



MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT & COMPANY IDENTIFICATION:

Product Name: Caustic Soda Solution, 50%
(Sodium Hydroxide Solution)
Membrane Process Grade

Trade Name: Same

Product Use: Pulp & Paper, Food
Processing, Metal Finishing,
Industrial Cleaners, Neutralizer.

Emergency Phone Number:
1-877-378-7745

Supplier Name & Address:
FLOCHEM LTD.
6986 Wellington Road 124
Guelph, Ontario
N1H 6J4

Effective Date: January 1, 2015

SECTION 2 - COMPOSITION/INFORMATION INGREDIENTS:

<u>Ingredients</u>	<u>% By Weight</u>	<u>CAS#</u>	<u>ACGIH TWA</u>
Sodium Hydroxide	49-51%	1310-73-2	2 mg/m ³ ceiling <u>OSHA-PEL</u> TWA: 2mg/m ³

SECTION 3 - HAZARDS IDENTIFICATION:

EMERGENCY OVERVIEW:

DANGER – Causes Skin and Eye Burns, Extremely Corrosive!

May be fatal if swallowed or inhaled.

Causes severe burns on contact. May cause blindness, permanent scarring and death. Aerosols can cause lung injury and effects may be delayed. Highly reactive, can react violently with water. Contact with many organic materials may cause fire or explosion. Reacts with some metals to liberate hydrogen gas, which can form explosive mixtures with air.

Potential Health Effects:

Eye Contact:

The severity of injury increases with the concentration, the duration of exposure, and the speed of penetration into the eye. Damage can range from severe irritation and mild scarring to disintegration and ulceration. In severe cases, may lead to permanent blindness.

Skin Contact:

Caustic is extremely corrosive and capable of causing severe burns with deep ulcerations and permanent scarring. It can penetrate deep layers of skin and corrosion will continue until removed. Severity of injury depends on the concentrations and the duration of exposure. Burns may not be immediately painful; onset of pain can be delayed by minutes or hours.

Ingestion:

Severe pain, burning of the mouth, throat and esophagus, vomiting, diarrhea, collapse and possible death may occur.

Inhalation:

Caustic does readily form a vapour and inhalation exposure is likely to occur as an aerosol. Aerosols could cause shortness of breath, tightness in the chest leading to pulmonary edema.

Existing Medical Conditions Possibly Aggravated by Exposure: Asthma, bronchitis, lung diseases, sinus or throat conditions. Skin may be aggravated by those with existing skin disorders.

SECTION 4 - FIRST AID:**Eye Contact:**

Flush eyes immediately and continuously with a fresh stream of running water, holding eyelid open, for a minimum of 15 minutes and upward to 60 minutes. Repeat flushing if necessary. Seek medical attention immediately.

Skin Contact:

Flush affected area with cool, running water immediately for a minimum of 15 minutes and upward to 60 minutes. Remove contaminated clothing and launder prior to reuse. If irritation persists, repeat flushing and seek medical attention.

Ingestion:

Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility. Seek medical attention immediately. Never give anything by mouth to an unconscious person.

Inhalation:

Remove to fresh air if effects occur. Administer oxygen, or artificial respiration if breathing stops. Consult a physician immediately.

SECTION 5 - FIRE FIGHTING MEASURES:

Flash Point: Not Flammable by OSHA criteria.

Autoignition: Not Applicable

Decomposition Products: Sodium Oxide

Flammability Limits:

Other Flammability Information:

Product reacts with water. May produce exothermic reaction. Will not burn or support combustion.

Extinguishing Media:

Use extinguishing media appropriate to the surrounding fire. If water is used, care should be taken, as heat can be generated and splattering may occur.

Fire Fighting Instructions:

This material does not burn or support combustion. Caustic Soda can react with metals such as aluminum, tin and zinc to form hydrogen gas. At high temperatures, fuming may occur giving off strong corrosive gas, wear suitable protective equipment for this situation. Chemical resistant suit and self-contained breathing apparatus is required.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

For spills, leaks or releases restrict access to area and ventilate. Prevent entry into sewer and/or waterway. Solutions should be contained by diking with inert material such as sand or earth. Appropriate personal protective equipment should be worn. Solutions can be carefully diluted with acetic or hydrochloric acids. For water spills, neutralize with dilute acid.

