Better Chemistry. Better Business

5 FIRE FIGHTING MEASURES

Suitable and Unsuitable extinguishing media:	Water fog. Foam. Dry Chemical powder. Carbon Dioxide (CO2). Use extinguishing agent suitable for type of surrounding fire. Do not use solid water stream as it may scatter and spread fire. Do not use halogenated extinguishing agents.
Specific hazards arising from the chemical:	The product itself does not burn. May decompose upon heating to produce corrosive and/or toxic fumes. Contact with metal may release flammable hydrogen gas.
Special protective equipment and precautions for firefighter	Fire fighters should enter area only if they are protected from all contact with the materail. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms, and waist, should be worn. No skin surfaces should be exposed.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, & Emergency Proc	Prevent spilled product from drains, sewers, waterways and soil.
	Wear appropriate chemical protection equipment such as gloves, face-shield, goggles and suitable body protection to prevent contamination of skin, eyes and personal clothing.
Methods and Materials for containment & cleaning up:	If trained in accordance 29 CFR 1910.120, leaks should be stopped. Spills should be contained and cleaned immediately. Persons performing clean up work should wear adequate personal protective equipment and clothing. Spills and releases should be reported, if required, to the appropriate local, state and federal regulatory agencies.

7 HANDLING AND STORAGE

Precautions for safe handling:	Use caution when combining with water. DO NOT add water to Caustic. ALWAYS add caustic to water while stirring to minimize heat generation. Do not get in eyes,skin or on clothing. Do not taste or swallow. Do not breath vapor or mist. Use only with adequate ventilation. Wear appropriate personal protective equipment. Transfer and storage systems should be compatible and corrosion resistant. Observe good industrial hygiene practices.
Conditions for safe storage, inc any incompatibilities:	Keep container tightly closed.
	Store in cool dry place.
	Store away from incompatible materials. (See section 10).
	Do not allow material to freeze.
	Store in corrosive resistant container.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Name	Std.	TWA-8hrs	STEL - 15 min.
Sodium Hydroxide	ACGIH	2 mg/m3	
Sodium Nitrate	Not established		
Sodium Nitrite	Not established		
Ethylene Thiourea	Not established		

ACGIH - American Control of Governmental Hygenists
OSHA - Occupational Safety and Health Administration

Ventilation:	Use local exhaust to keep personal exposures below the OSHA Permissible Exposure Limit(s) (PEL) or the ACGIH threshold Limit Values (TLV)Time Weight Average (TWA).

Protective Gloves:	Rubber gloves
Eye Protection:	Wear chemical safety goggles with face shield.
Other Protective Equipment:	Wear chemical resistant apron.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear blue liquid
Odor:	No odor
Odor Threshold:	N/A
PH:	10% Acqueous solution = 12+
Melting Point/Freezing Point:	N/A
Initial Boiling Point and Boiling Range:	280-285 °F
Flash Point:	N/A
Evaporation Rate:	N/A
Flammability (solid, gas):	N/A
Upper/Lower flammability or explosive limits:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Relative Density:	1.5 @ 70 °F
Solubility (ies):	Complete in water
Partition Coefficient; n-octanol/water:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Viscosity:	N/A

10 STABILITY AND REACTIVITY

Reactivity:	Contact with metal may release flammable hydrogen gas.
Chemical Stability:	Stable under normal conditions
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Conditions to Avoid:	Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals. Corrosive to aluminum, tin, zinc, copper and most alloys in which they are present including brass and bronze. Corrosive to steels at elevated temperatures above 40 °C.
Incompatible Materials:	Avoid contact with aluminum, tin, zinc. halogenated solvents, and strong oxidizers and acids.
Hazardous Decomposition Products:	Contact with metal (aluminum, zinc, tin) and sodium tetrahydroborate liberates hydrogen gas.

11 TOXICOLOGICAL INFORMATION

Oral Administration:	Caustic 50% solution: LD50, Rat-300-500 mg/kg
Oral Administration:	Sodium NItrate-LC50 (rat)-1267 mg/kg ,LD50(rabbit)-2680 mg/kg
Oral Administration:	Sodium Nitrite LD50-(Rat)-88 mg/kg
Oral Administration:	Ethylene Thiourea LD50(Rat)-1832 mg/kg
Dermal administration:	Caustic 50% solution-LD50 Rabbit->2 g/kg
Immediate effects:	Severe irritation or burns to skin, eyes and respiratory system
Cancer Hazard:	Not listed by IARC, NTP, OSHA, ACGIH
Cancer Hazard:	Ethylene Thiourea-IARC Group 3-Not Classifiable as to carcinogenicity to humans

Cancer Hazard:	Ethylene Thiourea-IARC Group 3-Not Classifiable as to carcinogenicity to humans

12 ECOLOGICAL INFORMATION

Fish, Lepomis macrochirus,	Caustic-99 mg/L, 48 hrs
Bioaccumulation potential:	Unlikely
	Disperses in water.