

1. IDENTIFICATION

Trade Name: FP-1280B Corrosion Inhibitor

Chemical Name & Synonyms: Proprietary Water Treatment Blend

UN/ID No: **UN2735**

2. HAZARDS IDENTIFICATION

Classification: **Corrosive**

Signal Word: **DANGER**

Label Elements:



Health Hazards:

Acute toxicity-Inhalation	Category 1
Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1A
Serious eye damage/eye irritation	Category 1

Hazard Statements:

- H302 Harmful if swallowed.
- H313 May be harmful in contact with skin.
- H319 Causes serious eye irritation.
- H333 May be harmful if inhaled.
- H333 May be harmful if inhaled.

Precautionary Statements:

- Keep container tightly closed
- Keep only in original container
- Do not get in eyes or on skin or on clothing
- Do not eat or drink or smoke when using this product
- Wear protective gloves/protective clothing/eye protection/face protection.
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Response

- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for

breathing. Immediately call a POISON CENTER or doctor/ physician.

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 CENTER or doctor/ physician.

Wash contaminated clothing before reuse.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Benzotriazole (Powder/Granular)	95-14-7	2-8%
Boric Acid	10043-35-3	20-30%
2-aminoethanol	141-43-5	<3%
Monoisopropanolamine	78-96-6	25-35%

4. First Aid Measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Immediate continued and thorough washing in flowing water for at least 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash clothing before reuse. Properly dispose of leather items such as shoes, belts, and watchbands. Suitable emergency safety shower facility should be immediately available.

Eye contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire-fighting Measures

Flammable Properties: Non-flammable

Explosive Properties: N/A

Suitable Extinguishing Media: N/A

Unsuitable Extinguishing Media: N/A

Specific Hazards Arising from the Chemical: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Protective Equipment and Precautions for Firefighters:

In the event of a fire, wear full protective clothing and MSHA/NIOSH (approved or equivalent) self-contained breathing apparatus with full facepiece operated in the pressure-demand or other positive pressure mode

6. Accidental Release Measures

Personal Precautions: Routine PPE for any spill, no unique requirement.

Environmental Precautions: If not diluted, this product may become a hazardous waste as designated by the EPA under authority of the Resource Conservation and Recovery Act (RCRA)

Methods for Cleaning Up: Product is water soluble and may be diluted and flushed as below described.

Other Information: This product is intended to be used in open recirculating cooling water treatment and discharged to sanitary sewer in its diluted state in tower bleedoff water. Concentrated product may be diluted to a similar working concentration and flushed to sewer or soaked up with absorbent material and landfilled in accordance with local, state, and federal regulations.

7. Handling and Storage

Advice on Safe Handling: Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Use only with adequate ventilation.

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Incompatible Materials: See Section 10.

8. Exposure Controls / Personal Protection

Chemical Name

Monoisopropanolamine	78-96-6	TWA	3 ppm	
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Boric acid	10043-35-3	TWA	2 mg/m ³	USA. ACGIH Threshold Limit Value
Benzotriazole (Powder/Granular)	95-14-7	Contains no substances with occupational exposure limit values.		

Exposure Guidelines N/A

Engineering Controls: Ensure adequate ventilation, especially in confined areas
Personal protective equipment (PPE) Wear suitable industrial protective clothing
Eye/Face Protection: Industrial Safety Glasses and/or face shield
Body Protection: P280 Wear protective gloves/protective clothing.
General Hygiene Considerations: P270 Do not eat or drink or smoke when using this product
P363 Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance: Clear liquid with slight inorganic odor
pH: 10.2
Specific Gravity: 1.14
Molecular Weight: Mixture
Water Solubility: Completely soluble
Melt/FreezePoint: Not determined
Boiling Point: Not determined
Flammability N/A
Flash Point: N/A
Vapor density: N/A

10. Stability and Reactivity

Stability: Stable under normal conditions of use and storage
Conditions to Avoid: None known
Incompatible Materials: Alkalis, metal alloys, chlorinated hydrocarbons.
Hazardous Decomposition Products: Hydrogen gas, Sulfur Oxides may be released if heated
Possibility of Hazardous Reactions: None known

11. Toxicological Information

Blended product not tested.

