Liquid Caustic Soda

Safety Data Sheet

According to ABNT NBR 14725: 2023

Issue date: 14 March 2013 Revision date: 29 July 2024 Supersedes: 16 December 2022 Version: 5.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form	:	Mixture
Trade name	:	Liquid Caustic Soda
Product code	:	SODADF, SODADFI

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use	:	Industrial use
Restrictions on use	:	No additional information available

1.4. Supplier's details

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1.5. Emergency phone number

Emergency number	:	CHEMTREC Brazil (Rio De Janeiro): +(55)-2139581449 Portuguese CHEMTREC Brazil (São Paulo): +(55)-1143491359 Portuguese CHEMTREC Brazil: 0800 892 0479 Portuguese CHEMTREC International: +1 703-741-5970

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to GHS BR (ABNT NBR 14725: 2023)

Corrosive to metals, Category 1
Skin corrosion/irritation, Category 1A
Serious eye damage/eye irritation, Category 1

2.2. GHS Label elements, including precautionary statements

GHS BR labelling

Hazard pictograms (GHS BR) :

Signal word (GHS BR)	:	Danger
Hazard statements (GHS BR)	:	H290 - May be corrosive to metals H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS BR)	:	P234 - Keep only in original packaging. P260 - Do not breathe mist, spray. P264 - Wash hands thoroughly after handling. P280 - Wear eye protection, protective gloves, protective clothing. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a doctor, a POISON CENTER. P363 - Wash contaminated clothing before reuse. P390 - Absorb spillage to prevent material-damage.

P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

Potential for exothermic hazard,NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	GHS Product identifier	%
Sodium hydroxide	CAS-No.: 1310-73-2	≥ 49
Sodium chloride	CAS-No.: 7647-14-5	≤ 1.1

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Remove immediately contaminated clothing. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). In all cases of doubt, or when symptoms persist, seek medical attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Obtain medical attention if breathing difficulty persists. If not breathing, give artificial respiration. Get medical advice/attention. In all cases of doubt, or when symptoms persist, seek medical attention.

First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash off immediately and plentifully with water for at least 20 minutes. Immediately call a POISON CENTER/doctor.

First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 20-30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Retract eyelids often. Immediately call a POISON CENTER/doctor.

First-aid measures after ingestion : Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth.

4.2. Most important symptoms and effects, acute and delayed

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : May cause severe irritation or burns of the nose, throat and respiratory tract. Exposure may produce cough, mucous secretions, shortness of breath, chest tightness.

Symptoms/effects after skin contact : Causes severe burns. Prolonged skin contact may cause a severe effect, progressing to a delayed burn.

Symptoms/effects after eye contact : Causes serious eye damage. Can cause blindness.

Symptoms/effects after ingestion : May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Ingestion may cause nausea, vomiting and diarrhea.

4.3. Indication of any immediate medical attention and special treatment needed, if necessary

Note to physician : : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam. Carbon dioxide. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Contact with metallic substances may release flammable hydrogen gas. Under fire conditions, hazardous fumes will be present.

Explosion hazard	:	No direct explosion hazard. Exothermic reaction on contact with : Water . NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water.
Hazardous decomposition products in case of fire	:	Toxic and corrosive vapours may be released.

5.3. Special protective actions for fire-fighters

Firefighting instructions	:	Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protective equipment for firefighters	:	Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Do not breathe mist, spray. Do not touch spilled material. Spilled material may present a slipping hazard. May be corrosive to metals. An exothermic reaction may occur.

6.1.1. For non-emergency personnel

Protective equipment	:	Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel. Ventilate spillage area. Avoid contact with skin, eyes and clothing. Stop leak if safe to do so. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel. Ventilate area. Keep upwind. Stop leak if safe to do so. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

6.2. Environmental precautions

Avoid release to the environment. Prevent contamination of soil, drains and surface waters. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and materials for containment and cleaning up

For containment	:	Collect spillage. Dike for recovery or absorb with appropriate material. Avoid the spillage or runoff entering drains, sewers or watercourses.
Methods for cleaning up	:	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Small spillages: Dilute with plenty of water. Drench affected area with water for at least 15 minutes. Large quantities: Contain large spillage with sand or earth. Collect all waste in suitable and labelled containers and dispose according to local legislation. Neutralise spill carefully with any weak acid and flush remainder with plenty of water. Flush residue with large amounts of water. Store away from other materials.
Other information	:	Dispose of in a safe manner in accordance with local/national regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	May be corrosive to metals. Potential for exothermic hazard.
Precautions for safe handling	:	NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water. Provide good ventilation in process area to prevent formation of vapour. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe mist, spray.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Comply with applicable regulations. NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water.

