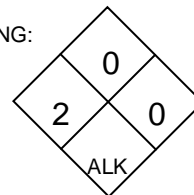


HERITAGE SYSTEMS, INC

NFPA RATING:

4=Severe
3=Serious
2=Moderate
1=Slight
0=Minimal



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **HSI- 702 or 2302**
PRODUCT DESCRIPTION: *Boiler Treatment*

COMPANY INFORMATION:
Chemicals Inc.
13560 Colombar Court
Fontana, California 92337
Non-emergency: 951-681-9697

Revised: October 25, 2006

24-HOUR EMERGENCY TELEPHONE:
CHEMTREC 800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS #	HAZARD	WT %	ACGIH		OSHA	
				TLV _(WA)	STEL	PEL _(TWA)	STEL
Sodium hydroxide (NaOH) *	1310-73-2	Corrosive	10 – 12	NE	2 mg/m ³	2 mg/m ³	NE
Hydroxyethylidene diphosphonic acid (HEDP)	2809-21-4	Irritant	1 – 5	NE	NE	NE	NE

* NIOSH Immediately Dangerous to Life or Health concentration (IDLH) for sodium hydroxide is 10 mg/m³.

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous and/or present at amounts below reportable limits.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Clear, dark amber liquid

Bland odor

WARNING: Product is considered a corrosive material. May cause severe burning of eyes and irritation of skin. Harmful if swallowed. May cause severe irritation to mouth, throat, esophagus and stomach. May cause irritation to mucous membranes and respiratory tract. Avoid contact. Wear safety goggles, gloves and protective apron when handling. Wash thoroughly after handling.

*** In the event of incident, please refer to Emergency Response Guide 154. ***

POTENTIAL HEALTH EFFECTS Eye contact Skin contact Ingestion Inhalation

EYE CONTACT: Exposure to liquid product may cause severe irritation to eyes, and possibly burns or eye damage. Symptoms of exposure may include redness, itching, swelling, tearing or pain. Effects of contact may be delayed. Avoid contact.

SKIN CONTACT: Exposure to liquid product may cause moderate to severe irritation to skin, and possible burns. Symptoms of exposure may include redness, itching, swelling or pain. Effects of contact are typically an irritant dermatitis. Avoid contact.

INGESTION: Exposure to liquid product may cause moderate to severe irritation to inner linings of mouth, esophagus and gastrointestinal tract, and possible burns. Do NOT ingest.

INHALATION: Inhalation of vapors or fumes may be irritating to mucous membranes and respiratory tract. Avoid contact.

CHRONIC: Prolonged contact may result in destruction of tissue.

CARCINOGENS: This product and its components are not listed on NTP, IARC, OSHA or ACGIH lists as cancer-causing agents.

AGGRAVATION OF PRE-EXISTING CONDITIONS: This product may further aggravate dermatitis or respiratory disorders.

4. FIRST AID MEASURES

EYE CONTACT: If this product contacts the eyes, immediately flush eyes with plenty of clean running water for at least fifteen (15) minutes, lifting the upper and lower eyelids occasionally. Remove contact lenses if worn. Seek medical attention if irritation persists.

SKIN CONTACT: If this product contacts the skin, immediately flush the affected area with soap and water for at least fifteen (15) minutes. If the product penetrates the clothing, promptly remove the contaminated clothing or shoes, and flush the affected area as described. Seek medical attention if irritation persists.

INGESTION: If this product is ingested, drink small amounts of water and seek medical attention promptly. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: If this product is inhaled and symptoms occur, move the exposed person to fresh air promptly. Seek medical attention if symptoms persist.

NOTES TO PHYSICIAN: Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

FLASH POINT:	None – aqueous solution.
FLAMMABLE LIMITS:	NA
AUTOIGNITION TEMPERATURE:	NA

EXTINGUISHING MEDIA: Use water, foam, dry chemical or carbon dioxide to extinguish fire.

FIRE/EXPLOSION HAZARD: Dried residue can thermally decompose, giving off irritating and possibly toxic fumes.

FIRE FIGHTING EQUIPMENT: Fire fighters should wear full protective equipment, and have self-contained breathing apparatus available.

SPECIAL PROCEDURES: Use water to cool containers exposed to a fire.

HAZARDOUS COMBUSTION PRODUCTS: Unknown.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Use proper personal protection (refer to Section 8).

ENVIRONMENTAL PRECAUTIONS: Run off from fire control or dilution water may cause pollution. Keep out of drains, municipal sewers, open bodies of water and water course.