Component: Monoisopropanolamine CAS# 78-96-6	
Acute Oral Toxicity	Low toxicity if swallowed. Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat. LD50, Rat, male, 2,813 mg/kg

Acute inhalation toxicity	At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Excessive exposure may cause irritation to upper respiratory tract (nose and throat)
Acute Dermal Toxicity	Prolonged or widespread skin contact may result in absorption of potentially harmful amounts. LD50, Rabbit, 1,851 mg/kg
Eye irritation	May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Target Organ Systemic Toxicant -Single exposure	Based on available data, repeated exposures are not anticipated to cause significant adverse effects
Target Organ Systemic Toxicant - Repeated exposure	No data available
Skin corrosion/irritation:	Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage. May cause more severe response if skin is abraded (scratched or cut). May cause more severe response on covered skin (under clothing, gloves). Classified as corrosive to the skin according to DOT guidelines.
Inhalation	No data available
Respiratory or skin sensitization:	Did not cause allergic skin reactions when tested in guinea pigs.
Reproductive toxicity:	No data available
Carcinogenicity	No data available
Aspiration hazard:	Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.
Germ cell mutagenicity:	No data available

Component: 2-aminoethanol CAS# 141-43-5

Acute Oral Toxicity	Type of value: LD50 Species: rat Value: 1,515 mg/kg (OECD Guideline 401)
Acute inhalation toxicity	Type of value: LC50 Species: rat Value: > 1.3 mg/l (IRT) Exposure time: 6 h
Acute Dermal Toxicity	Type of value: LD50 Species: rabbit Value: 2,504 mg/kg (OECD Guideline 402)
Eye irritation	Assessment of irritating effects: Corrosive! Damages skin and eyes. May cause severe damage to the eyes.
Target Organ Systemic Toxicant -Single exposure	No data available

Target Organ Systemic Toxicant - Repeated exposure	No data available
Skin corrosion/irritation:	Species: rabbit Result: Corrosive. Method: OECD Guideline 404
Inhalation	No data available
Respiratory or skin sensitization:	No sensitizing effect.
Reproductive toxicity:	Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The potential to impair fertility cannot be excluded when given at maternally toxic doses. Because the relevance of the results to human health is unclear, further tests will be initiated.
Carcinogenicity	Assessment of carcinogenicity: The whole of the information assessable provides no indication of a carcinogenic effect.
Aspiration hazard:	No aspiration hazard expected.
Germ cell mutagenicity:	Assessment of mutagenicity: In the majority of studies performed with microorganisms and in mammalian cell culture, a mutagenic effect was not found. A mutagenic effect was also not observed in in vivo tests.

Component: Boric Acid CAS-No. : 10043-35-3

Acute Oral Toxicity	LD50 Oral - Rat - 2,660 mg/kg
Acute inhalation toxicity	No data available
Acute Dermal Toxicity	No data available
Eye irritation	No data available
Target Organ Systemic Toxicant -Single exposure	No data available
Target Organ Systemic Toxicant - Repeated exposure	No data available
Skin corrosion/irritation:	No data available
Inhalation	No data available
Respiratory or skin sensitization:	No data available
Reproductive toxicity:	In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance.
Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Aspiration hazard:	No data available
Germ cell mutagenicity:	No data available

Component: Benzotriazole (Powder/Granular) CAS 95-14-7

Acute Oral Toxicity	LD50 : 560 mg/kg (rat)
Acute inhalation toxicity	LD50 : >1.5 mg/l (rat, 4 hours)
Acute Dermal Toxicity	LD50 : >1 gm/kg (rat)
Eye irritation	Highly irritating (Rabbit, dose = 100mg, 72 hours)
Target Organ Systemic Toxicant -Single exposure	No data available
Target Organ Systemic Toxicant - Repeated exposure	No data available
Skin corrosion/irritation:	Not irritating (Rabbit, 4 hours)
Inhalation	No data available
Respiratory or skin sensitization:	No data available
Reproductive toxicity:	No data available
Carcinogenicity	This product is not listed on OSHA, NIOSH, IARC, or NTP as cancer-causing
Aspiration hazard:	No data available
Germ cell mutagenicity:	No data available

Long Term Exposure Health Effects:

Eyes : Causes serious damage to the eyes. Skin : Harmful if absorbed through skin, prolonged exposure is severely harmful to health. Inhalation : Toxic if inhaled, causes respiratory tract irritation. Ingestion : Harmful if ingested, prolonged exposure is severely harmful to health.

