

Revision Date 16/02/2015

Revision 10

Supersedes date 24/05/13



SAFETY DATA SHEET

Caustic Soda (Sodium Hydroxide Solution), 5 - 51%

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	Caustic Soda (Sodium Hydroxide Solution), 5 - 51%
Synonyms, Trade Names	Caustic Soda Liquor, Sodium Hydroxide Solution, Lye
REACH Registration number	01-2119457892-27
CAS-No.	1310-73-2
EC No.	215-185-5

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

Identified uses	Treatment of drinking water, has received approval by the European Committee for Standardisation. Treatment of waste water. Raw material. Neutralising agent. pH regulating agent Manufacture of substances. Absorbant for gases and liquids Manufacturing soaps Washing and cleaning products
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1.3. Details of the supplier of the safety data sheet

Supplier	Industrial Chemicals Limited Hogg Lane Grays Essex RM17 5DU United Kingdom T:+44 (0)1375 389000 F:+44 (0)1375 389110 sds@icgl.co.uk
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1.4. Emergency telephone number

+44 (0)1865 407333 (24-hour)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Met. Corr. 1 - H290
Human health	Skin Corr. 1A - H314; Eye Dam. 1 - H318
Environment	Not classified.

Classification (1999/45/EEC)

C;R35.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health

Corrosive. Prolonged contact causes serious eye and tissue damage.

Environment

Substantial amounts of the product may lead to a local change in acidity in small water systems which may have adverse effects on aquatic organisms.

2.2. Label elements

EC No.	215-185-5
Contains	SODIUM HYDROXIDE
Label In Accordance With (EC) No. 1272/2008	

Caustic Soda (Sodium Hydroxide Solution), 5 - 51%



Signal Word Danger

Hazard Statements

H290 May be corrosive to metals.
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.

Supplementary Precautionary Statements

P234 Keep only in original container.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P260 Do not breathe vapour/spray.
 P264 Wash contaminated skin thoroughly after handling.
 P321 Specific treatment (see medical advice on this label).
 P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
 P310 Wash contaminated clothing before reuse.
 P363 Absorb spillage to prevent material damage.
 P390 Store locked up.
 P405 Store in corrosive resistant/... container with a resistant inner liner.
 P501 Dispose of contents/container to ...

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

SODIUM HYDROXIDE		40-60%
CAS-No.: 1310-73-2	EC No.: 215-185-5	
Classification (EC 1272/2008) Met. Corr. 1 - H290 Skin Corr. 1A - H314 Eye Dam. 1 - H318	Classification (67/548/EEC) C;R35	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

REACH Registration number 01-2119457892-27
CAS-No. 1310-73-2
EC No. 215-185-5

Composition Comments

Mercury (Rayon) grade contains a low level of mercury, typically less than 0.1 ppm. Diaphragm grade contains up to 1.3% sodium chloride, which increases the density of the solution.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

Get medical attention immediately! CAUTION! First aid personnel must be aware of own risk during rescue!

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Inhalation

Rinse nose, mouth, and throat with running water.

Ingestion

Do not induce vomiting. If confined to the mouth, rinse mouth thoroughly and ensure water is not swallowed. If swallowed, drink plenty of water. If substance has been swallowed, give water or milk to drink immediately. Get medical attention immediately!

Skin contact

Remove contaminated clothes and rinse skin thoroughly with water. Get medical attention immediately!

Eye contact

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes.

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

General information

Strong corrosive action on all body tissue, causing burns and frequently deep ulceration, and ultimately scarring.

Inhalation

Mist/droplets are irritating to the respiratory tract, and will cause a burning sensation in the throat, coughing, and breathing difficulties. Pulmonary oedema (excessive liquid in the lungs) can occur after inhalation of higher amounts.

Ingestion

Causes severe damage to gastrointestinal tract. Can cause perforation and scarring.

Skin contact

Burning pain and severe corrosive skin damage. Causes burns, deep ulceration, and scarring. Frequent contact with lower concentrations may cause eczema.

Eye contact

Corrosive to eyes. May cause severe corneal damage, reduced vision, or even blindness.

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

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

The product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Contact with some metals can liberate flammable hydrogen gas.

5.3. Advice for firefighters

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Do not discharge into drains, water courses or onto the ground. Contain spillages with sand, earth or any suitable adsorbent material. Release to rivers will cause a strong increase in pH, resulting in death to aquatic organisms. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Small Spillages: Neutralise with weak acid and wash away with water. Alternately, drench spill with water and wash away. Large Spillages: Isolate and pump into a tank. Dispose of via a licensed hazardous waste contractor. Keep people and animals away from contaminated areas.

