



MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT & COMPANY IDENTIFICATION:

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

Trade Name: Same

Product Use: Pulp & Paper, Soap
Manufacturing, Metal Finishing,
Industrial Cleaners, Neutralizer.

Emergency Phone Number:
877-378-7745

Supplier Name & Address:
FLOCHEM LTD.
R.R. #7 Guelph, Ontario CANADA N1H 6J4

Effective Date: January 1, 2012

SECTION 2 - COMPOSITION/INFORMATION INGREDIENTS:

<u>Ingredients</u>	<u>% By Weight</u>	<u>CAS#</u>	<u>ACGIH TWA</u>
Sodium Hydroxide	50	1310-73-2	2.0 mg/m ³ TLV-C
Water	50	7732-18-5	

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. 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.

NFPA RATING:

Health: 3
Fire: 0
Reactivity: 1

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 eyelids open, for a minimum of 30 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 30 minutes and upward to 60 minutes. Remove contaminated clothing and laundry 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 victim to fresh air if effects occur. Administer oxygen, or artificial respiration if breathing stops. Consult a physician immediately. Symptoms of Pulmonary Edema can be delayed up to 48 hours.

SECTION 5 - FIRE FIGHTING MEASURES:

Flash Point: Non-Flammable

Autoignition: Not Applicable

Decomposition Products: Sodium Oxide

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. Product reacts violently with water.

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 soil, 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 and never start with hot or cold water. Always wear personal 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.

Personal Protective Equipment**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: Liquid, above freezing point

Appearance: Colourless

Vapour Press: 1.5mm Hg @ 20°C

Boiling Point: Approximately 140°C

Specific Gravity: 1.52 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 14°C

Sol. in H₂O % by weight: 100

Molecular Formula: NaOH

SECTION 10 - STABILITY & REACTIVITY:

Chemical Stability: Stable under normal, recommended storage conditions.

Conditions to Avoid: Avoid contact with leather, wool, acids, and metals such as aluminum, zinc, and tin and exposure to moisture, product absorbs Carbon Dioxide from the air.

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.

SECTION 11 - TOXICOLOGICAL INFORMATION:

Corrosive to all body tissues by all routes of exposure.

Toxicological Data:

Toxicity: LD₅₀ – 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:

Material is slightly toxic to aquatic organisms on an acute basis. (LC₅₀-EC₅₀ between 10 and 100 mg per litre in species tested.

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 Municipal 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:

Transportation of Dangerous Goods Classification Information:

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

SECTION 15 - REGULATORY INFORMATION:

WHMIS Class: Corrosive, D1B, E. TSCA Inventory listing.
Product is on the DSL and TSCA Inventory listing.

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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