

Safety Data Sheet

FORMULA 2385

1. IDENTIFICATION

Product Name: FORMULA 2385 **Revised:** 2/27/15
Chemical Name: Not Applicable
Description: White-creamy liquid with no odor
Recommended Use: Boiler Water Treatment
Restrictions on Use: For industrial use only. Not for use in treating drinking water or where steam can contact food or other edible products.

COMPANY IDENTIFICATION
EASTERN TECHNOLOGIES, INC.
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CHEMTREC (800) 424-9300
Outside USA: CHEMTREC COLLECT (703) 527-3887

2. HAZARD(S) IDENTIFICATION

GHS Classification:

Flammable liquids - Category 4
Serious eye damage/irritation - Category 2A
Skin corrosion/irritation - Category 2
Specific target organ toxicity, single exposure - Category 2
Specific target organ toxicity, single exposure - Category 2
Specific target organ toxicity, single exposure; narcotic effects - Category 3
Hazardous to the aquatic environment, acute hazard - Category 3

Signal Word: Warning

Symbol(s):



Hazard Statements:

Combustible liquid
Causes serious eye irritation
Causes skin irritation
May cause damage to digestive system if swallowed
May cause damage to respiratory system if inhaled
May cause drowsiness or dizziness
Harmful to aquatic life

Precautionary Statements:

Prevention
Keep away from sparks and open flames. No smoking. Do not breathe dusts or mists. Avoid breathing dusts or mists. Wash hands, forearms, gloves and contaminated surfaces thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/eye protection/face protection.

Response

In case of fire: Use Water spray, foam, dry chemical or carbon dioxide to extinguish.
IF ON SKIN: Wash with plenty of soap and water.
Specific treatment (see First Aid on SDS or on this label).
If skin irritation occurs: Get medical advice or attention.

Take off contaminated clothing and wash it before reuse.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice/attention.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a POISON CONTROL CENTER or doctor for treatment advice if you feel unwell.
 IF exposed or concerned: Call a POISON CONTROL CENTER or doctor for treatment advice.

Storage
 Store in a well-ventilated place. Keep container tightly closed. Keep cool.
 Store locked up.

Disposal
 Dispose of contents/container in accordance with local, regional, national and international regulations.

Hazards Not Otherwise Classified: None Known.

Percentages of Components with Unknown Acute Toxicity:

Dermal: 9%
 Inhalation: 9%

3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL INGREDIENTS	CAS NO.*	PERCENT (%)**
MORPHOLINE	110-91-8	2% - 8%
ACETIC ACID GLACIAL	64-19-7	< 5%
ARMEEN 18D	124-30-1	M

Legend: L=<1%; M=1-10%; H=>10%

* Exposure limit and regulatory information in Sections 8 & 15

** Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with a directed stream of cool, clear water for at least 30 minutes. Forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Do not allow individual to rub their eyes. Get medical attention urgently, preferably from an ophthalmologist. Do not transport the victim until the recommended flushing period is completed, unless a portable emergency eye wash bottle is immediately available.

Skin Contact: Immediately wash skin with soap and plenty of water while removing contaminated clothing, for at least 15-20 minutes. Call a poison control center or doctor for treatment advice. Do not take contaminated clothing home to be laundered. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be immediately available.

Inhalation: Remove victim to fresh air. If individual experiences nausea, headache, dizziness, has difficulty in breathing or is cyanotic, seek medical attention. If not breathing, give artificial respiration via a suitable mechanical device such as a bag and mask. Do not use mouth-to-mouth resuscitation.

Ingestion: Do not induce vomiting. Rinse mouth with copious quantities of water first and get immediate medical attention. Drink several glasses of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep airways clear.

Note to Physician: There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Aspiration may cause lung damage. Probable mucosal damage may contraindicate the use of gastric lavage.

Most Important Symptoms/Effects:

Eye Contact: May cause irritation. May cause corneal damage with prolonged contact.

Skin Contact: Prolonged contact may cause irritation.

Inhalation: In poorly ventilated area vapors can cause irritation to nose and throat with possible headaches and nausea. May cause vomiting.

Ingestion: May be mildly toxic. May cause gastrointestinal irritation. Do not take internally. May cause nausea, vomiting, and/or diarrhea.

Indication of Immediate Medical Attention and Special Treatment, if Necessary:

Other than acute, none known. See section 11 for toxicological information.

5. FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Water spray, foam, dry chemical or carbon dioxide.

Specific Hazards Arising from the Chemical: Product may be irritating to the eyes, skin, and respiratory system. Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat. If evaporated to dryness, some product residuals may burn. Thermal decomposition may release oxides of carbon and nitrogen.

Special Protective Equipment and Precautions for Fire-Fighters: Wear self-contained breathing apparatus and full turn-out gear. Approach fire from upwind direction. If possible, move containers away from fire. Cool fire exposed containers with water spray. If containers rupture or leak, product may evolve irritating or toxic gas under extreme heat. Contain runoff.

6. ACCIDENTAL RELEASE MEASURES

Spill Containment and Clean-up Instructions:

Wear suitable protective equipment found in section 8. Small spills may be flushed with copious quantities of water, preferably to a sanitary sewer or waste treatment facility. Larger spills should be diked to prevent runoff and then absorbed in sand or other inert absorbent for disposal. The area may then be flushed with copious quantities of water. Floor may be slippery; use care to avoid falling. Avoid release of this product into the environment to prevent contamination of soil, sewers, natural waterways and/or groundwater. See Section 12 for Ecological Information.