6.4. Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

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Following prolonged storage in metal tanks, a black sludge will collect at the bottom of the tank. This will contain iron, sodium carbonate, and when Mercury (Rayon) grade is stored, mercury. Test the atmosphere in the tank for oxygen and mercury vapour before entering. Appropriate care must be taken when removing and handling this sludge, including control of atmospheric levels. Handle with care as an alkaline material. Take care when diluting with water (heat generation). Avoid contact with skin and eyes. Avoid generation of sprays or mists.

7.2. Conditions for safe storage, including any incompatibilities

Store in vessels of mild steel. Keep away from acids and other chemicals that react with this product. Build-up of white metal carbonate crystals may occur if tank is open to air.

7.3. Specific end use(s)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
SODIUM HYDROXIDE	WEL				2 mg/m ³	

WEL = Workplace Exposure Limit.

8.2. Exposure controls

Protective equipment



Engineering measures

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Respiratory equipment

If ventilation is insufficient, suitable respiratory protection must be provided.

Hand protection

Wear protective gloves. Rubber or plastic.

Eye protection

Goggles/face shield are recommended.

Other Protection

Chemical suit and boots if handling large quantities.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Colourless liquid.
Odour	Odourless.
Solubility	Miscible with water
Initial boiling point and boiling range (°C)	142
Melting point (°C)	For 50% Membrane grade 12
Relative density	For 50% Membrane grade 1525 20
Viscosity	For 50% Membrane grade 78 cP 20
	For 50% Membrane grade

9.2. Other information

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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Vessels should not be open to air; substance absorbs water and carbon dioxide. In extreme cases, the carbonate can form white floating crystals. Do not store adjacent to incompatible materials, such as acids and amphoteric metals eg aluminium, magnesium, zinc, tin and bronze - may release hydrogen gas.

10.5. Incompatible materials

Materials To Avoid

Reaction with ammonium compounds releases ammonia. May react violently with acrolein, acrylnitrile, and allyl alcohol. Heating with trichloroethylene will form explosive mixtures of dichloroacetylene. Some plastics, leather and textiles are destroyed on contact. Mixture with water or acids will release large quantities of heat.

10.6. Hazardous decomposition products

Thermally stable to boiling point; does not decompose. Precipitation of metal hydroxide crystals can occur below 12C.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

General information

Strong corrosive action on all body tissue, causing burns and frequently deep ulceration, with ultimate scarring.

Inhalation

Mist/droplets are corrosive to the respiratory tract, and will cause a burning sensation in the throat, coughing and breathing difficulties. Pulmonary oedema (excessive liquid in lungs) can occur after inhalation of higher amounts.

Ingestion

If ingested will cause severe damage to gastrointestinal tract. Can cause perforation and scarring.

Skin contact

Corrosive to body tissue, causing burns, deep ulceration, and scarring. Frequent contact with lower concentrations may cause eczema.

Eye contact

Vapour or spray may cause eye damage, impaired sight or blindness.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Spillage will cause localised damage to animals and plants on the ground. Do not allow release into controlled waters; resulting high pH will affect aquatic life forms. If allowed to enter drains will damage effluent treatment organisms. Neutralisation and dilution will greatly reduce these effects. Product is chemically degradable into sodium carbonate.

12.1. Toxicity

LC 50, 96 Hrs, Fish mg/l 45.4

12.2. Persistence and degradability

12.3. Bioaccumulative potential

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Neutralise with dilute acid and wash away with large amounts of water. Confirm disposal procedures with environmental engineer and local regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN) 1824

14.2. UN proper shipping name

Proper Shipping Name SODIUM HYDROXIDE SOLUTION

14.3. Transport hazard class(es)

ADR/RID/ADN Class Class 8: Corrosive substances.

Transport Labels



14.4. Packing group

ADR/RID/ADN Packing group II
 IMDG Packing group II
 ICAO Packing group II

14.5. Environmental hazards

14.6. Special precautions for user

Hazard No. (ADR) 80

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

General information

The material must only be loaded and unloaded from tankers by trained personnel, such as those with a Hazchem certificate.

Sodium hydroxide solution is used as a chemical for the treatment of drinking water, as approved by the European Committee for Standardisation under EN 896:2005.

This data sheet was prepared in accordance with EC 1907/2006 concerning REACH.

Revision Comments

Updated Section(s) 1,

Issued By

D.Kelly

Caustic Soda (Sodium Hydroxide Solution), 5 - 51%

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Risk Phrases In Full

R35 Causes severe burns.

Hazard Statements In Full

H318 Causes serious eye damage.

H314 Causes severe skin burns and eye damage.

H290 May be corrosive to metals.

Disclaimer

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.