

SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID: BWT 100
Product Name: BWT 100
Revision Date: Nov 02, 2016
Version: 1.0
Supersedes Date: Feb 17, 2016
Manufacturer's Name: CHEMSAFE International
Address: One Zenex Circle Cleveland, OH, US, 44146
Emergency Phone: 1-800-535-5053
Information Phone Number: (440)786-7000
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Product/Recommended Uses: Boiler Treatment

SECTION 2) HAZARDS IDENTIFICATION

Classification:

Skin Corrosion - Category 1B
Serious Eye Damage - Category 1
Reproductive Toxicity - Category 2
Acute toxicity Dermal Category 3
Acute toxicity Oral Category 3

Pictograms:



Signal Word:

Danger

Hazardous Statements - Health:

H314 - Causes severe skin burns and eye damage
H361 - Suspected of damaging fertility or the unborn child.
H301 - Toxic if swallowed
H311 - Toxic in contact with skin

Precautionary Statements - General:

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read label before use.

Precautionary Statements - Prevention:

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P202 - Do not handle until all safety precautions have been read and understood.
P270 - Do not eat, drink or smoke when using this product.

Precautionary Statements - Response:

- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P363 - Wash contaminated clothing before reuse.
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P310 - Immediately call a POISON CENTER or doctor/physician.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 - IF exposed or concerned: Get medical advice/attention.
- P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P330 - Rinse mouth.
- P331 - Do NOT induce vomiting.

Precautionary Statements - Storage:

- P405 - Store locked up.

Precautionary Statements - Disposal:

- P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0007732-18-5	WATER	60% - 80%
0000108-91-8	CYCLOHEXANAMINE	10% - 20%
0000110-91-8	MORPHOLINE	10% - 20%

SECTION 4) FIRST-AID MEASURES

Inhalation:

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

If exposed/feel unwell/concerned: Call a POISON CENTER/doctor.

Eye Contact:

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 30 minutes or until medical aid is available. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER/doctor.

Skin Contact:

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before re-use or discard.

Ingestion:

Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. If vomiting occurs naturally, lie on your side, in the recovery position.

Dilute by giving large quantities of water or milk.

Never give anything by mouth to an unconscious or convulsing victim. Keep person warm and quiet.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Will not burn. Use extinguishing media suitable for surrounding fire.

Water may be ineffective but can be used to cool containers exposed to heat or flame.

Unsuitable Extinguishing Media:

None.

Specific Hazards in Case of Fire:

None.

Fire-Fighting Procedures:

Product is non-combustible.

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel.

Special Protective Actions:

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Care should always be exercised in dust/mist areas.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure:

Flammable/combustible material.

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stay upwind; keep out of low areas. Immediately turn off or isolate any source of ignition. Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Clean up immediately.

Neutralize retained product. Wash neutralized product to sewer with large amounts of water in accordance with all federal, state, and local laws.

Recommended Equipment:

Positive pressure, full-face piece self-contained breathing apparatus(SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions:

Avoid breathing vapor. Avoid contact with skin, eye or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

SECTION 7) HANDLING AND STORAGE

General:

For industrial and institutional use only.

For use by trained personnel only.

Keep away from children.

Wash hands after use.

Do not get in eyes, on skin or on clothing.

Do not breathe vapors or mists.

Use good personal hygiene practices.

Eating, drinking and smoking in work areas is prohibited.

Remove contaminated clothing and protective equipment before entering eating areas.

Eyewash stations and showers should be available in areas where this material is used and stored.

Ventilation Requirements:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements:

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous.

Do not cut, drill, grind, weld, or perform similar operations on or near containers. Do not pressurize containers to empty them.

Store at temperatures between 40°F and 100°F.

SECTION 8) EXPOSURE CONTROLS, PERSONAL PROTECTION

Eye Protection:

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin Protection:

Use of gloves approved to relevant standards made from the following materials may provide suitable protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA Tables (Z1, Z2, Z3)	OSHA Skin Carcinogen designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
CYCLOHEXANAMINE							10	40			
MORPHOLINE	20	70			1	1	20	70	30	105	

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)
CYCLOHEXANAMINE	10	41		
MORPHOLINE	20	71		

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical Properties

Density	8.12453 lb/gal
% VOC	11.00000%
VOC Actual	0.89370 lb/gal
VOC Regulatory	0.89370 lb/gal
Appearance	Clear liquid
Odor Threshold	N.A.
Odor Description	Pungent
pH	12.5
Water Solubility	Complete
Flammability	Will not burn
Flash Point Symbol	N.A.
Flash Point	N.A.
Viscosity	N.A.
Lower Explosion Level	N.A.
Upper Explosion Level	N.A.
Vapor Pressure	17.0055 mmHg (Calculated @ 20 C/68 F)
Vapor Density	N.A.
Melting Point	N.A.
Freezing Point	N.A.
Low Boiling Point	N.A.
High Boiling Point	N.A.
Decomposition Pt	N.A.
Auto Ignition Temp	N.A.
Evaporation Rate	N.A.
VOC Composite Partial Pressure	0.387787 mmHg (Calculated @ 20 C/68 F)

SECTION 10) STABILITY AND REACTIVITY

Stability:

Stable.