7. HANDLING AND STORAGE

Handling and Storage:

Store in a cool, dry, well ventilated area, between 10°C and 49°C. Keep containers tightly closed when not in use and follow all recommended safety precautions when handling the material. Keep out of sun and away from heat or open flame. Keep away from incompatible materials. See Section 10 for incompatible materials.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering Controls: General ventilation satisfactory. Mechanical may be required to keep concentration below maximum airborne exposure limits in confined areas.

PERSONAL PROTECTION EQUIPMENT

Respiratory: Not normally required if good ventilation is maintained. Otherwise, wear self-contained breathing apparatus

Eyes and Face: Chemical splash goggles or face shield/goggle combination

Hands and Skin: Chemical resistant rubber, neoprene latex or PVC

Other Protective Equipment: Eyewash station and safety shower in area of use. Rubber apron and boots are also recommended where workers will be handling the product.

EXPOSURE GUIDELINES

Exposure Limits:

COMPONENT	TLV
MORPHOLINE	20ppm(skin)
ACETIC ACID GLACIAL	10-15 PPM (ACGIH)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	White-creamy liquid with no odor		
Odor Threshold:	N.D.	Vapor Pressure:	1.4-10
pH (undiluted):	9.5 - 10.0	Vapor Density:	3-4
Freeze Point:	<0°C (32°F)	Specific Gravity(@22°C):	0.97 - 1.01
Boiling Point:	>100°C (212°F)	Solubility in Water:	Complete
Flash Point:	>93°C (200°F)	Partition Coefficient:	N.D. (n-octanol/water)
	((as solution) tag closed cup)	Auto-Ignition Temperature:	N.D.
Evaporation Rate:	1.0	Decomposition Temperature:	N.D.
Flammability (solid, gas):	No	Viscosity:	N.D.
Flammable Limits in Air:	LFL – 1.8%		
	UFL – 10.8%		

10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive at normal temperatures and pressure.

Chemical Stability: Stable under normal conditions

Possibility of Hazardous Reactions: Will not occur under normal conditions.

Conditions to Avoid: Avoid excessive heat, sparks or open flames.

Incompatible Materials: Concentrated acids or oxidizing agents.

Hazardous Decomposition Products: Thermal decomposition may release oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION

Ingestion Testing: Rat, LD50: > 5,000 mg/kg*

Skin Testing: None established for this product.

Inhalation Testing: None established for this product.

*Calculated based on GHS acute toxicity formula.

CHRONIC TOXICITY DATA

Sensitization Testing: None established for this product.

Other Testing: None established for this product.

Routes of Exposure: Eyes, Ingestion, Inhalation, Skin.

Eye Contact: May cause irritation. May cause corneal damage with prolonged contact.

Skin Contact: Prolonged contact may cause irritation.

Inhalation: In poorly ventilated area vapors can cause irritation to nose and throat with possible headaches and nausea. May cause vomiting.

Ingestion: May be mildly toxic. May cause gastrointestinal irritation. Do not take internally. May cause nausea, vomiting, and/or diarrhea.

Medical Conditions Aggravated by Exposure: None known.

Chronic Effects from Repeated Overexposure: Repeated excessive exposures may cause injuries to liver and/or kidneys.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity Data:

Water Flea, Ceriodaphnia dubia, LC50/48hr: 11.2 mg/l

Product Fate Data: None established for this product.

Biodegradation Data: None established for this product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of in accordance with local, regional, national and international regulations.

Contact the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Triple rinse container (or equivalent) promptly after emptying and offer for reconditioning if appropriate. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal.

14. TRANSPORT INFORMATION

US DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION

NOT REGULATED

VESSEL TRANSPORT (IMO/IMDG)

NOT REGULATED

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA: All ingredients listed or exempt from listing.

CERCLA and/or SARA RQ: No ingredients listed in this section.

SARA Section 302 Hazard Class: No ingredients listed in this section.

SARA Section 311/312 Chemicals:

Acute Health Hazard: Yes

Chronic Health Hazard: Yes

Fire Hazard: No

Sudden Release of Pressure Hazard: No

Reactive Hazard: No

SARA Section 313 Chemicals: No ingredients listed in this section.

STATE REGULATIONS

This product does not contain any ingredients known to the State of California to cause cancer.

16. OTHER INFORMATION

HAZARD RATING SUMMARY

Hazard Rating System:	NFPA
Health:	2
Flammability:	1
Reactivity:	0
Special:	

CODE TRANSLATION
 0 = Minimal Hazard
 1 = Slight Hazard
 2 = Moderate Hazard
 3 = Severe Hazard
 4 = Extreme Hazard

Other Precautions: This product has been designed for use in specific types of boiler and steam/condensate systems and should be used only in accordance with the instructions provided by the technical representative servicing the facility. It may not be used for the treatment of potable water. The product is not approved for use in boilers where steam can contact food or other edible products.

SDS REVISION SUMMARY

Revised Date	Revision Notes
2/27/15	GHS Version 1.0: Supersedes: 11/6/13, Full Product Toxicity Testing completed on this product on 2/16/2015.

ABBREVIATION CODE SUMMARY

- N.A. – Not Applicable**
- N/A – Not Available**
- N.D. – Not Determined**
- N.E. – None Established**

Disclaimer: The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given.