



SAFETY DATA SHEET

Sodium Hydroxide

1. Identification of the substance and of the supplier

Product identifiers

Product name: SODIUM HYDROXIDE, SOLID

Trade name: CAUSTIC SODA MICROPEARLS 99% min, CAUSTIC SODA BEADS

Other means of identification:

EC/ EINECS: 215-185-5

RTECS No.: WB4900000

EC Annex 1 Index No. : 011-002-00-6

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : General chemical reagent, neutralizing agent, personal care, industrial cleaner, drain opener, detergent, textile, pulp and paper digestion, catalyst

Details of the supplier of the safety data sheet

Company : APAC Chemical Corporation
1333 S. Mayflower Ave. #300
Monrovia, CA 91016

Telephone : 626-203-0066

Fax : 626-203-0067

Emergency Telephone: CHEMTREC (800)-424-9300

Non-Emergency telephone: (866) 849-2722

2. Hazards Identification

GHS Classification of the substance or mixture

Acute toxicity (dermal)	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity - single exposure (respiratory irritation)	Category 3

Label elements

Pictogram



Signal word

DANGER

Hazard statement(s)

Harmful in contact with skin.
Causes severe skin burns and eye damage
May cause respiratory irritation.

Precautionary statement(s)

Avoid breathing dust.
Wear protective gloves, eye protection/face protection.
Rinse thoroughly with plenty of water for at least 20 minutes, keeping eyelids open.
Removed contact lens if possible.
If swallowed, drink plenty of water, do NOT induce vomiting.
Get medical attention immediately.
Wash the body parts exposed to the substance (product) after handling
Removed contaminated clothing immediately
Move victim to fresh air. If not breathing, give artificial respiration.
If breathing is difficulty, give Oxygen. Get medical attention immediately.
Store in well-ventilated place. Keep container tightly closed.

Other hazards which do not result in classification – none

3. Composition/Information on Ingredients

Single substance

Formula: NaOH

Synonym : Caustic soda, Lewis-red devil lye, Soda lye, Sodium hydrate, Sodium hydroxide, White caustic

Molecular weight: 40

Minimum percentage: 99

Component	CAS No	%
Sodium Hydroxide	1310-73-2	>99.0

IUPAC (HS Code): 2815110000

4. First Aid Measures

Inhalation

Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen.
Get medical attention immediately.

Skin contact

Take off all contaminated clothing and shoes immediately. Wash plenty of water for at least 20 minutes.
Get medical attention immediately.

Eye contact

Rinse thoroughly with plenty of water for at least 20 minutes, keeping eyelids open. Get medical attention immediately.

Ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious

person. Get medical attention immediately

Most important symptoms and effects, both acute and delayed

If inhaled Cough. Sore throat. Burning sensation. Shortness of breath.

Skin contact Redness. Serious skin burns. Blisters.

Eye contact: Redness. Pain. Blurred vision. Severe burns. Permanent eye damage. Possible blindness.

If swallowed: Burning sensation in mouth, throat, chest, stomach and gastrointestinal tract. Risk of perforation

Abdominal pain. Diarrhea. Nausea. Vomiting. Weakness. Shock or collapse

Indication of any immediate medical attention and special treatment needed:

Lung X-ray and eyesight checking

5. Fire Fighting Measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Do not use water jet as this can spread the fire.

Special hazards arising from the substance or mixture

Not combustible. Contact with moisture or water may generate sufficient heat to ignite combustible materials.

Contact with metals may form Hydrogen gas which is flammable and can result in explosion.

Special protective equipment and precautions for fire-fighters

Wear full chemical resistant clothing with self-contained breathing apparatus (SCBA) for fire fighting.

Use water spray to keep fire-exposed containers cool. Do NOT get water inside containers.

Containers may explode when heated.

6. Accidental Release Measure

Personal precautions

Evacuate personnel to safe areas.

Avoid inhalation of dust. Keep container closed.

Protective equipment

Wear dust/mask respirator. Wear impervious protective clothing, including boots, gloves.

Environmental precautions

Do NOT let this chemical enter the environment.

Methods and materials for containment and cleaning up

Wear protective equipment to prevent skin and eye contact and breathing in dust.

Work up wind or increase ventilation.

Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. Caution - heat may be evolved on contact with water.

7. Handling and Storage

Precautions for safe handling

Avoid skin and eye contact and breathing in dust.
Provide adequate ventilation during use.
There is a risk of splash-back causing injury if this product is added to HOT water.
Avoid causing the spread of dust from the product.
Prevent static electricity.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool, dry, well ventilated place and out of direct sunlight.
Store away from foodstuffs and volatile materials. Avoid exposure to the atmosphere for prolonged periods.