12. Ecological Information

Blended product not tested.

Component: Monoisopropanolamine CAS# 78-96-6	
EcoToxicity	Material is slightly toxic to aquatic organisms on an acute basis
Toxicity, Fish	LC50 10-100 mg/L
Toxicity, invertebrates	EC50, Daphnia magna (Water flea), 48 Hour, 109 mg/l,
Toxicity, Algae	ErC50, alga Scenedesmus sp., static test, 72 Hour, Growth rate inhibition, 32.7 mg/l, OECD Test Guideline 201 or Equivalent
Bioaccumulation	Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Mobility	Potential for mobility in soil is very high (Koc between 0 and 50).
Biodegradability	Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
Biochemical OxygenDemand (BOD)	5d/43%
Other adverse effects:	No data available

Component: 2-aminoethanol CAS# 141-43-5	
EcoToxicity	Acutely toxic for aquatic organisms. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.
Toxicity, Fish	LC50 (96 h) 349 mg/l, Cyprinus carpio (Directive 92/69/EEC, C.1, semistatic)

Toxicity, invertebrates	EC50 (48 h) 65 mg/l, Daphnia magna (Directive 84/449/EEC, C.2, static)
Toxicity, Algae	EC50 (72 h) 2.5 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201)
Bioaccumulation	Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected
Mobility	The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.
Biodegradability	Readily biodegradable (according to OECD criteria).
Biochemical Oxygen Demand (BOD)	5 d: 800 mg/g
Other adverse effects:	No data available

Component: Boric Acid CAS-No. : 10043-35-3

EcoToxicity	No data available
Toxicity, Fish	LC50 - Ptychocheilus lucius - 279 mg/l - 96 h
Toxicity, invertebrates	LC50 - Daphnia magna (Water flea) - 53.2 mg/l - 21 d
Toxicity, Algae	No data available
Bioaccumulation	No data available
Mobility	No data available
Biodegradability	Readily biodegradable (according to OECD criteria).
Biochemical Oxygen Demand (BOD)	No data available
Other adverse effects:	No data available

Component: Benzotriazole (Powder/Granular) CAS 95-14-7

Toxicity, Fish	Salmo gairdneri (fish, freshwater, estuary) EC50 (96h) - 24.4 mg/L
Toxicity, invertebrates	Daphnia magna (Crustacea) EC50 (48h) - 91 mg/L
Toxicity, Algae	Selenastrum capricornutum (Algae) EC50 (72 h) - 231 mg/L
Ecotoxicity	This material may be harmful or fatal to contaminated plants or animals, especially if large volumes are released into the environments.
Bioaccumulation	Log Kow: 1.44
Mobility	Expected to have high mobility in soil
Biodegradability	Readily biodegradable
Biochemical Oxygen Demand (BOD)	No data available
Other adverse effects:	No data available

13. Disposal Considerations

Waste from Residues/Unused Products:

This product is intended to be used in open recirculating cooling water treatment and discharged to sanitary sewer in its diluted state in tower bleedoff water. Concentrated product may be diluted to a similar working

concentration and flushed to sewer or soaked up with absorbent material and landfilled in accordance with local, state, and federal regulations.

P501 Dispose of contents/container in accordance with local/state/federal regulations

Contaminated Packaging: Do not reuse container for potable / food contact. Wash and rinse thoroughly before reuse / recycling

14. Transport information (USDOT):

Proper shipping Name: Amines, liquid, corrosive, n.o.s.(Monoisopropanolamine)**Hazard Class:**
Corrosive

UN/ID No UN2735
Packing Group II
Reportable Quantity (RQ) 1,000 lbs (calculated)
Description: N/A



15. Regulatory Information

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

National Fire Protection Association (NFPA) Ratings:



NSF Certification: N/A

16. Other Information

This Safety Data Sheet compiled from information provided by the raw chemical product manufacturers.