDIA. TEL. No. 07652-286266,FAX NO. 091-7652-286290,
EMERGENCY PHONE NUMBER:	18-00-111735

Section 2 - Composition, Information on Ingredients

Chemical Identity : Sodium Hydroxide

Trade Names/Synonyms : Caustic Soda; Soda Lye; Lye; White Caustic; Sodium Hydroxide (NaOH);

Minimum Percentage : 47.00 %

Section 3 - Hazards Identification

Hazard Symbols: C Risk phases: 35

Emergency Overview: Causes severe burns.

Potential Health Effects

Eye: Causes severe eye burns.

Skin: Causes skin burns. May cause deep, penetrating ulcers of the skin.

Ingestion: Causes gastrointestinal tract burns. Causes severe pain, nausea, vomiting, diarrhea, and shock. may cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

Inhalation: Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Causes chemical burns to the respiratory tract.

Chronic: Prolonged or repeated skin contact may cause dermatitis.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. Get medical aid immediately.

Ingestion: Do not induce vomiting. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately .If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid immediately.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General: As in any fire, wear a self-contained breathing apparatus in pressure-demand

Information: MSHA/NIOSH (approved or equivalent), and full protective gear. May react with metals and lead to the formation of flammable hydrogen gas.

Extinguishing Media: Use foam, dry chemical, or carbon dioxide.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Do not allow water to get into the container because of violent reaction. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.

Storage: Store in a cool, dry place. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Store under an inert atmosphere.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Ingredients with limit values that require monitoring at the workplace: Not required

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State:	Viscous liquid
Color:	clear colorless
Odor:	Not available
pH:	>13
Vapor Pressure:	Not available
Viscosity:	Not available
Boiling Point:	145 deg C (293.00°F)
Freezing/Melting Point:	12 deg C (53.60°F)
Autoignition Temperature:	Not available
Flash Point:	Not available
Explosion Limits: Lower:	Not available
Explosion Limits: Upper:	Not available
Decomposition Temperature:	Not available
Solubility in water:	Soluble
Specific Gravity/Density:	1.485 ~1.500
Molecular Formula:	NaOH
Molecular Weight:	40

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Absorbs carbon dioxide from the air.

Conditions to Avoid: Incompatible materials, exposure to air.

Incompatibilities with Other Material: Water, acids, aluminum, chlorinated solvents, copper, copper alloys, magnesium, phosphorus, zinc, tin, organic materials.

Hazardous Decomposition Products: Sodium oxide.

Hazardous Polymerization: Will not occur..

Section 11 - Toxicological Information

Acute toxicity:

LD/LC50 values relevant for classification:		
Oral	LD50	40mg/kg (intraperitoneal) (mouse)
	LD50	2000 mg/kg (rat)
	LDLo	500mg/kg (rabbit

Primary irritant effect:

- **On the skin:** Strong caustic effect on skin and mucous membranes.
- **On the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:** Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Section 12- Ecological Information

Ecotoxical effects:

Acquatic toxicity:	
EC50	40 mg/l (Fish)
LC50	33-189 mg/l. (Bacteria)

Additional ecological information:

General notes: Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach sewage water or drainage ditch undiluted or unneutralized.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with state, and local regulations.

Product Recommendation: Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

Section 14 - Transport Information

Caustic soda lye is transported through Tankers.

Section 15 - Regulatory Information

Hazard Symbols: C

Risk Phrases: R 35 causes severe burns.

Safety Phrases:

- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 37/39 Wear suitable gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 16 - Other Information

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 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.