SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product name	**:** 0.5-2% Sodium hydroxide (NaOH) Solution
Trade name	**:** x% Sodium hydroxide (NaOH) Solution
Chemical name	**:** Sodium hydroxide
Molar mass	**:** 39.997 g/mol
Chemical family	**:** Alkali
Manufacturer's code	**:** CD04-600241, CD04-600242, CD04-600243
Use	**:** Laboratory chemicals, analytical reagents

1.2 Company Identification

Manufacturer's name	**:** Centrionics Sdn Bhd
Distributor's name & address	**:** Centrionics Sdn Bhd Centrionics Systems & Services Sdn Bhd No. 23, Jln Sungai Jerluh 32/196 Seksyen 32, Bukit Kemuning 40460 Shah Alam, SEL
Emergency tel. no.	**:** 603-5525 2568
Fax. no.	**:** 603-5131 5668

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Corrosive/harmful to skin	Category 1A
Corrosive to metals	Category 1
Harmful/causing severe eye damage	Category 1

2.2 Label element

Signal word **Danger**

2.3 Hazard statements

H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage

2.4 Precautionary statements

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P310 - Immediately call a POISON CENTER or doctor/ physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower
P234 - Keep only in original container

2.5 Emergency overview
DANGER! Liquid and mist cause severe burns to all body tissue. May be fatal if swallowed. Harmful if inhaled. Water reactive. May be harmful if inhaled. Corrosive to metals.

Potential health effects

Eyes Contact	Corrosive. Causes severe eye irritation, blurred vission and possible burns.
Skin Contact	Corrosive. Symptoms of redness and severe burn can occur.
Inhalation	Symptoms may include irritation of the nose and throat.
Ingestion	Corrosive. Swallowing can cause severe burns of the mouth, throat and stomach, leading to death. Can cause sore throat, vomiting, diarrhea.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

CAS#	Chemical Name	%	Hazardous
1310-73-2	Sodium hydroxide	0.5-2.0	Yes
7732-18-5	Water	98.0-99.5	No

SECTION 4: FIRST AID MEASURES

Eyes In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid

Notes to Physician: Treat symptomatically and supportively.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Flammability of the product
Non – flammable

5.2 Extinguishing media
Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Cool containers with flooding quantities of water until well after fire is out.

5.3 Firefighting instruction

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Use alcohol-resistant foam, dry chemical or carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 General information

Use proper personal protective equipment as indicated in Section 8.

6.2 Small spill and leak

Dilute with water and mop up or absorb spill with inert dry material then place in appropriate waste disposal container.

6.3 Large spill and leak

Stop leak if without risk. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading. Use water spray to reduce vapors. Avoid runoff into storm sewers and ditches which lead to waterways. Call for assistance on disposal

6.4 Reference to other sections

For disposal see Section 13

SECTION 7: HANDLING AND STORAGE

7.1 Handling

Use only in a well-ventilated area. Do not breathe dust, vapor, mist, or gas. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes. Wash thoroughly after handling.

7.2 Storage

Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from metals. Keep away from flammable liquids. Keep away from organic halogens.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limits

Chemicals Name	CAS No.	Standard	Reference
Water	7732-18-5	None listed	None listed
Sodium hydroxide	1310-73-2	2 mg/m3	DOSH, Malaysia

8.2 Personal Protections

Skin	Wear appropriate protective gloves (Nitrile) to prevent skin exposure.
Eyes	Wear chemical splash goggles.
Clothing	Wear appropriate protective clothing to prevent skin exposure.

Respirators A suitable respiratory protection must be wear.

8.3 Ventillation
Well-ventillated

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Form : Liquid Color : Colorless
Solubility	Soluble.
Odor	Practically odorless
pH	13-14
Freezing/Melting point	> 0^{O}C
Boiling point	> 100^{O}C
Vapor pressure	Not available.
Percentage volatiles	Not available
Evaporation rate	0.36 (air)
Vapour density	Not available.
Specific gravity	>1.0 (known value is 2.13)
Flash point	Not available
Autoignition temperature	Not available
Flammable limit (%)	Not available
Other properties if applicable	Not available

SECTION 10: STABILITY AND REACTIVITY

Stability : Stable.

Conditions to avoid : Extreme temperatures.

Incompatibility (Material : Acids, flammable liquids, halogenated organics (e.g. dibromoethane,

to avoid):	hexachlorobenzene, methyl chloride, trichloroethylene), metals, nitromethane, nitro compounds
Hazardous decomposition or by-products	: Toxic fumes of sodium oxide.
Hazardous polymerization	: Has not been reported.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

RTECS Number	Sodium Hydroxide Water	WB4900000 ZC0110000
Toxicity	LD50: Not available LC50: Not available	
Chronics effects on humans	Not available	
Carcinogenic	This material is not known to cause cancer in animals or humans	
Target organs	Hazardous in case of eye contact (corrosive). Causes eye burns. Hazardous in case of skin contact (permeator, corrosive). Skin contact produce burns. Hazardous in case of inhalation (lung irritant). Hazardous in case of ingestion.	

SECTION 12: ECOLOGICAL INFORMATION

Mobility & bioaccumulation	No information available
Ecotoxicity	Not available.
Environmental	No information available
Toxicity of the products of biodegradation	The products of degradation are less toxic than the product itself
Toxicity	No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Products
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Disposal of waste to be in accordance with the Environmental Quality (Scheduled Wastes) Regulation 1989 and other guidelines issuance by DOE and/or local authorities.

RCRA HAZARD CLASS: Not Listed

Contaminated packaging
Dispose of as unused product

SECTION 14: TRANSPORT INFORMATION

Proper shipping name	Sodium hydroxide solution
Un number	1824
Hazard class	8
Packing group	II
Special shipping Instructions	Not applicable

SECTION 15: REGULATORY INFORMATION

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

Component	Basel Convention (Hazardous waste)
Sodium hydroxide	Annex I – Y35

15.2 National regulations

Continous Organic Pollutant : This product contains no components can caused continuous pollutant
Risk of Ozone depletion : Not applicable

SECTION 16: OTHER INFORMATION

Key literature references and sources for data
Suppliers safety data sheet,
Chemadvisor - LOLI,
Merck index,

Creation Date: 01/10/2019
Revision of the SDS: Revision 0

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