Dispose of waste by at an approved waste facility and consult local federal/provincial authorities.

SECTION 7 - HANDLING & STORAGE:

Personnel handling Caustic Soda should always be properly trained regarding its safe use.

Handling: Considerable heat is generated when diluted with water – never add water to Caustic, always add Caustic to water while agitating. Always wear protective clothing. Use with adequate ventilation. Do not breathe vapours. Product is not compatible with cloth and leather.

Storage: Store away from incompatible materials such as strong acids. Store in a dry place. Keep containers tightly closed when not in use. Do not store in aluminum containers. Keep from freezing.

SECTION 8 - EXPOSURE CONTROLS:**Engineering Controls:**

Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. No special ventilation is required under normal use.

Eye/Face Protection:

Wear full face-shield and chemical goggles when there is any likelihood of contact. Eye wash fountain should be located in immediate work area.

Skin Protection:

Use protective clothing impervious to this material such as Butyl rubber, neoprene and polyethylene. Selection of specific items such as, gloves, boots, apron, or full-bodysuit will depend on operation. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

Respiratory Protection:

None required under normal, ventilated conditions. If respiratory irritation is experienced, use an approved air-purifying respirator.

SECTION 9 - PHYSICAL PROPERTIES:

Physical State: Colourless Liquid
Appearance: Clear to slightly turbid liquid
Vapour Press: 0.2 KPa
Boiling Point: Approximately 140°C
Specific Gravity: 1.53 g/ml
pH: 14.0 (aqueous solution 5%)
Viscosity (cp): 78.3 @ 20°C

Density: 95.5
Odour: Odourless
Vapour Density: Not applicable
Solubility in Water: Completely Soluble
Freezing Point: Approximately 12°C
Sol. In H₂O % by weight: 100
Molecular Formula: NaOH

SECTION 10 - STABILITY & REACTIVITY:

Chemical Stability: Stable at room temperature. Rapidly absorbs carbon dioxide from the air, forming sodium carbonate.

Conditions to Avoid: Avoid temperature below 85°F.

Incompatibility with other Materials:

Heat is generated when mixed with water. Spattering and boiling can occur.

Can react violently with many organic and inorganic chemicals such as glycols, organic peroxides and strong acids.

Hazardous Polymerization: Will not occur. **Hazardous decomposition products:** Sodium Oxide.

SECTION 11 - TOXICOLOGICAL INFORMATION:

Toxicological Data:

Toxicity: LD_{LO} – Oral rabbit 500 mg/kg; LD₅₀ intraperitoneal mouse 40 mg/kg

Irritation: 500 mg/24 hour skin-rabbit severe; 400 ug eyes rabbit-mild; 1 % eyes-rabbit severe.

SECTION 12 - ECOLOGICAL CONSIDERATIONS:

Ecotoxicity: LC₁₀₀ Cyprinus Carpio 180 ppm/24 hr @ 25°C. Harmful to Aquatic life.

SECTION 13- DISPOSAL CONSIDERATIONS:

Do not dump into any sewers, on the ground or into any body of water. Do not dispose of in normal garbage. All disposal methods must be in compliance with all Federal, Provincial and local laws and regulations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. For unused & uncontaminated product, the preferred options include sending to a licensed, permitted recycler.

SECTION 14 - TRANSPORT INFORMATION:

Classification Information:

Proper Shipping Name: Sodium Hydroxide Solution
Class 8, UN1824, Packing Group II

SECTION 15 - REGULATORY INFORMATION:

WHMIS Class: D1B, E

SECTION 16 - OTHER INFORMATION:

Disclaimer:

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO THE BEST OF OUR KNOWLEDGE, TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS OBTAINED FROM THE USE THEREOF.

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