Storage conditions	:	Keep only in the original container in a cool, well ventilated place away from : Incompatible materials. Store in a well-ventilated place. Keep cool. Keep container closed when not in use.
Incompatible materials	:	Acids. Halogenated compounds. May be corrosive to metals.
Packaging materials	:	Store in corrosive resistant container with a resistant inner liner.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sodium hydroxide (1310-73-2)	
Brazil - Occupational Exposure Limits	
OEL C	2 mg/m³ (ACGIH) ceiling value
USA - ACGIH - Occupational Exposure Limits	
Local name	Sodium hydroxide
ACGIH OEL C	2 mg/m³
Remark (ACGIH)	URT, eye, & skin irr
Regulatory reference	ACGIH 2024

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures

Personal protective equipment:
Please follow the instructions related to the permeability and the penetration time provided by the manufacturer.

Materials for protective clothing:
Use chemically protective clothing. Chemical resistant safety shoes.

Hand protection:
Impermeable protective gloves. Polyvinyl alcohol or nitrile-butyl rubber gloves. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer

Eye protection:
Chemical goggles or face shield

Skin and body protection:
Wear suitable protective clothing or Rubber apron. Wear long sleeves.

Respiratory protection:
Wear suitable respiratory equipment in case of insufficient ventilation. An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear.
Colour	:	Colourless

Odour	:	Odourless
Odour threshold	:	Not available
pH	:	Not available
Melting point	:	12 °C (53.6 °F)
Freezing point	:	Not available
Boiling point	:	140 – 145 °C (284 - 293 °F)
Flash point	:	Not applicable
Relative evaporation rate (butylacetate=1)	:	Not available
Flammability	:	Not available
Explosive limits	:	Not applicable
Vapour pressure	:	Not available
Relative vapour density at 20°C	:	Not available
Relative density	:	Not available
Density	:	1.53
Solubility	:	Water: Soluble
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available
Viscosity, kinematic	:	> 25.39 mm²/s (20 °C)
Particle size	:	Not applicable
Particle size distribution	:	Not applicable
Particle shape	:	Not applicable
Particle aspect ratio	:	Not applicable
Particle specific surface area	:	Not applicable

9.2. Data relevant with regard to physical hazard classes

No additional information available

9.3. Further safety characteristics

No additional information available

SECTION 10: Stability and reactivity

Chemical stability	:	Stable at ambient temperature and under normal conditions of use.
Conditions to avoid	:	NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water. High temperature.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : Corrosive vapours.
Incompatible materials	:	Acids. Halogenated compounds. May be corrosive to metals.
Possibility of hazardous reactions	:	Organic materials. Strong acids. Gives off hydrogen by reaction with metals.
Reactivity	:	Potential for exothermic hazard. Reacts violently with (some) acids. Thermal decomposition generates : Corrosive vapours.
Handling temperature	:	No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not available
Acute toxicity (dermal)	:	Not available
Acute toxicity (inhalation)	:	Not available

Sodium hydroxide (1310-73-2)	
LD50 oral rat	Acute systemic toxicity is not expected in living organisms. Systemic adsorption of the whole compound will not occur, rather the dissociated ions will be absorbed. Both ions are regulated within a narrow range within the human body to maintain homeostasis. Therefore, effects following acute exposure will be limited to local effects (i.e., corrosive/irritant).
LD50 dermal rat	Acute systemic toxicity is not expected in living organisms. Systemic adsorption of the whole compound will not occur, rather the dissociated ions will be absorbed. Both ions are regulated within a narrow range within the human body to maintain homeostasis. Therefore, effects following acute exposure will be limited to local effects (i.e., corrosive/irritant).

Sodium hydroxide (1310-73-2)	
LC50 Inhalation - Rat	Acute systemic toxicity is not expected in living organisms. Systemic adsorption of the whole compound will not occur, rather the dissociated ions will be absorbed. Both ions are regulated within a narrow range within the human body to maintain homeostasis. Therefore, effects following acute exposure will be limited to local effects (i.e., corrosive/irritant).

