



1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: BT-408

Description: Steam Line Treatment
Suggested Use: Industrial Water Treatment
Restrictions on Use: Do not mix with other industrial chemicals

Supplier: Advanced Chemical Technology, Inc.
8728 Utica Avenue
Rancho Cucamonga, CA 91730

Telephone: 1-909-980-4556 or 1-800-527-9607
Fax: 1-909-980-9366

Emergency Phone: 1-800-255-3924 (CHEMTEL)

2. HAZARDS IDENTIFICATION

Classification

GHS Classification: Skin Corrosion (Category 1A)
Serious Eye Damage (Category 1)
Acute Toxicity, Oral (Category 4)
Acute Aquatic Toxicity (Category 3)
Flammable Liquid (Category 4)

GHS Label Elements

Pictogram:

Signal Word: Danger

Hazard Statements: H227: Combustible liquid
H314: Causes severe skin burns and eye damage
H302: Harmful if swallowed
H402: Harmful to aquatic life

Precautionary Statements: P210: Keep away from flames and hot surfaces. No smoking.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303+P361+P353: IF ON SKIN OR HAIR: Remove 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.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P313: Get medical attention.
P403+P235: Store in a well-ventilated place. Keep cool.

HMIS Classification: Health Hazard: 2
Flammability: 2
Physical Hazards: 0

NFPA Rating: Health Hazard: 2



Fire: 2
Reactivity Hazard: 0

Potential Health Effects

Inhalation: Vapor is irritating to mucous membranes and respiratory system.
Skin: May cause corrosive action on contact with skin. May cause a more serious response if confined to the skin or if skin is abraded. A single prolonged exposure is unlikely to result in harmful quantities being absorbed.
Eyes: Vapors will irritate the eyes. Liquids and mists can severely irritate or damage the eyes and cause corneal burns.
Ingestion: This material is corrosive to the mouth and throat.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Component</u> | <u>CAS Number</u> | <u>Concentration</u> |
|---------------------|-------------------|----------------------|
| Diethylaminoethanol | 100-37-8 | < 25% |
| Cyclohexylamine | 108-91-8 | < 15% |
| Morpholine | 110-91-8 | < 15% |

Synonyms:

4. FIRST AID MEASURES

If Inhaled: If not breathing, give artificial respiration. Consult a Physician.
Skin Contact: Immediately remove contaminated clothing and shoes, wash before reuse. Flush all affected areas with large amounts of water for at least 15 minutes.
Eye Contact: Immediately flush the eyes with large quantities of running water for a minimum of 15 minutes. Obtain medical attention immediately.
If Ingested: Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. Give large quantities of water (If available, give several glasses of milk). If vomiting occurs spontaneously, keep airway clear and give more water. Consult a physician immediately.

5. FIREFIGHTING MEASURES

Flammability Overview: Irritating vapors may be emitted during a fire.
Flash Point: 149°F TC
Extinguishing Media: Water-spray, foam, carbon dioxide or dry chemical for fires in storage areas.
Special Protective Equipment for Firefighters: Wear a self-contained breathing apparatus (SCBA) for firefighting if necessary.
Hazardous Combustion Products: Carbon monoxide, carbon dioxide, ammonia, and oxides of nitrogen

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment. Wear goggles, rubber boots, respirator and gloves.
Environmental Precautions: Prevent from entering drains and waterways. Discharge into the environment



must be avoided.

Containment and Clean Up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. If assistance is needed call CHEMTEL or emergency services.

7. HANDLING AND STORAGE

Safe Handling: Use personal protective equipment. Avoid breathing vapors, mist, or gas. Always ensure adequate ventilation.

Safe Storage: Keep containers tightly closed in a cool, dry, well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

| Component | CAS Number | Exposure Limit | Basis |
|---------------------|------------|----------------------------------|-----------------------------------|
| Diethylaminoethanol | 100-37-8 | 2ppm 9.6mg/m ³ | ACGIH Threshold Value (TLV), Skin |
| | | 10 ppm TWA, 50mg/m ³ | OSHA PEL, Skin |
| | | Not Established | NIOSH Recommended Exposure Limits |
| Cyclohexylamine | 108-91-8 | 10 ppm TWA, 41 mg/m ³ | ACGIH Threshold Value (TLV) |
| | | 10 ppm TWA, 40 mg/m ³ | OSHA PEL |
| | | Not Established | NIOSH Recommended Exposure Limits |
| Morpholine | 110-91-8 | 20 ppm, 71 mg/m ³ | ACGIH Threshold Value (TLV), Skin |
| | | 20 ppm TWA, 10 mg/m ³ | OSHA PEL, Skin |
| | | Not Established | NIOSH Recommended Exposure Limits |

Personal Protective Equipment

Eye Protection: Wear tightly fitting safety goggles or safety glasses with a full-face shield. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH. Have eye-wash stations available where eye contact can occur.

Hand Protection: Handle with chemical-resistant gloves. Gloves must be inspected prior to use. Dispose of contaminated gloves. Wash and dry hands after use.