CLEAN-UP METHODS: Safely stop source of spill. Clean up spills immediately. Restrict non-essential personnel from the area. Wear protective clothing, goggles and respirator if ventilation is not adequate. Dike spill area and soak up material with sand or other absorbent. Place into chemical waste container for disposal according to local, state or federal regulations. Flush spill area with water.

7. HANDLING AND STORAGE

HANDLING: Use proper personal protection when handling (refer to Section 8). Use under well-ventilated conditions. Avoid contact with eyes, skin and clothing. Avoid breathing vapors and mists. Avoid prolonged or repeated contact. Do NOT ingest. Wash thoroughly after handling. Rinse container before disposal.

SHELF LIFE: The recommended shelf life is two (2) years. It is recommended that products be retested if stored for more than two (2) years. Under ideal storage conditions, the shelf life is almost indefinite.

STORAGE TEMPERATURE: The recommended storage temperature is above 32°F, preferably at room temperature (70°F).

GENERAL: Store closed containers in a cool, dry, well-ventilated area away from incompatible materials. This product is stable under normal conditions of handling and storage. Avoid cold temperatures.

8. EXPOSURE CONTROLS / PERSONAL PROTECTIVE EQUIPMENT

Please refer to Section 2 for applicable exposure limits.

EYE PROTECTION: To avoid contact with eyes, use safety glasses or chemical splash goggles. Face shield is recommended. Eye wash station should be available in the work area.

HAND PROTECTION: Use rubber or plastic gloves to minimize skin contact.

BODY PROTECTION: Use a rubber apron to minimize contact. Rubber boots are recommended. Full drench shower should be available in the work area.

RESPIRATOR: Use of respirator protection is not generally required. However, if exposure is above the stated limits or ventilation is inadequate, use a NIOSH approved acid gas/organic vapor respirator to reduce potential for inhalation exposure. When using respirator cartridges, they must be changed frequently to assure breakthrough exposure does not occur.

VENTILATION: General mechanical ventilation is recommended for enclosed areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, dark amber liquid	Boiling Point:	100°C / 212°F
Odor:	Slight Ammonia	Freezing Point:	0°C / 32°F
Specific Gravity @ 68°F:	~ 1.19	Vapor Pressure:	ND
pH:	~ 13.5	Vapor Density (air = 1):	ND
Water Solubility:	Complete	VOC Content:	Non-volatile

10. STABILITY AND REACTIVITY

GENERAL STABILITY: This product is stable at ambient temperatures and atmospheric pressures.

INCOMPATIBLE MATERIALS: Strong oxidizing materials and strong acids.

HAZARDOUS POLYMERIZATION: Hazardous polymerization is not expected to occur under normal temperatures and pressures.

HAZARDOUS DECOMPOSITION PRODUCTS: Unknown.

11. TOXICOLOGICAL INFORMATION

	<u>Product 2302</u>	<u>NaOH</u>	<u>HEDP</u>
Eye irritation:	Severe to corrosive	Corrosive	Corrosive
Skin irritation:	Severe to corrosive	Corrosive	None to slight
Inhalation irritation:	Slight to moderate	Slight to moderate	Moderate to severe
Oral LD₅₀, Rat:	> 950 mg/kg	220 mg/kg	2400 mg/kg
Dermal LD₅₀, Rabbit:	> 1307 mg/kg	1350 mg/kg	7940 mg/kg
Inhalation LC₅₀, Rabbit:	NDA	NDA	NDA
Other toxicological data:	NA	See below	See below

NaOH: The severity of the tissue damage is a function of its concentration, the length of tissue contact time, and local tissue conditions. After exposure there may be a time delay before irritation and other effects occur. This material is a strong irritant and is corrosive to the skin, eyes, and mucous membranes. This material may cause severe burns and permanent damage to any tissue with which it comes into contact. Inhalation will cause severe irritation, possible burns with pulmonary edema, which may lead to pneumonitis. Skin contact with this material may cause severe irritation and corrosion of tissue. Eye contact can cause severe irritation, corrosion with possible corneal damage and blindness. Ingestion may cause irritation, corrosion/ ulceration, nausea, and vomiting. In general, chronic effects are due to long-term irritation. This material may cause dermatitis on the skin, or recurrent corneal ulceration and visual disturbances. In rare cases reports have noted long-term inhalation causes bronchial inflammatory reaction or obstructive airway dysfunction.

HEDP: [Chronic Toxicity] Dogs orally dosed develop severe effects on the bone, with rib and pelvic fractures reported in many of the animals. No birth defects were noted in rats or rabbits given the product orally during pregnancy. No effects were seen on the ability of female and male rats to reproduce when given the product in their diet for two successive generations. The product produced no genetic changes in standard in vitro assays using bacterial and mammalian cells.