Sodium chloride (7647-14-5)	
LD50 oral rat	3550 mg/kg (Source: ECHA)
LD50 oral	3000 mg/kg bodyweight
LD50 dermal rabbit	> 10000 mg/kg (Source: ECHA)
LD50 dermal	> 10000 mg/kg bodyweight
LC50 Inhalation - Rat	> 42 mg/l (Exposure time: 1 h Source: ECHA_API)
LC50 Inhalation - Rat (Dust/Mist)	> 42000 mg/l
ATE BR (oral)	3550 mg/kg bodyweight

Skin corrosion/irritation : Causes severe skin burns.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitisation : Not available

Germ cell mutagenicity : Not available

Carcinogenicity : Not available

Reproductive toxicity : Not available

STOT-single exposure : Not available

STOT-repeated exposure : Not available

Aspiration hazard : Not available

Potential Adverse human health effects and symptoms : Causes severe skin burns and eye damage.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

Liquid Caustic Soda	
Viscosity, kinematic	> 25.39 mm²/s (20 °C)

11.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : May cause severe irritation or burns of the nose, throat and respiratory tract. Exposure may produce cough, mucous secretions, shortness of breath, chest tightness.

Symptoms/effects after skin contact : Causes severe burns. Prolonged skin contact may cause a severe effect, progressing to a delayed burn.

Symptoms/effects after eye contact : Causes serious eye damage. Can cause blindness.

Symptoms/effects after ingestion : May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Ingestion may cause nausea, vomiting and diarrhea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Hazardous to the aquatic environment, short–term (acute) : Not classified.

Hazardous to the aquatic environment, long–term (chronic) : Not classified.

Sodium chloride (7647-14-5)	
LC50 - Fish [1]	5560 – 6080 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through] Source: EPA)
EC50 - Crustacea [1]	1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Sodium chloride (7647-14-5)	
EC50 - Other aquatic organisms [1]	4136 mg/l waterflea
LC50 - Fish [2]	12946 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static] Source: EPA)
EC50 - Crustacea [2]	340.7 – 469.2 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 - Other aquatic organisms [2]	2430 mg/l
EC50 72h - Algae [1]	0.0269 mg/l
LOEC (chronic)	441 mg/l Test organisms (species): Daphnia pulex Duration: '21 d'
NOEC (chronic)	314 mg/l Test organisms (species): Daphnia pulex Duration: '21 d'

12.2. Persistence and degradability

Liquid Caustic Soda	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Sodium chloride (7647-14-5)	
BCF - Fish [1]	(no bioaccumulation)
Partition coefficient n-octanol/water (Log Pow)	-3

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Hazardous to the ozone layer : Not available

SECTION 13: Disposal considerations

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose of at authorized waste collection point. Dispose of in a safe manner in accordance with local/national regulations.

Ecological waste information : Do not allow into drains or water courses. Avoid release to the environment.

SECTION 14: Transport information

14.1 National and international Regulations

In accordance with IMDG / IATA / ANTT

ANTT	IMDG	IATA
UN number		
1824	1824	1824
UN Proper Shipping Name		
HIDRÓXIDO DE SÓDIO SOLUÇÃO	SODIUM HYDROXIDE SOLUTION	Sodium hydroxide solution
Primary risk class/subclass		
8	8	8
Subsidiary risk class/subclass		
Not applicable	Not applicable	Not applicable
Hazard labels		
8	8	8

		
Risk Identification Number		
80	Not applicable	Not applicable
Packing group		
II	II	II
Enrironmental hazards		
No	No Marine pollutant: Yes	No
Transport in bulk according to MARPOL 73/78 and IBC Code		
Not applicable	Product name: Sodium hydroxide solution Pollution category: Y Ship type: 3	Not applicable

14.2 Other information

This information does not intend to convey all specific regulatory or operational requirements/information with regards to the product, therefore it cannot be considered exhaustive. Consult ANTT, IMO and ICAO instructions before transporting the product. The carrier is responsible for following all applicable laws, regulations and rules related to the product transportation.

SECTION 15: Regulatory information

15.1. National regulations

No additional information available

SECTION 16: Other information

Other information : None.

Safety Data Sheet (SDS), Brazil - Braskem

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. It warns that the handling of any chemical substance requires the previous knowledge of its hazards for the user. It is up to the user of the product company providing this SDS to and promote the training of its employees about possible risks come upon of the product. The information contained herein is not absolute, but only general information on the use of the chemical and indication of safety and security measures.