

SODIUM HYDROXIDE LIQUOR 50% NaOH

UNIVERSAL CHEMICALS

HEADLAND DEVELOPMENT SITE
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CHEMICAL SAFETY DATA SHEET

SECTION I O IDENTIFICATION OF PRODUCT AND HEALTH HAZARD SUMMARY		
Trade Marks and Synonyms (if any) None are used.		Chemical Name and Synonyms
Physical Form Colourless odourless liquid		Sodium Hydroxide Liquor 5% - 60% NaOH
Chemical Analysis (by weight) 50% as NaOH		Molecular Formula NaOH
CAS Numbers 1310-73-2		Customs Tariff (Harmonised System) 281512000
UN No. 1824	ADR/RID No. Class 8	IMO Code 8222
Health Hazard Summary Has a strong corrosive action on all body tissues producing severe burns and frequently deep ulceration with subsequent scarring. Occupational Exposure Limit (8 hr TWA) 2 mg.m ³		
SECTION II O PHYSICAL PROPERTIES		
Appearance and Odour Clear or slightly turbid colourless odourless liquid.		
Boiling Point (°C)	Melting Point (°C) Freezing Point (°C)	Specific Gravity <i>(Water = 1 at 4°C)</i>
Bulk Density	Vapour Pressure (mm Hg)	Vapour Density <i>(water = 1 at 4°C)</i>
Solubility in water Completely miscible		Solubility in other Solvents
SECTION III O REACTIVITY DATA		
Stability	Unstable	Conditions to avoid Do not mix in CONCENTRATED form with acids or ammonia compounds unless under controlled conditions.
	Stable	
Incompatibility (Materials and Conditions to Avoid) Reacts violently with acids, destroys wool and leather and attacks aluminium, tin, zinc and alloys of these metals. Can react violently or explosively with many organic chemicals particularly chlorinated hydrocarbons.		
Hazard Decomposition Products Reaction with aluminium, brass, tin and zinc produces hydrogen. A potential exists for the formation of carbon monoxide gas in closed. Systems in the presence of certain types of sugars.		

SECTION IV O HEALTH HAZARD DATA AND FIRST AID

Short term effects of over exposure when:

IN CONTACT WITH SKIN - A primary irritant that very rapidly destroys the tissue causing burns which are slow to heal and leave a scar.

IN CONTACT WITH EYES - Can cause severe damage with possible formation of corneal ulcers and permanently impaired or even loss of vision.

INHALED - Mist may cause damage of the upper respiratory tract and even to the lung tissue proper depending on the severity of exposure. Effect may vary from mild irritation of the mucous membranes of the nose to severe lung irritation.

INGESTION - Causes severe damage to the mucous membranes or deeper tissue of the mouth, throat, oesophagus and stomach and death may result from subsequent penetration into vital areas. The estimated fatal dose for man is 5g.

Long term effects of over exposure: Acute effects predominate.

Occupation Exposure Limit (OEL): Recommended Limit $2\text{mg}/\text{m}^3$
(8 hr and 10 min TWA) Ref s1+2

Emergency and First Aid Procedures: Speed is essential - only a few seconds contact is sufficient to produce permanent damage. Obtain immediate medical attention in all cases.

Skin - Drench the affected area with copious quantities of water. Remove contaminated clothing and continue treatment for not less than 15 minutes.

Eyes - Immediate treatment is essential. Irrigate with eyewash solution or clean water for at least 10 minutes ensuring the liquid reaches the corners and under both eyelids.

Inhalation - Remove to fresh air. Keep patient warm and administer oxygen if necessary.

Ingestion - Do not induce vomiting. Provided patient is conscious, wash out mouth with water and give half a pint of water to drink.

FURTHER MEDICAL ADVICE - Refer for further medical treatment after first aid treatment on site.

SECTION V O FIRE AND EXPLOSION HAZARD DATA		
<i>Flash Point (°C)</i>	<i>Method</i>	<i>Autoignition Temperature (°C)</i>
<i>Flammable Limits (% by Vol. in Air)</i>	<i>Lower</i>	<i>Upper</i>
<i>Would any material saturated with this product be subject to spontaneous combustion?</i> _____ <i>Yes</i> _____ <i>No</i>		<i>Materials:</i>
<i>Fire Extinguishing Data</i>		
<i>Special Fire Fighting Procedures</i>		
UNUSUAL FIRE AND EXPLOSION HAZARDS. Non Combustible. Contact with some metals can provide hydrogen gas with its associated hazards. Contact with certain organic chemicals can produce violent or explosive reactions. If electric arc welding or cutting particular attention must be paid to the way the electric circuit is completed to eliminate possibility of electrolysis of liquor producing hydrogen.		
SECTION VI O PRECAUTIONS IN HANDLING AND USE		
<i>General Precautions</i> Must be kept from contact with skin and eyes.		
<i>Ventilation Requirements</i> Ventilation should maintain the concentration below the OEL	<i>Respiratory Protection</i> Breathing apparatus should be worn if due to inadequate ventilation of the work area concentrations exceed the OEL.	
<i>Protective Clothes</i> Cotton or PVC overalls Rubber or PVC gauntlet gloves Rubber boots	<i>Eye Protection</i> Close fitting chemicals goggles or eye shields.	
SECTION VII O STORAGE		
Material should be stored inside a warm building. Freezing point of material is 7 °C Mild steel tanks are suitable construction to appropriate standards. Polypropylene and other plastics and rubbers appear suitable but customers should seek advice.		

SECTION VIII O SPILL OR LEAK PROCEDURES

Steps to be taken in event of Spill or Release.

A small spillage can be dealt with by the use of cold water via a hose pipe to dilute and swill caustic liquor away taking care to avoid splashing.

In the event of a serious spillage the best procedure is to keep people away from any contact with the caustic liquor. It is usually desirable to contain spillage for subsequent disposal. Large quantities of sand or earth can be used to soak up the liquor. All personnel must wear protective clothing and eye protection. If caustic liquor has entered a water course or sewer the Police should be notified.

Neutralising Chemicals

Small amounts of liquor can be converted into sodium carbonate by applying excess of sodium bicarbonate to spillage.

Waste Disposal

CONSULT UNIVERSAL CHEMICALS IN FIRST INSTANCE

SECTION IX O LABELLING INFORMATION

Classification	(Ref. 3)
Supply	Corrosive
Conveyance	Corrosive Substance 1824
Phrases	Causes severe burns (R35) Keep out of reach of children (S2) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26) Take off immediately all contaminated clothing (S27) Wear suitable gloves and eye/face protection (S37/39)

SECTION X O REFERENCES

1. HSE Guidance Note EH 40/86. Occupational Exposure Limit 1986.
2. ACGIH. Threshold Limit Values and Biological Exposure Indices 1986-87.
3. Classification, Packing and Labelling of Dangerous Substances Regulations 1984.

Important Note

Before any product is used the label should be carefully read and current safety literature and information consulted.