8. Exposure Controls/Personal Protection

Control parameters

IDLH:	10 mg/m ³	(NIOSH)
PEL – TWA:	2 mg/m ³	(OSHA)
REL: Ceiling:	2 mg/m ³	(NIOSH)
TLV -Ceiling:	2 mg/m ³	(ACGIH)
UK OES STEL:	2 mg/m ³	

Appropriate engineering controls

Ensure ventilation is adequate to maintain air concentrations below Exposure Standards.
Avoid generating and breathing in dusts.
Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection

Use dust mask/respirator

Eye/face protection

Goggles or face shield.

Skin protection

Use rubber gloves.

Body Protection

Proper protective clothing.

Work / Hygienic Practices:

Wash contaminated clothing prior to reuse.
Always wash hands before smoking, eating, drinking or using the toilet.
Do not eat, drink, or smoke during work

9. Physical and Chemical Properties

1) Appearance	Solid, white
2) Odour	Odourless
3) Odour Threshold	No data available
4) pH	14 (5% solution) at 20 °C
5) Melting point/freezing point	318 °C
6) Boiling point	1390 °C
7) Flash point	Not applicable
8) Evaporation rate	No data available
9) Flammability (solid, gas)	No data available

10) Upper/lower flammability or explosive limits	No data available
11) Vapour pressure	No data available
12) Vapour density (Air =1)	No data available
13) Relative density	2.12-2.13
14) Water solubility	Soluble in water 108g/ 100g H ₂ O (20 °C)
15) Partition coefficient: n-octanol/water log Kow	No data available
16) Auto ignition temperature	Not applicable
17) Decomposition temperature	No data available
18) Viscosity	No data available

10. Stability and Reactivity

Reactivity Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, the material is corrosive to aluminum, lead, zinc and tin producing highly flammable Hydrogen gas. May react violently with acids and chlorinated hydrocarbons. Can react vigorously with water.

Chemical stability Stable under normal ambient handling conditions. Rapidly absorbs Carbon dioxide from the air, forming Sodium carbonate. Absorbs moisture from the air.

Possibility of hazardous reactions Heat may be formed gas in a sealed container creating pressure. Preventing hazardous Polymerisation.

Conditions to avoid Moisture, heat, direct sunlight.

Incompatible materials ammonium salts, acids, chlorinated hydrocarbons , aluminium ,zinc , lead , tin , and their alloys .

Hazardous decomposition products Sodium oxide

11. Toxicological Information

Inhalation : May cause mucous membrane irritation with sore throat, coughing, and dyspnea. Intense exposures may result in destruction of mucous membranes and delayed pulmonary edema or pneumonitis. Shock may occur. cause discomfort and ulceration of the nasal passages.

Skin contact: Corrosive to skin, redness, skin burns.

Eye contact : Corrosive to eyes; contact can cause corneal burns, permanent injury or blindness.

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

Symptoms related to the physical, chemical and toxicological characteristics;

Burning sensation. Cough, wheezing, laryngitis, Shortness of breath, inflammation and edema of the bronchi. Nausea. Vomiting.

Immediate effects

The substance is corrosive to the eyes, the skin and the respiratory tract. Corrosive on ingestion, inflammation and edema of the bronchi, pneumonitis, pulmonary edema.

Numerical measures of toxicity

Acute toxicity

Acute toxicity (dermal) LD50 (skin-rabbit) 1350 mg/kg
Acute toxicity (oral) LD50 (rabbit) 325 mg/kg

Chronic effects

Repeated or prolonged contact with skin may cause dermatitis.

Skin Corrosion/Irritation:

Patch test for 48 hours showed sodium hydroxide to be irritating up to 2%. Above this concentration it is considered to be corrosive.

Serious eye damage/irritation:

At or above 2% w/w they are corrosive. Tests on rabbits, OECD Guideline 405, Acute eye Irritation/Corrosion.

Specific target organs/systemic toxicity following single exposure

Based on the descriptions that the human respirator and airway are stimulated and lung edemas is caused (SIDS, 2002; ACGIH, 7th, 2001; DFGOT vol.12, 1999; ATTY, 5th, 2001).