Skin Protection: Wear complete suit protection against chemicals, including chemical-resistant boots. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Safety showers should be located in the work area where skin contact can occur.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate, use a NIOSH-approved full-face respirator with appropriate cartridges. For high concentrations, unknown concentrations, and for oxygen deficient atmospheres, use a NIOSH approved air-supplied respirator. Respiratory protection may be needed for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA 29 CFR 1910.134.

General Controls: Always ensure adequate ventilation and that working areas contain safety



showers and eye wash stations. Handle material in accordance with good industrial hygiene and safety practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------------|-------------------------|
| Physical State: | Liquid |
| Color: | Clear to amber |
| Odor: | Ammoniacal |
| Odor Threshold: | Not Established |
| pH: | >12.2 |
| Melting/Freezing Point: | Not Established |
| Boiling Point: | 210 °F |
| Flash Point: | 149° F TCC |
| Evaporation Rate: | Not Established |
| Flammability (solid, gas): | Not Established |
| Flammability/Explosion Limits: | Lower: 6.76 Upper: 27.2 |
| Vapor Pressure @ 20°C: | Not Established |
| Vapor Density: | Not Established |
| Specific Gravity: | 0.9616 |
| Density: | Not Established |
| Solubility in Water: | Miscible |
| Partition Coefficient: | Not Established |
| Autoignition Temperature: | Not Established |
| Decomposition Temperature: | Not Established |
| Viscosity: | Not Established |

10. STABILITY AND REACTIVITY

| | |
|------------------------------------|--|
| Chemical Stability: | Stable under recommended storage conditions. |
| Conditions and Materials to Avoid: | Do not mix with other industrial chemicals. Strong oxidizing agents, halogen compounds, acids, copper, aluminum and galvanized metals. |
| Hazardous Decomposition Products: | Carbon monoxide, carbon dioxide, ammonia and oxides of nitrogen |

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

| Component | CAS Number | Test | Toxicity |
|---------------------|------------|-----------------------|-----------------------|
| Diethylaminoethanol | 100-37-8 | Oral LD50 (Rat) | 2400 mg/kg |
| | | Dermal LD50 | Not Established |
| | | Inhalation LD50 (Rat) | Not Established |
| Cyclohexylamine | 108-91-8 | Oral LD50 (Rat) | 11 mg/kg |
| | | Dermal LD50 | Not Established |
| | | Inhalation LD50 (Rat) | 750 mg/m ³ |
| Morpholine | 110-91-8 | Oral LD50 (Rat) | 1050 mg/kg |
| | | Dermal LD50 | Not Established |
| | | Inhalation LD50 (Rat) | 8000 ppm |

Potential Health Effects



Inhalation: Vapor is irritating to the nose, throat, and mucous membranes.
Skin: Causes skin irritation. May cause a more serious response if confined to the skin, or if the skin is abraded. A single prolonged exposure is unlikely to result in harmful quantities being absorbed.
Eyes: Liquids and mists can severely irritate or damage the eyes and cause corneal burns.
Ingestion: This material is irritating to the mouth and the throat.
Signs and Symptoms of Exposure: Not Established
Chronic Effects of Long-term Exposure: Primary irritant dermatitis. Prolonged contact may result in destruction of tissue.
Carcinogenicity: No component of this product at levels greater than 0.1% is identified as carcinogenic by IARC, ACGIH, or OSHA.

12. ECOLOGICAL INFORMATION

Acute Ecotoxicity

| Component | CAS Number | Organism | Ecotoxicity |
|---------------------|------------|-----------------|-----------------|
| Diethylaminoethanol | 100-37-8 | Not Established | Not Established |
| Cyclohexylamine | 108-91-8 | Not Established | Not Established |
| Morpholine | 110-91-8 | Not Established | Not Established |

Ecological Effects

Persistence and Degradability: Not Established
Bioaccumulation Potential: Not expected to bio-accumulate
Mobility in Soil: Not Established
Other Adverse Effects: Not Established

13. DISPOSAL CONSIDERATIONS

Disposal: Surplus and non-recyclable material should be treated as hazardous waste and be disposed of by a licensed disposal company. Material should be disposed in accordance with all local, state, and federal regulations. Regulations vary by region. Do not release into sewers or waterways.
Contaminated Packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT Information

Proper Shipping Name: Corrosive liquid, n.o.s. (Diethylaminoethanol, Cyclohexylamine, Morpholine, aqueous solution)
UN Number: 1760



Hazard Class: 8
Packing Group: II

Reportable Quantity (RQ): Cyclohexylamine: 1,000 lbs.

Marine Pollutant: Not Established

Note: Regulated for both bulk and non-bulk.

15. REGULATORY INFORMATION

US Federal

SARA 302 Components: Threshold Planning Quantity for cyclohexylamine is 10,000 lbs
SARA 311/312 Hazards: Acute Health Hazard
SARA 313 Components: This product does not contain a Section 313 listed toxic chemical subject to release reporting requirements.

TSCA Inventory: All chemical components are listed on TSCA Inventory.

European Union

EC Inventory: Not Established

State Regulations

CA Prop 65: This product does not contain chemicals currently on the California list of known carcinogens and/or reproductive toxins.

16. OTHER INFORMATION

SDS Version: 1.0
Revision Date: 06/01/2015
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