Product	BT-4320
Revision Date	6/01/2016
Revision	2

Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Name	BT-4320
Identifier Uses	Boiler Treatment
Supplier	Clear Water Technologies, LLC 13560 Colombard Court Fontana, California 92337 Tel: 844.429.8324
Website	info@cheminc.com
Emergency Telephone	24-HOUR EMERGENCY TELEPHONE: INFOTRAC: 1-800-535-5053 INTERNATIONAL#: 1-352-323-3500

SECTION 2: HAZARDS IDENTIFICATION

Appearance	Liquid
Color	Clear, dark amber liquid
Odor	Odorless
Pictogram(s)	
Signal Word	Danger
Hazard Statements	H314 Causes severe skin burns and eye damage
Precautionary Statements	P260 Do not breathe dust/fume/gas/mist/vapors/spray. P280 Wear protective gloves/ protective clothing/eye protection/face protection. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician
Contains	sodium hydroxide phosphonic acid
GHS Classification	
Physical and Chemical Hazards	Not classified
Human Health	Skin Corr. 1A - H314
Environment	Not classified
OSHA Regulatory Status	This product is Hazardous under the OSHA Hazard communication Standard.
Inhalation	There may be shortness of breath with a burning sensation in the throat.
Ingestion	Do not ingest. Exposure to liquid product may cause moderate to severe irritation to inner linings of mouth, esophagus and gastrointestinal tract, and possible burns.
Skin contact	Corrosive! Can cause redness, pain, and severe skin burns.
Eye contact	Extreme irritation of eyes and mucous membranes, including burning and tearing. Causes serious eye damage.
Routes of Exposure	Unknown

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Composition Comments	Confidential business information has been removed without affecting the overall safety information on the safety data sheet.

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Information	General first aid, rest, warmth and fresh air.
Inhalation	Remove victim immediately from source of exposure. Keep the affected person warm and at rest. Get prompt medical attention.
Ingestion	NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Get medical attention immediately!
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Do not rub eye. Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention immediately. Continue to rinse. Continue to rinse for at least 15 minutes.

Most important symptoms and effects, both acute and delayed

General Information	The severity of the symptoms described will vary dependent of the concentration and the length of exposure.
Inhalation	There may be shortness of breath with a burning sensation in the throat.
Ingestion	Do not ingest. Exposure to liquid product may cause moderate to severe irritation to inner linings of mouth, esophagus and gastrointestinal tract, and possible burns.
Skin contact	Corrosive! Can cause redness, pain, and severe skin burns.
Eye contact	Extreme irritation of eyes and mucous membranes, including burning and tearing. Causes serious eye damage.
Routes of Exposure	Unknown

Most important symptoms and effects, both acute and delayed

Notes to the Physician	Treat Symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Auto Ignition Temperature (°C)	No Information available.
Flammability Limit - Lower (%)	No Information available.
Flammability Limit - Upper (%)	No Information available.
Flash point	No Information available.
Extinguishing Media	Use fire-extinguishing media appropriate for surrounding materials. Water, foam, dry chemical or carbon dioxide.
Hazardous combustion products	No hazardous decomposition products.
Unusual Fire & Explosion Hazards	Irritating vapors may be emitted during a fire.
Special Fire Fighting Procedures	Use water to cool containers exposed to a fire. Avoid breathing fire vapors.
Protective equipment for fire-fighters	Wear full protective clothing and self-contained breathing apparatus, suitable gloves and boots.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions	For personal protection, see section 8. In case of inadequate ventilation, use respiratory protection. Do not smoke, use open fire or other sources of ignition. In case of spills, beware of slippery floors and surfaces.
Environmental Precautions	Keep out of drains, municipal sewers, open bodies of water and water course.
Spill Clean Up Methods	Restrict non-essential personnel from the area. Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area. Do not contaminate water sources or sewer. Place into chemical waste container for disposal according to local, state or federal regulations. Neutralize residue with lime or soda ash and flush spill area. DO NOT TOUCH SPILLED MATERIAL! Wash thoroughly after dealing with a spillage.

