

Safety Data Sheet

FORMULA 2100-F

1. IDENTIFICATION

Product Name: FORMULA 2100-F **Revised:** 1/5/16
Chemical Name: Not Applicable
Description: Clear, light yellow liquid with practically no odor
Recommended Use: Boiler Water Treatment
Restrictions on Use: For industrial use only. Not for use in treating drinking water

COMPANY IDENTIFICATION
EASTERN TECHNOLOGIES, INC.
60 THOUSAND OAKS BLVD.
SUITE 105
MORGANTOWN, PA 19543

PHONE NUMBER: (610) 286-2010

EMERGENCY PHONE NUMBERS
CHEMTREC (800) 424-9300
Outside USA: CHEMTREC COLLECT (703) 527-3887

2. HAZARD(S) IDENTIFICATION

GHS Classification:

Corrosive to metals - Category 1
Serious eye damage/irritation - Category 1
Skin corrosion/irritation - Category 2
Specific target organ toxicity, single exposure; respiratory tract irritation - Category 3
Carcinogenicity - Category 2
Acute toxicity, inhalation - Category 4

Signal Word: Danger

Symbol(s):



Hazard Statements:

May be corrosive to metals
Causes serious eye damage
Causes skin irritation
May cause respiratory irritation
Suspected of causing cancer
Harmful if inhaled

Precautionary Statements:

Prevention
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Avoid breathing dusts or mists. Wash hands, forearms, gloves and contaminated surfaces thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection/face protection.

Response

Absorb spillage to prevent material damage.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CONTROL CENTER or doctor for treatment advice.
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 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 SWALLOWED: Rinse mouth. Do NOT induce vomiting. 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. Store locked up. Store in corrosive resistant container with a resistant inner liner.

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:

Inhalation: 42%

3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL INGREDIENTS	CAS NO.*	PERCENT (%)**
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	64-02-8	34% - 44%
SODIUM HYDROXYACETATE	2836-32-0	2% - 8%
SODIUM HYDROXIDE	1310-73-2	< 5%
TRISODIUM NITRILOTRIACETATE	5064-31-3	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 severe irritation or burns. Prolonged contact may cause irreversible damage and/or blindness.

Skin Contact: Prolonged contact may cause severe irritation, rash or burns. Severity is generally determined by concentration of solution and duration of contact.

Inhalation: Inhalation of vapor or mist can cause severe irritation of nose, throat, and lungs. May cause damage to the upper respiratory tract and lungs under severe conditions.

Ingestion: May be toxic. May cause severe irritation or burns of the mouth, throat, and internal tissues resulting in possible nausea and/or vomiting. Large amounts can result in acute toxic effects which may be fatal.

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

Ingestion may reduce serum calcium levels. Renal failure and hypocalcaemia may result. Repeated urinalysis recommended.

5. FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Any media suitable for the surrounding fire.

Specific Hazards Arising from the Chemical: Product is corrosive to 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. Contact with some metals may generate explosive hydrogen gas. 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 may require neutralization prior to flushing or absorbed in sawdust or other absorbent and sweeping disposed of in an approved landfill. 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 expected to be satisfactory

PERSONAL PROTECTION EQUIPMENT

Respiratory: Not normally required unless misting occurs. Wear an OSHA or NIOSH approved respirator.

Eyes and Face: Chemical resistant goggles or face shield.

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
SODIUM HYDROXIDE	2mg/m ³ /15M

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	Clear, light yellow liquid with practically no odor	Vapor Pressure:	< 0.35
Odor Threshold:	N.D.	Vapor Density:	<1
pH (undiluted):	>12	Specific Gravity(@22°C):	1.29 - 1.32
Freeze Point:	< -25°C (-13°F)	Solubility in Water:	Complete
Boiling Point:	> 100°C (212°F)	Partition Coefficient:	N.D. (n-octanol/water)
Flash Point:	None	Auto-Ignition Temperature:	N.D.
Evaporation Rate:	< 0.8	Decomposition Temperature:	N.D.
Flammability (solid, gas):	No	Viscosity:	N.D.
Flammable Limits in Air:	LFL – N.A. UFL – N.A.		

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

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, oxidizing agents, aluminum, brass, copper, carbon steel, stainless steel, bronze, tin.

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

11. TOXICOLOGICAL INFORMATION

Ingestion Testing: Rat, LD50: 3030 mg/kg

Skin Testing: Rabbit, LD50: > 5,000 mg/kg

Inhalation Testing: None established for this product.

CHRONIC TOXICITY DATA

Sensitization Testing: None established for this product.

Other Testing: Carcinogenicity: Although large dietary doses of NTA have caused urinary tumors in laboratory animals, there is little likelihood that NTA could cause cancer in humans, especially at sub-toxic doses. The Trisodium salt of EDTA did not cause cancer in laboratory animals.

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

Eye Contact: May cause severe irritation or burns. Prolonged contact may cause irreversible damage and/or blindness.

Skin Contact: Prolonged contact may cause severe irritation, rash or burns. Severity is generally determined by concentration of solution and duration of contact.

Inhalation: Inhalation of vapor or mist can cause severe irritation of nose, throat, and lungs. May cause damage to the upper respiratory tract and lungs under severe conditions.

Ingestion: May be toxic. May cause severe irritation or burns of the mouth, throat, and internal tissues resulting in possible nausea and/or vomiting. Large amounts can result in acute toxic effects which may be fatal.

Medical Conditions Aggravated by Exposure: None known.

Chronic Effects from Repeated Overexposure: Repeated excessive exposures may alter concentrations of metals in the body.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity Data:

Invertebrate: Daphnia magna, LC50/48hr: 705 mg/l

Fish: Rainbow trout, LC50/96hr: 465 mg/l

Product Fate Data: None established for this product.

Biodegradation Data: Testing has shown product not to be readily biodegradable.

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

UN/NA ID Number: UN3267

Proper Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ETHYLENEDIAMINE TETRAACETIC ACID, TETRASODIUM SALT SOLUTION)

Hazard Class: 8

Packing Group: III

VESSEL TRANSPORT (IMO/IMDG)

UN/NA ID Number: UN3267

Proper Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ETHYLENEDIAMINE TETRAACETIC ACID, TETRASODIUM SALT SOLUTION)

Hazard Class: 8

Packing Group: III

Marine Pollutant: No

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA: All ingredients listed or exempt from listing.

CERCLA and/or SARA RQ:

Reportable Quantity: SODIUM HYDROXIDE (CAS#1310-73-2) - 1000lbs. (455 kg)

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 contains a chemical(s) known to State of California to cause cancer and/or birth defects or other reproductive harm.

16. OTHER INFORMATION

HAZARD RATING SUMMARY

Hazard Rating System:	NFPA	CODE TRANSLATION
Health:	3	0 = Minimal Hazard
Flammability:	0	1 = Slight Hazard
Reactivity:	0	2 = Moderate Hazard
Special:		3 = Severe Hazard
		4 = Extreme Hazard

Other Precautions: This product has been designed for use in specific types of boiler water 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. This product contains only ingredients approved by the FDA for use in boilers where steam can contact food or other edible products. This product is USDA acceptable.

SDS REVISION SUMMARY

Revised Date	Revision Notes
1/5/16	GHS Version 1.0: Supersedes: 5/14/15, revised eco-toxicity data and carcinogenicity GHS category.

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.