

Product BT-4660
 Revision Date 5/25/2015
 Revision 1



Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Name	BT-4660
Identifier Uses	Condensate Treatment
Supplier	Clear Water Technologies, LLC 13560 Colombar Court Fontana, California 92337 Tel: 9844.429.8234
Contact Person	info@clearwatertech.com
Emergency Telephone	24-HOUR EMERGENCY TELEPHONE: INFOTRAC: 1-800-535-5053 INTERNATIONAL#: 1-352-323-3500

SECTION 2: HAZARDS IDENTIFICATION

Appearance	Clear, colorless to yellow liquid.
Color	Clear, colorless to yellow liquid.
Odor	Ammonia-like.

Pictogram(s)



Signal Word

Danger

Hazard Statements

H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage
 H361 Suspected of damaging fertility or the unborn child [*] [*].
 H312 Harmful in contact with skin
 H226 Flammable liquid and vapor.

Precautionary Statements

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
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/ sparks/open flames/hot surfaces. — No smoking.
 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

cyclohexylamine
 morpholine
 2-diethylaminoethanol N, N-diethylethanolamine

GHS Classification

Physical and Chemical Hazards
 Human Health
 Environment

Flam. Liq 3- H226
 Acute Tox 4 - H302, Skin Corr. 1A - H314, Repr. 2 - H361, Acute Tox 4 - H312,
 Not classified

OSHA Regulatory Status

This product is Hazardous under the OSHA Hazard communication Standard.

Inhalation

Irritating to mucous membranes and respiratory tract. Symptoms of exposure may include nasal discomfort, nasal discharge, coughing and possible chest pain. 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. Symptoms of exposure may include

Skin contact	nausea, vomiting, diarrhea, dizziness, drowsiness, thirst, faintness, weakness or circulatory collapse. The product is moderately toxic. Do NOT ingest. May cause moderate to severe irritation to skin, and possible burns. Symptoms of exposure may include redness, itching, swelling or pain. Effects of contact may be delayed. May cause an allergic skin reaction in sensitive exposed persons. Avoid contact.
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.
Routes of Exposure	No Information available.

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. Get medical attention.
Inhalation	If this product is Inhaled, move the exposed person to fresh air promptly. Seek medical attention if symptoms persist. Give artificial respiration if the exposed person is not breathing.
Ingestion	Do NOT give the exposed person anything to drink. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If the product is ingested, seek medical attention immediately.
Skin contact	If this product contacts the skin, immediately flush the affected area with plenty of clean running 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.
Eye contact	If the 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.

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	Irritating to mucous membranes and respiratory tract. Symptoms of exposure may include nasal discomfort, nasal discharge, coughing and possible chest pain. 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. Symptoms of exposure may include nausea, vomiting, diarrhea, dizziness, drowsiness, thirst, faintness, weakness or circulatory collapse. The product is moderately toxic. Do NOT ingest.
Skin contact	May cause moderate to severe irritation to skin, and possible burns. Symptoms of exposure may include redness, itching, swelling or pain. Effects of contact may be delayed. May cause an allergic skin reaction in sensitive exposed persons. Avoid contact.
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.
Routes of Exposure	No Information available.

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 (%)	1.5
Flammability Limit - Upper (%)	9.4
Flashpoint	110.0 °F
Extinguishing Media	Use fire-extinguishing media appropriate for surrounding materials. Use alcohol foam, dry chemical, carbon dioxide, sand or limestone to extinguish fire.
Hazardous combustion products	Combustion may lead to the release of oxides of nitrogen ammonia and carbon monoxide.
Unusual Fire & Explosion Hazards	Irritating vapors may be emitted during a fire.

Special Fire Fighting Procedures
Protective equipment for fire-fighters

Use water to cool containers exposed to a fire.
 Fire fighters should wear full protective equipment, including butyl rubber boots, gloves, body suit and self-contained breathing apparatus.

SECTION 6: Accidental Release Measures

Personal Precautions

For personal protection, see section 8. Shut off or remove all sources of ignition. Use caution as spills of this product are very slippery.

Environmental Precautions
Spill Clean Up Methods

Keep out of drains, municipal sewers, open bodies of water and water course.
 Place into chemical waste container for disposal according to local, state or federal regulations at an approved chemical waste reprocessing facility. Flush spill area with detergent and water. Do NOT flush into sewer or storm drain.

SECTION 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.

Usage Description
Storage Precautions

Use only according to directions.
 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
morpholine	OSHA	20ppm	70mg/m3			
2-diethylaminoethanol N,N- diethylethanolamine	OSHA	10ppm	50mg/m3			

Ingredient Comments

OSHA

Process Conditions
Engineering Measures
Respiratory Equipment

Provide eyewash, quick drench.
 General mechanical ventilation is recommended for enclosed areas.
 Use a NIOSH approved 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
Eye Protection

Use neoprene, butyl or nitrile rubber gloves to minimize skin contact.
 To avoid contact with eyes, use chemical splash goggles. Face shield is recommended. Eye wash station should be available in the work area.

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, colorless to yellow liquid.
Color	Clear, colorless to yellow liquid.
Odor	Ammonia-like.