SECTION 7: HANDLING AND STORAGE

Handling Use proper personal protection when handling. Provide good ventilation. Avoid contact with skin and eyes and clothing. Do not use contact lenses. Avoid inhalation of vapors and mists. Avoid prolonged or repeated contact. Do NOT ingest. Wash thoroughly after handling. Rinse container before disposal.

Usage Description Store in a cool, dry, and well-ventilated place away from incompatible materials. Vent containers frequently, and more often in warm weather to relieve pressure. Keep container tightly closed when not in use. Do not get in eyes, on skin, or on clothing.

Storage Precautions 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. The recommended storage temperature is above 32°F, preferably at room temperature (70°F).Keep away from oxidizing agents and strong acids. 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.

Specific End Use(s) The identified uses are in section 1 of this Safety Data Sheet.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective Equipment

Component	STD	TWA (8 Hrs.)		STEL (15mins)		Notes
sodium hydroxide	OSHA		2mg/m3			

Ingredient Comments OSHA

Process Conditions Provide eyewash, quick drench.

Engineering Measures Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Respiratory Equipment 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.

Hand Protection When handling this product, it is recommended to wear chemical resistant gloves. The choice of suitable protective gloves depends on work conditions and what chemicals are handled, but we have positive experience with gloves made of Rubber or PVA.

Eye Protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hygiene Measures DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Appearance Liquid.

Color Clear, dark amber liquid.

Odor Odorless

Odor Threshold - Lower No Information available.

Odor Threshold - Upper No Information available.

pH-Value, Conc. Solution 13.10

Melting point 32.0 °F

	212.0 °F
Initial boiling point and boiling range	
Flash point	No Information available.
Evaporation rate	No Information available.
Flammability State	No Information available.
Flammability Limit - Lower (%)	No Information available.
Flammability Limit - Upper (%)	No Information available.
Vapor pressure	Not determined.
Vapor Density (air=1)	Not determined.
Relative density	10.42 @ 68.0 °F
Bulk Density	No Information available.
Solubility	Completely soluble in water.
Decomposition temperature	No Information available.
Partition coefficient; n-octanol/water	No Information available.
Auto Ignition Temperature (°C)	No Information available.
Viscosity	No Information available.
Explosive Properties	No information available.
Oxidizing properties	No Information available.
Molecular Weight	No Information available.
Volatile Organic Compound	No Information available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Reactions may occur with strong oxidizing materials and strong acids.
Stability	This product is stable at ambient temperatures and atmospheric pressures.
Hazardous Polymerization	Hazardous polymerization is not expected to occur under normal temperatures and pressures.
Hazardous Decomposition Products	None under normal conditions.
Conditions to Avoid	Avoid exposing to heat and contact with strong oxidizing substances.
Materials to Avoid	Do not mix with other chemicals unless listed on directions. Keep away from strong oxidizing materials and strong acids.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological Information	No toxicological information for the overall finished product.
Acute Toxicity (Oral LD50)	>1140.00mg/kg Rat
Acute Toxicity (Dermal LD50)	>1339.00mg/kg Rabbit
Acute Toxicity (Inhalation LC50)	No Information available.
Skin Corrosion/Irritation	No Information available.
Respiratory Sensitization	No Information available.
Skin Sensitization	No Information available.

Reproductive Toxicity: No Information available.
Germ Cell Mutagenicity:
Genotoxicity - In Vitro
Genotoxicity - In Vivo

Carcinogenicity:
Carcinogenicity No Information available.
NTP - Carcinogenicity The product and its components are not listed.
OSHA - Carcinogenicity The product and its components are not listed.
IARC Carcinogenicity The product and its components are not listed.