12. ECOLOGICAL INFORMATION

	<u>Product 2302</u>	<u>NaOH</u>	<u>HEDP</u>
96 hr LC₅₀, Rainbow trout:	> 4820 mg/l	NDA	NDA
48 hr LC₅₀, Daphnia magna:	> 6340 mg/l	100 mg/l	NDA
72 hr EC₅₀, Algae:	NDA	NDA	NDA

13. DISPOSAL CONSIDERATIONS

US EPA RCRA Status: This product is considered to be a hazardous waste.
US EPA RCRA Hazardous waste code: D002

Do NOT dump into any sewers, on the ground or into any body of water. Rinse containers before disposal. Since emptied containers contain product residue, follow label warnings even after container is emptied. Dispose in accordance with all applicable federal, state and local laws and regulations.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, n.o.s., (Sodium Hydroxide)
Hazard Class: 8
Hazard Identification Number: UN3266
Packing Group: PGII
Transport Label: Corrosive

15. REGULATORY INFORMATION

Components:	NaOH	HEDP
<u>Carcinogenic Potential</u>		
Regulated by OSHA:	No	No
Listed on NTP Report:	No	No
Listed by IARC / Group:	No	No
ACGIH Appendix A / Group:	Not listed	Not listed

US EPA Release Reporting

CERCLA (40 CFR 302):

Listed substance:	Sodium hydroxide	Not listed
Reportable quantity:	1000 lbs.	NA
Category:	D	NA
RCRA waste number:	D002	NA
Unlisted substance:	NA	NA
Reportable quantity:	NA	NA
Characteristic:	NA	NA
RCRA waste number:	NA	NA

SARA TITLE III

Section 302 & 303 (40 CFR 355):

Listed substance:	Not listed	Not listed
Reportable quantity:	NA	NA
Planning threshold:	NA	NA

Section 311 & 312 (40 CFR 370):

Hazard categories:	Acute	Acute
Planning threshold:	NDA	10000 lbs.

Section 313 (40 CFR 372):

Listed toxic chemical:	Not listed	Not listed
Reporting threshold:	NA	NA

US TSCA

Listed/Exempt (40 CFR 710):	Yes	Yes
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CA PROP 65

Carcinogen:	Possible	No
Reproductive toxin:	Possible	No

16. OTHER INFORMATION

HMIS Rating

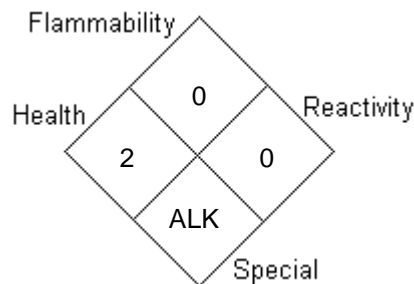
HEALTH	2
FLAMMABILITY	0
REACTIVITY	0
PROTECTION	C

C = Safety glasses, gloves, protective apron

KEY

4 = Severe ACID = Acid
3 = Serious ALK = Alkali
2 = Moderate COR = Corrosive
1 = Slight OX = Oxidizer
0 = Minimal W = Use NO WATER

NFPA Rating



Legend:

ACGIH: American Conference of Governmental Industrial Hygiene
A1: Confirmed human carcinogen
A2: Suspected human carcinogen
A3: Confirmed animal carcinogen
CAS #: Chemical Abstract Service Registry number
CERCLA: Comprehensive Environmental Response Compensation and Liability Act
DOT: Department of Transportation
EPA: Environmental Protection Agency
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
Group 1: Carcinogenic to humans
Group 2A: Probably carcinogenic to humans
Group 2B: Possibly carcinogenic to humans

NE: Not established
NFPA: National Fire Protection Association
NIOSH: National Institute for Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
RCRA: Resource Conservation and Recovery Act
REL: Recommended Exposure Limit
SARA TITLE III: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit (15 minute Time Weighted Average)
TLV: Threshold Limit Value
CEIL (C): Ceiling Exposure Limit
TSCA: Toxic Substance Control Act

Group 3: Unclassified as carcinogenic to humans
NA or N/A: Not applicable
ND: Not determined
NDA: No data available

TWA: Time Weighted Average
VOC: Volatile Organic Compound
> / <: Greater than / Less than
~: Approximately

This Material Safety Data Sheet is presented in good faith as an information source only. It should not be taken as an expressed or implied warranty or guarantee for which the Company assumes legal responsibility. While the Company believes the information contained herein is accurate and complied from sources believed to be reliable, it is the responsibility of the user to investigate and verify its validity. The Company does not accept liability for any loss or damage that may occur from the use of this information. The buyer or user accepts all responsibility of using, handling and disposing of the product in accordance with applicable federal, state and local rules, regulations and laws.