12. Ecological Information

Ecotoxicity

Fish toxicity: (NaOH)

Fish: Oncorhynchus mykiss LC₅₀ : 45.4 mg/L 96 hr
Gambusia TLm 96h 125ppm
Blue gills TLm48h 42ppm Gambusia
affinis TLm24h 125ppm Lepomis
macroshirus TLm96h 9.9ppm

Crustaceans: Daphnia magna EC50 : 40.38 mg/L 48 hr

Persistence and degradability Not applicable

Bioaccumulative potential Will not bio-accumulate

Mobility in soil No data available

Other adverse effects No data available

13. Disposal Considerations

Waste treatment methods

Waste treatment should be managed in an appropriate and approved waste facility. Dispose of all contained and contaminated spill residue in accordance with local/regional/national/international regulations.

Contaminated packaging

Dispose of as unused product.

14. Transport Information

U.S. DOT 49 CFR 172.101

Marine Transport IMDG	
Proper shipping name	SODIUM HYDROXIDE, SOLID
Transport hazard class	8 corrosive
UN number	1823
Marine pollutant	No
Special provisions	IBC8, IP2, and IP4
Packaging exceptions	154
Packaging non bulk	212
Packaging bulk	240
ERG number	154
Special precautions for user	No data available
Packing group	II
Land Transport ADR/RID	
Hazard class	DANGEROUS GOODS
Proper shipping name	SODIUM HYDROXIDE, SOLID
ADR/RID Class	8
UN number	1823
Classification Code	C6
Packing group	II
Air Transport IATA/ICAO	
Hazard class	DANGEROUS GOODS
Proper shipping name	SODIUM HYDROXIDE, SOLID
UN number	1823
IATA/ICAO Class	8 corrosive
Packing group	II

15. Regulatory Information

U.S. Regulations

TSCA 12(b) Not applicable
SARA 313 Not applicable
SARA 311/312 Hazardous Categorization
Acute Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard No
OSHA Not applicable

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases

R35 Causes severe burns

Safety Phrases

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

R37/39 Wear suitable gloves and eye/face protection.

Inventory status

Country(s) Origin	Inventory Name	On inventory (yes or no)
Australia	Australian inventory of chemical substance	Yes
Canada	Domestic substance list (DSL)	Yes
	Non-domestic substance (NDSL)	No
China	Inventory of Existing Chemical Substance in China (CCS)	Yes
Europe	European inventory of new and existing chemicals (EINECS)	No No
Japan	Japanese inventory existing and new chemical Substance (ENCS)	No Yes
Korea	Korean inventory of chemical (KICS)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippines inventory of chemical and chemical Substance (PICCS)	Yes
United States & Puerto Rico	Toxic substance control act (TSCA) Inventory	Yes

NFPA Ratings: Health = 3, Fire = 0, Reactivity = 1, Specific hazard

16. Other Information

Revised: 2

Issued: Jan. 2021

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state, and local laws and regulations.

This chemical is certified to NSF/ANSI 60] Drinking Water Treatment Chemicals – Health Effects.
The maximum use for water is 100 mg/l.

1. European chemical Substances Information System (ECB): ESIS, Annex VI

<http://ecb.jrc.ec.europa.eu/esis/>

<http://ecb.jrc.ec.europa.eu/classification-labelling/clp/ghs/search.php>

2. The National Institute for Occupational Safety and Health(NIOSH):NIOSH Pocket Guide to Chemical Hazards

<http://www.cdc.gov/niosh/npg/npgdcas.html>

3. International Programme on Chemical Safety (IPCS): Chemical Safety Information from Intergovernmental Organizations (INCHEM)
<http://www.inchem.org/>
4. United States National Library of Medicine; ChemIDplus Lite (ID PLUS)
<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM>
5. Occupational Safety & Health Administration (OSHA)
<http://www.osha.gov/dts/chemicalsampling/toc/chmcas.html>
6. United Nations Environmental Programme (UNEP)
<http://webnet3.oecd.org/eChemPortal/Results2.aspx?SubstanceId=64116&ParticipantName=SIDS%20UNEP>
7. New Jersey Department of Health (DOH)
<http://web.doh.state.nj.us/rtkhsfs/qrsearch.aspx>
8. Environmental Risk Management Authority; HSNO Chemical Classification Information Database (CCID)
<http://www.ermanz.govt.nz/Chemicals/ChemicalSearch.aspx>
9. International Uniform Chemical Information Database (IUCLID)
<http://ecb.jrc.ec.europa.eu/esis/index.php?PGM=dat>
10. United Nations Recommendations on the Transport of Dangerous Goods (UNRTDG)
http://www.unece.org/trans/danger/publi/unrec/rev14/English/05E_Index.pdf
11. Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices 2010 (American Conference of Governmental Industrial Hygienists; ACGIH)
12. CRC Handbook of Chemistry and Physics 91st edition 2010-2011