Odor Threshold - Lower	No Information available.
Odor Threshold - Upper	No Information available.
pH-Value, Conc. Solution	13.0
Melting point	25.0 °F
Initial boiling point and boiling range	210.0 °F
Flashpoint	110.0 °F
Evaporation rate	No Information available.
Flammability State	No Information available.
Flammability Limit - Lower(%)	1.5
Flammability Limit - Upper(%)	9.4
Vapor pressure	7.0 mm Hg 0.0
Vapor Density (air=1)	No Information available.
Relative density	0.97 @ 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 agents, strong acids, copper, aluminum and zinc.
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 contact with Strong oxidizing agents, strong acids, copper, aluminum and zinc.
Materials to Avoid	Keep away from Strong oxidizing agents, strong acids, copper, aluminum and zinc.

SECTION 11: Toxicological Information

Toxicological Information	No toxicological information for the overall finished product.
---------------------------	--

Acute Toxicity (Oral LD50)	>693.00mg/kg Rat
Acute Toxicity (Dermal LD50)	>292.00mg/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	morpholine: Reasonably anticipated to be a human carcinogen.
OSHA - Carcinogenicity	The product and its components are not listed.
IARC Carcinogenicity	morpholine: 3 IARC Group 3 Not classifiable as to its carcinogenicity to humans.
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
cyclohexylamine	432mg/kg-1 Rat	275mg/kg-1 Rat	>700mg/m-3 Rat 4 Hours
morpholine	1050mg/kg Rat	1210mg/kg Rabbit	>22.2mg/l (vapors) Rat 1 Hours

SECTION 12: Ecological Information

Ecotoxicity	No Information available.
Acute Toxicity - Fish	LC50 96 Hours >2070.00ppm Onchorhynchus mykiss (Rainbow Trout)
Acute Toxicity - Aquatic Invertebrates	LC50 48 Hours >220.00ppm Daphnia magna
Acute Toxicity - Aquatic Plants	EC50 72 Hours >1930.00ppm
Degradability	No information available.
Bioaccumulative Potential	
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 Plants)
cyclohexylamine	LC50 =19.00mg/l	EC50 48 Hours =36.30mg/l Daphnia magna	EC50 72 Hours =29.30mg/l Selenastrum Capricornutum
morpholine	LC50 96 Hours 400.00mg/l		

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	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. Do NOT reuse empty containers. Dispose in accordance with all applicable federal, state and local laws and regulations.

SECTION 14: Transport Information

UN No. (DOT/TDG)	2920 - CORROSIVE LIQUID, FLAMMABLE, (Cyclohexylamine)
UN No. (IMDG)	2920 - CORROSIVE LIQUID, FLAMMABLE, (Cyclohexylamine)
UN No. (ICAO)	2920 - Corrosive liquid, flammable (Cyclohexylamine)
DOT Proper Shipping Name	2920 - CORROSIVE LIQUID, FLAMMABLE, (Cyclohexylamine)
TDG Proper Shipping Name	2920 - CORROSIVE LIQUID, FLAMMABLE, (Cyclohexylamine)
DOT Hazard Class	8
DOT Hazard Label	Class 8 - Corrosive
TDG Class	8
TDG Label(s)	8 +3
IMDG Class	8
ICAO Class	8

Transport Labels



DOT Pack Group	II
IMDG Pack Group	II
Air Pack Group	II
EMS	F-E, S-C
Environmentally Hazardous Substance/Marine Pollutant	No

SECTION 15: Regulatory InformationUS Federal Regulations**SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

The Following ingredients are listed cyclohexylamine

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

The Following ingredients are listed morpholine

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

The Following ingredients are listed cyclohexylamine
morpholine

SARA 313 Emission Reporting

The Following ingredients are listed morpholine

CAA Accidental Release Prevention

The Following ingredients are listed None Listed.

OSHA Highly Hazardous Chemicals

The Following ingredients are listed None Listed.

US State Regulations**California Proposition 65 Carcinogens and Reproductive Toxins**

The Following ingredients are listed None Listed.

California Air Toxics "Hot Spots" (A-I)

The Following ingredients are listed None Listed.

California Air Toxics "Hot Spots" (A-II)

The Following ingredients are listed None Listed.

Massachusetts "Right To Know" List

The Following ingredients are listed cyclohexylamine
morpholine
2-diethylaminoethanol N,N-diethylethanolamine

Rhode Island "Right To Know" List

The Following ingredients are listed cyclohexylamine

Minnesota "Right To Know" List

The Following ingredients are listed cyclohexylamine
morpholine
2-diethylaminoethanol N,N-diethylethanolamine

New Jersey "Right To Know" List

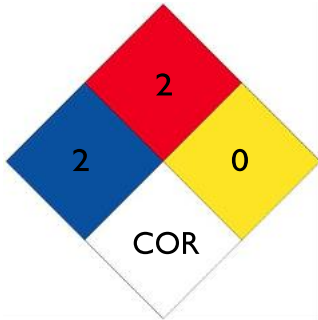
The Following ingredients are listed cyclohexylamine
morpholine
2-diethylaminoethanol N,N-diethylethanolamine

Pennsylvania "Right To Know" List

The Following ingredients are listed cyclohexylamine
morpholine
2-diethylaminoethanol N,N-diethylethanolamine

SECTION 16: Other Information

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

Health	2
Flammability	2
Physical Hazard	0
Personal Protection	H

Revision Comments

Revision Date 5/25/2015

Revision 1

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.