Specific Target Organ Toxicity - Single Exposure:
STOT - Single Exposure No Information available.
Specific Target Organ Toxicity - Repeated Exposure:
STOT - Repeated Exposure No Information available.

Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
sodium hydroxide		1350mg/kg Rabbit	
sodium sulfite	820mg/kg Mouse		

SECTION 12: ECOLOGICAL INFORMATION

Eco toxicity No Information available.

Acute Toxicity - Fish LC50 96 Hours >5100.00ppm Onchorhynchus mykiss (Rainbow Trout)
Acute Toxicity - Aquatic Invertebrates LC50 48 Hours >6700.00ppm Daphnia magna

Acute Toxicity - Aquatic Plants No Information available.

Degradability No information available.

Bio accumulative Potential No Information available.

Mobility No Information available.

Results of PBT and vPvB Assessment The product does not contain any PBT or vPvB substances.

Other Adverse Effects None known.

Name	Acute Toxicity (Fish)	Acute Toxicity (Aquatic	Acute Toxicity (Aquatic Plants)
sodium hydroxide		EC50 100.00ppm Daphnia magna	

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Management When handling waste, consideration should be made to the safety precautions applying to handling of the product.

Disposal Methods Dispose of waste and residues in accordance with local authority requirements. 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.

SECTION 14: TRANSPORT INFORMATION

UN No. (DOT/TDG) 3266 - CORROSIVE LIQUID, BASIC, INORGANIC, (Sodium Hydroxide)

UN No. (IMDG) 3266 - CORROSIVE LIQUID, BASIC, INORGANIC, (Sodium Hydroxide)

UN No. (ICAO) 3266 - Corrosive liquid, basic, inorganic (Sodium Hydroxide)

DOT Proper Shipping Name 3266 - CORROSIVE LIQUID, BASIC, INORGANIC, (Sodium Hydroxide)

TDG Proper Shipping Name	3266 - CORROSIVE LIQUID, BASIC, INORGANIC, (Sodium Hydroxide)
DOT Hazard Class	8
DOT Hazard Label	Class 8 - Corrosive
TDG Class	8
TDG Label(s)	8
IMDG Class	8
ICAO Class	8
Transport Labels	
DOT Pack Group	II
IMDG Pack Group	II
Air Pack Group	II
EMS	F-A, S-B
Environmentally Hazardous Substance/Marine Pollutant	No

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
The Following ingredients are listed

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
The Following ingredients are listed sodium hydroxide

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
The Following ingredients are listed

SARA 313 Emission Reporting
The Following ingredients are listed

CAA Accidental Release Prevention
The Following ingredients are listed

OSHA Highly Hazardous Chemicals
The Following ingredients are listed

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins
The Following ingredients are listed

California Air Toxics "Hot Spots" (A-I)
The Following ingredients are listed sodium hydroxide

California Air Toxics "Hot Spots" (A-Ii)
The Following ingredients are listed

Massachusetts "Right To Know" List
The Following ingredients are listed sodium hydroxide

Rhode Island "Right To Know" List

The Following ingredients are listed	sodium hydroxide

Minnesota "Right To Know" List

The Following ingredients are listed	sodium hydroxide

New Jersey "Right To Know" List

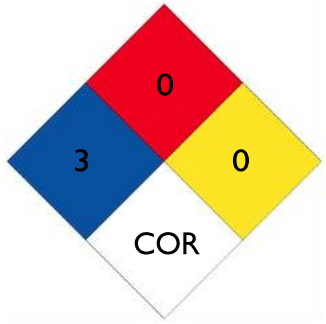
The Following ingredients are listed	sodium hydroxide phosphonic acid

Pennsylvania "Right To Know" List

The Following ingredients are listed	sodium hydroxide phosphonic acid

SECTION 16: OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

Health	3
Flammability	0
Physical Hazard	0
Personal Protection	C

Revision Comments
Revision Date 6/01/2016
Revision 2

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