



## 1. DESCRIPTION

**Trade Name:** CAUSTIC SODA

**Chemical Class:** Alkali Salt

**Chemical Name:** Caustic soda, Soda, Caustic, Sodium hydroxide, White caustic

**Application:** Production of alumina from bauxite, cotton processing, petroleum refining and paper industry.  
Drilling Fluid additive in oil-field industry

**Supplier:** TEAM Chemicals

**Telephone:** +44 (0)207 408 7700 - +98 912 3717539

**Address:** No. 43, Souri St., 43 Ashrafi Esfahani Expressway

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Ingredients

Name	CAS
Sodium Hydroxide	1310-73-2

## 3. HAZARD IDENTIFICATION

### EMERGENCY OVERVIEW:

#### Potential Acute Health Effects:

Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking,

Unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance may be toxic to mucous membranes, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

**Irritant:** YES

**Flammable:** NO

**Carcinogenic:** NO

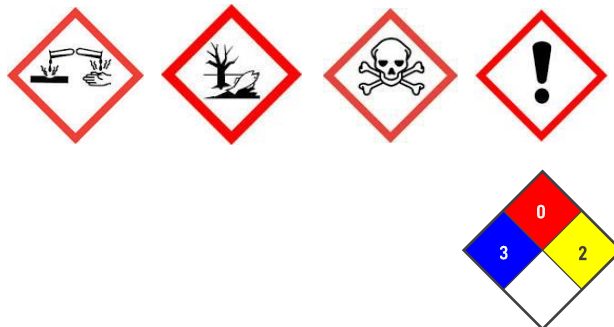
**Oxidant:** NO

**Explosive:** NO

**Environmental Hazard:** YES

**Corrosive:** YES

**(Risk-Phrases):** S-26, S-37/39, S-45

**4. FIRST AID MEASURES**

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Inhalation:** Remove patient from contaminated area. In poorly ventilated areas, use a Full-face Type B (Inorganic and acid gas) respirator or an

Air-line respirator to protect rescuer. Keep patient warm and rested rest until fully recovered.

For all but the most minor symptoms, seek medical attention.

**Ingestion:** Immediately rinse mouth with water. Give a glass of water. DO NOT induce vomiting.

For advice, contact the National Poisons Centre at 0800 764 766 (0800 POISON) or +64 3 479 7248 or a doctor (at once). Urgent hospital treatment is likely to be needed.



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## Material Safety Datasheet

# CAUSTIC SODA

[www.teamchem.co](http://www.teamchem.co)



## 7. HANDLING AND STORAGE

**HANDLING Precautions:** Avoid skin and eye contact and breathing in vapor, mists and aerosols. Wear protective equipment when risk of exposure occurs.

**Storage Precautions:**

**Containers:**

Do not store in aluminum or galvanized containers or use die-cast zinc or aluminum bungs; plastic bungs should be used.

**Storage:**

Store in a cool, dry, well ventilated place. Store away from incompatible materials described in Section 10 and from foodstuffs. At temperatures greater than 40°C, tanks must be stress relieved. Keep containers closed when not in use and check regularly for leaks.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### EXPOSURE CONTROLS

Sodium Hydroxide TWA:- STEL:- Peak 2mg/m<sup>3</sup>

**PERSONAL PROTECTION** Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**RESPIRATOR** If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

**EYE** Chemical goggles. Face shield may be required for supplementary but never for primary protection of eyes.

**HAND/FEET** Elbow-length chemical resistant gloves.

**OTHER** Splash apron or equivalent chemical impervious outer garment. Rubber boots.

### ENGINEERING CONTROLS

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

## 9. PHYSICAL & CHEMICAL PROPERTIES

**Color:** White

**Odor:** No specific odor

**pH:** 12 or more (1% solution)

**Boiling Point:** 1388°C (2530.4°F)

**Melting/Freezing Point:** 323°C (613.4°F)

**Specific Gravity:** 2.1

**Solubility:** Easily soluble in cold water



## 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA** Non-flammable.

**FIRE FIGHTING** Non-combustible material. Caution - heat may be evolved on contact with water.

**FIRE/EXPLOSION HAZARD** Slightly explosive in presence of heat.

**FIRE INCOMPATIBILITY** Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate.

Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aqueous sodium hydroxide, under vacuum distillation, residue darkened and exploded. Sodium Hydroxide + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions. Dry mixtures of sodium hydroxide and sodium tetra hydroborate liberate hydrogen explosively at 230-270 deg. C. Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion.

**PERSONAL PROTECTION** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHAINIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Small Spill:

Clear area of all unprotected personnel. Slippery when spilt. Wear protective equipment to prevent skin and eye contact and breathing in vapors. Work up wind or increase ventilation.

### Large Spill:

Prevent from entering drains and waterways. If contamination of sewers or waterways has occurred advise local emergency services.

## 10. STABILITY & REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** Incompatible materials, moisture

**Materials to Avoid:** Reactive with acids. Slightly reactive to reactive with moisture.

**Special Remarks on Reactivity:** Reacts with ammonium salts, evolving ammonia gas. Reacts readily with various reducing sugars (i.e. fructose, galactose, maltose, dry whey solids) to produce carbon monoxide. Hazardous polymerization will not occur

**Special Remarks on Corrosivity:** Very caustic to aluminum and other metals in presence of moisture.



## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. The symptoms or effects that may arise if the product is mishandled and if overexposure occurs are:

**Eye Contact** A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.

**Skin Contact** Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns

**Inhalation** Breathing in mists or aerosols may produce respiratory irritation.

**Ingestion** Swallowing can result in nausea, vomiting, diarrhea, abdominal pain and chemical burns to the gastrointestinal tract

### chronic effects

-Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

-Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcer active changes in the mouth and necrosis (Rarely) of the jaw.

-May cause bronchial irritation, with cough, and frequent attacks of bronchial pneumonia. Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive air ways

**Chronic Effects on Humans:** MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. May cause damage to the following organs: mucous membranes, upper respiratory tract, skin, eyes.

**Other Toxic Effects on Humans:** Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (corrosive), of ingestion.

**Remarks on Toxicity to Animals:** Lowest Published Lethal Dose: LDL [Rabbit] - Route: Oral; Dose: 500 mg/kg

**Remarks on Chronic Effects on Humans:** May affect genetic material. Investigation as a mutagen (cytogenetic analysis)

## 12. ECOLOGICAL INFORMATION

**Eco toxicity:** Avoid contamination of waterways.

**Persistence and degradability:** Low

**Mobility:** High

**Bio-accumulative Potential:** Low

**Other Adverse Effects:** No other information.



### 13. DISPOSAL CONSIDERATION

**WASTE MANAGEMENT:** This material and its container must be disposed of as hazardous waste.

**DISPOSAL METHODS:** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### 14. TRANSPORT INFORMATION

**DOT Classification:** Class 8: Corrosive material

### 15. REGULATORY INFORMATION

**Classification :** Toxicity: refer to section 11 and 12 .

**Poisons Schedule (SUSMP):** None allocated.

**This material is listed on the international standard such as OHSAS 18001:2007.**

### 16. ADDITIONAL INFORMATION

3 Yearly Revised Primary MSDS

Update in Toxicological Information

Update in Ecological Information