Conditions to Avoid:

Keep from freezing.

Incompatible Materials:

Strong oxidizers, acids, aluminum, tin, zinc.

Hazardous Reactions/Polymerization:

Will not occur.

Hazardous Decomposition Products:

None known.

SECTION 11) TOXICOLOGICAL INFORMATION**Skin Corrosion/Irritation:**

Dilutions can cause irritation, reddening, or dermatitis. Causes severe skin burns and eye damage

Serious Eye Damage/Irritation:

Concentrate may cause eye damage. Dilutions can cause irritation, redness, or tearing.

Carcinogenicity:

No data available

Germ Cell Mutagenicity:

No data available

Reproductive Toxicity:

Suspected of damaging fertility or the unborn child.

Respiratory/Skin Sensitization:

No data available

Respiratory or Skin Sensitization:

Vapors can cause irritation.

Specific Target Organ Toxicity - Single Exposure:

No data available

Specific Target Organ Toxicity - Repeated Exposure:

No data available

Aspiration Hazard:

No data available

Acute Toxicity:

If swallowed, product may cause severe burns and complete tissue perforation of mucous membranes of the mouth, throat, esophagus and stomach.

0000110-91-8 MORPHOLINE

LC50 (rat): 2250 ppm/duration not reported (male rat) (1,9); 2150 ppm/duration not reported (female rat) (1,9); greater than 22.2 mg/L (6240 ppm)/1-hr exposure (12)

LC50 (mouse): 1320 mg/m³ (371 ppm)/2-hr exposure (reported but cannot be confirmed) (1)

LD50 (oral, rat): 1600 mg/kg (7,12,13); 1050 mg/kg (3,7,9,12)

LD50 (oral, mouse): 525 mg/kg (16); 720 mg/kg (15)

LD50 (oral, guinea pig): 900 mg/kg (7,12,13)

LD50 (skin, rabbit): 0.5 mL/kg/24-hr (500 mg/kg/24-hr) (undiluted) (3,7,12,16)

Lethal dose (o

0000108-91-8 CYCLOHEXANAMINE

LC50 (mouse): Less than or equal to 493 ppm (exposure duration not reported) (1); 264 ppm (exposure duration not reported).(2)

LC50 (rat): 1850 ppm (exposure duration not reported).(2)

Lethal concentration (rat): 8000 ppm (4-hr exposure); 6 of 6 animals

LD50 (oral, rat): 0.71 mL/kg (approx. 620 mg/kg) (undiluted) (3); 156-278 mg/kg body weight (10% cyclohexylamine in water) (4); 400

-800 mg/kg body weight (5% cyclohexylamine in water).(5)

LD50 (oral, mouse): 200-400 mg/kg body weight (undiluted cyclohexylamine)

SECTION 12) ECOLOGICAL INFORMATION

Toxicity:

No data available.

Persistence and Degradability:

No data available.

Bio-Accumulative Potential:

No data available.

Mobility in Soil:

No data available.

Other Adverse Effects:

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Water Disposal:

Under RCRA, it is the responsibility of the user of the product, to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws.

Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information:

Corrosive liquid, basic, organic, N.O.S. (contains cyclohexylamine and morpholine) UN3267, 8, PGIII

IMDG Information:

Corrosive liquid, basic, organic, N.O.S. (contains cyclohexylamine and morpholine) UN3267, 8, PGIII

IATA Information:

Corrosive liquid, basic, organic, N.O.S. (contains cyclohexylamine and morpholine) UN3267, 8, PGIII

SECTION 15) REGULATORY INFORMATION

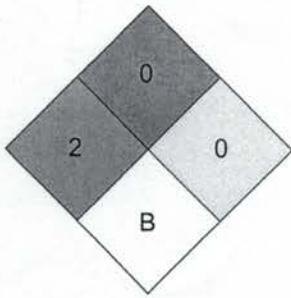
CAS	Chemical Name	% By Weight	Regulation List
0007732-18-5	WATER	60% - 80%	TSCA
0000108-91-8	CYCLOHEXANAMINE	10% - 20%	SARA312,VOC,TSCA
0000110-91-8	MORPHOLINE	10% - 20%	SARA312,VOC,TSCA,OSHA

SECTION 16) OTHER INFORMATION

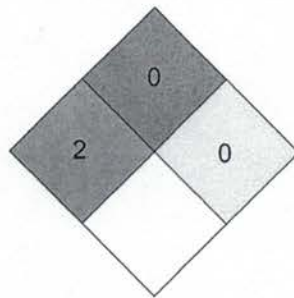
Glossary:

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ - Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA - Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

HMIS



NFPA



Chronic :



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