

Product LT-2010D
 Revision Date 08/23/16
 Revision 4



Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Name 8413D
Identifier Uses Closed Loop Treatment

Supplier Clear Water Technologies, LLC
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 Fontana, California 92337
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SECTION 2: HAZARDS IDENTIFICATION

Appearance Clear, light yellow liquid.
Color clear, light yellow liquid
Odor Musty

Pictogram(s)



Signal Word Danger

Hazard Statements
 H272 May intensify fire; oxidizer
 H361 Suspected of damaging fertility or the unborn child [*] [*].
 H332 Harmful if inhaled.
 H314 Causes severe skin burns and eye damage

Precautionary Statements
 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
 P202 Do not handle until all safety precautions have been read and understood.
 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

Contains BORIC ACID (HBO₂), SODIUM SALT, TETRAHYDRATE SODIUM METABORATE
 TETRAHYDRATE sodium
 Sodium Nitrite
 oxido(oxo)borane sodium hydroxide
 Sodium 4(or 5)-methyl-1H-benzotriazolide

GHS Classification
Physical and Chemical Hazards Ox Liq 3 - H272,
Human Health Eye Irrit.2A - H315, Repr. 2 - H361, Acute Tox 4 - H332, Skin Corr. 1C - H314
Environment Not classified

OSHA Regulatory Status This product is Hazardous under the OSHA Hazard communication Standard.

Inhalation Harmful if inhaled.
Ingestion Harmful if swallowed. Suspected of damaging fertility.
Skin contact Corrosive! Can cause redness, pain, and severe skin burns.
Eye contact Causes severe eye burns.
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 MEASURESDescription of first aid measures**General Information**

General first aid, rest, warmth and fresh air.

Inhalation

If this product is inhaled, move the exposed person to fresh air promptly. Rinse nose and mouth with water.

Ingestion

If the product is ingested, seek medical attention immediately. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Skin contact

If the product penetrates the clothing, promptly remove the contaminated clothing or shoes, and flush the affected area as described. If this product contacts the skin, immediately flush the affected area with plenty of clean running water for at least fifteen (15) minutes.

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

Harmful if inhaled.

Ingestion

Harmful if swallowed. Suspected of damaging fertility.

Skin contact

Corrosive! Can cause redness, pain, and severe skin burns.

Eye contact

Causes severe eye burns.

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.

Flashpoint

No Information available.

Extinguishing Media

Use fire-extinguishing media appropriate for surrounding materials. Water, foam, dry chemical or carbon dioxide.

Hazardous combustion products

Hazardous combustion results in the release of Oxides of Nitrogen.

Unusual Fire & Explosion Hazards

Dried residue can stimulate the combustion of organic materials. Nitrite is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Nitrite increases the flammability of any combustible material.

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. 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). Store away from strong acids, strong reducing agents, ammonia salts, amines, organic matter, phthalic acid and cyanides. 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.
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	Clear, light yellow liquid.
Color	clear, light yellow liquid.
Odor	Musty.
Odor Threshold -Lower	No Information available.
Odor Threshold - Upper	No Information available.
pH-Value, Conc. Solution	12.74

Melting point	32.0 °F
Initial boiling point and boiling range	212.0 °F
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	23.8 mm Hg 0.0
Vapor Density (air=1)	Not determined.
Relative density	10.30 @ 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	Reaction with Strong acids, strong reducing agents, ammonia salts, amines, organic matter, phthalic acid and cyanides.
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	Hazardous combustion results in oxides of nitrogen. Decomposition of sodium nitrite may leave a caustic residue.
Conditions to Avoid	Avoid extreme temperatures and storing in large quantities and for long periods of time. Keep away from reactive or combustible materials.
Materials to Avoid	Keep away from Strong acids, strong reducing agents, ammonia salts, amines, organic matter, phthalic acid and cyanides.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological Information	No Information available.
Acute Toxicity (Oral LD50)	>931.00mg/kg Rat
Acute Toxicity (Dermal LD50)	>600.00mg/kg Rabbit
Acute Toxicity (Inhalation LC50)	Not determined.

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 nitrite	157.9 mg/kg Rat 175mg/kg Mouse 186mg/kgRabbit 85mg/kg Rat		5.5mg/l (vapors) Rat 4Hours
sodium hydroxide		1350mg/kg Rabbit	
sodium 4(or 5)-methyl-1H-benzotriazolide	920mg/kg		

SECTION 12: ECOLOGICAL INFORMATION

Eco toxicity	No Information available.
Acute Toxicity - Fish	LC50 96 Hours >175.00ppm Onchorhynchus mykiss (Rainbow Trout)
Acute Toxicity - Aquatic Invertebrates	LC50 48 Hours >790.00ppm Daphnia magna
Acute Toxicity - Aquatic Plants	EC50 72 Hours >45.00ppm
Degradability	No information available.
Bio accumulative Potential	No Information available.
Mobility	Completely soluble in water.
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 Invertebrates)	Acute Toxicity (Aquatic)
sodium nitrite	LC50 96 Hours 0.13mg/l Onchorhynchus mykiss (Rainbow Trout)	EC50 48 Hours 100.00mg/l Daphnia magna	
sodium hydroxide		EC50 100.00ppm Daphnia magna	
sodium 4(or 5)-methyl-1H-benzotriazolide	LC50 96 Hours 191.20mg/l Lepomis macrochirus (Bluegill)LC50 96 Hours 23.70 Onchorhynchus mykiss (Rainbow Trout)	LC50 48 Hours 245.70mg/l 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)	3093 - CORROSIVE LIQUID, OXIDIZING, (Sodium Hydroxide, Sodium Tolytriazole Sodium Nitrite Solution)
UN No. (IMDG)	3093 - CORROSIVE LIQUID, OXIDIZING, (Sodium Hydroxide, Sodium Tolytriazole Sodium Nitrite Solution)
UN No. (ICAO)	3093 - Corrosive liquid, oxidizing (Sodium Hydroxide, Sodium Tolytriazole Sodium Nitrite Solution)
DOT Proper Shipping Name	3093 - CORROSIVE LIQUID, OXIDIZING, (Sodium Hydroxide, Sodium Tolytriazole Sodium Nitrite Solution)
TDG Proper Shipping Name	3093 - CORROSIVE LIQUID, OXIDIZING, (Sodium Hydroxide, Sodium Tolytriazole Sodium Nitrite Solution)
DOT Hazard Class	8, 5.1
DOT Hazard Label	Class 8 - Corrosive
TDG Class	8
TDG Label(s)	8 +5.1
IMDG Class	8
ICAO Class	8
Transport Labels	
DOT Pack Group	II
IMDG Pack Group	II
Air Pack Group	II
EMS	F-A, S-Q
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 sodium nitrite

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 nitrite
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

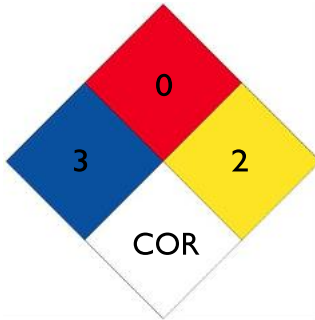
The Following ingredients are listed sodium nitrite
sodium hydroxide

Pennsylvania "Right To Know" List

The Following ingredients are listed sodium nitrite
sodium hydroxid

SECTION 16: OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

Health	3
Flammability	0
Physical Hazard	2
Personal Protection	D

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.