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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **FPPF 4000 Cooling System Treatment**

Product Code(s) : US Product Codes: 00149, 90149, 00150P, 00151
Canada Product Codes: 00231, 90231

Recommended use of the chemical and restrictions on use

: Cooling system treatment
No restrictions on use known.

Chemical family : Mixture

Name, address, and telephone number of the manufacturer:

FPPF Chemical Company, Inc.
117 West Tupper Street
Buffalo, NY, USA
14201
Manufacturer's Telephone # : 1-800-735-3773

Name, address, and telephone number of the supplier:

Refer to manufacturer

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear liquid.

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Label elements

Signal Word

Not required

Hazard statement(s)

Not applicable.

Precautionary statement(s)

Not applicable.

.

Other hazards

Other hazards which do not result in classification:
Ingestion may cause irritation of the mouth, throat and stomach. May cause irritation to the nose, throat and upper respiratory tract. Contact with eyes may cause irritation. May cause skin irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Common name and synonyms	CAS #	Concentration
Sodium molybdate	Molybdic acid, disodium salt	7631-95-0	**3.0 - 5.0**
Sodium nitrite	Nitrous acid, sodium salt	7632-00-0	**1.0 - 3.0**
Sodium tolytriazole	1H-Benzotriazole, 4(or 5) -methyl-, sodium salt	64665-57-2	**0.1 - 0.9**
Polyalkylene glycol monobutyl ether	Oxirane, methyl-, polymer with oxirane, monobutyl ether, molecular weight 4000	9038-95-3	**0.1 - 0.9**

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

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Description of first aid measures

Ingestion : Do not induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact : Wash affected areas with soap and water.Take off contaminated clothing and wash before re-use. Get medical attention if irritation develops and persists.

Eye contact : Flush with large amounts of water for 15 minutes. Remove contact lenses if present and easy to do. If irritation or symptoms develop, seek medical attention.

Most important symptoms and effects, both acute and delayed

: May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include coughing, choking and wheezing.Direct skin contact may cause temporary redness.Direct eye contact may cause temporary redness.Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Carbon dioxide and water fog / fine spray.

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire. Do not use dry chemical extinguishing agents that contain ammonium compounds.

Special hazards arising from the substance or mixture / Conditions of flammability

: Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Carbon oxides, Nitrogen oxides, oxides of molybdenum, Sodium oxides, and other irritating fumes and smoke

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply or any natural waterway. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: Evacuate personnel to safe areas. Keep all other personnel upwind and away from the spill/release. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Ventilate the area. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Contact the proper local authorities.

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Special spill response procedures

: In case of a transportation accident, in the United States contact CHEMTREC at 1-800-424-9300 or International at 1-703-527-3887. If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): Sodium nitrite (100 lbs / 45.4 kg)

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Use only in well-ventilated areas. Wear suitable protective equipment. Avoid breathing mist or vapours. Do not ingest. Do not eat, drink, smoke or use cosmetics while working with this product. Avoid contact with skin, eyes and clothing. Keep away from heat and flame. Wash hands before eating, drinking or smoking. Keep containers closed when not in use. Keep away from incompatibles.

Conditions for safe storage : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight.Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Oxidizing agents Reducing agents Strong acids Reactive metals

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Sodium molybdate	0.5mg/m³ (respirable)(soluble Molybdenum compounds)(as Mo)	N/Av	5 mg/m³ (soluble compounds) (as Mo)	N/Av
Sodium nitrite	N/Av	N/Av	N/Av	N/Av
Sodium tolytriazole	N/Av	N/Av	N/Av	N/Av
Polyalkylene glycol monobutyl ether	N/Av	N/Av	N/Av	N/Av

Exposure controls

Ventilation and engineering measures

: Use in a well-ventilated area. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable approved respiratory protection. If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection : Wear suitable protective equipment. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection : Wear protective chemical safety goggles, or in splash environment, in combination with a face shield.

Other protective equipment : Wear appropriate protective clothing to prevent skin contact, such as coveralls or long sleeved shirt, long pants, and shoes and socks. Other protective equipment, such as an eyewash station and safety shower, may be required depending on exposure and on workplace standards. Other equipment may be required depending on workplace standards.

General hygiene considerations

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: Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear liquid.
Odour	:	N/Av
Odour threshold	:	N/Av
pH	:	11.8 - 12.2
Melting/Freezing point	:	N/Av
Initial boiling point and boiling range	:	N/Av
Flash point	:	N/Av
Flashpoint (Method)	:	N/Av
Evaporation rate (BuAe = 1)	:	<1
Flammability (solid, gas)	:	N/Ap
Lower flammable limit (% by vol.)	:	N/Av
Upper flammable limit (% by vol.)	:	N/Av
Oxidizing properties	:	None known.
Explosive properties	:	N/Av
Vapour pressure	:	N/Av
Vapour density	:	N/Av
Relative density / Specific gravity	:	1.05
Solubility in water	:	Complete
Other solubility(ies)	:	N/Av
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	:	N/Av
Auto-ignition temperature	:	N/Av
Decomposition temperature	:	N/Av
Viscosity	:	N/Av
Volatiles (% by weight)	:	N/Av
Volatile organic Compounds (VOC's)	:	N/Av
Absolute pressure of container	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical comments	:	None reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not normally reactive.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.
Incompatible materials	:	Oxidizing agents Reducing agents Strong acids Reactive metals
Hazardous decomposition products	:	None reported by the manufacturer. Refer also to hazardous combustion products, Section 5.

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SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption : NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation : May cause respiratory tract irritation.Symptoms may include coughing, choking and wheezing.

Sign and symptoms ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sign and symptoms skin : Direct skin contact may cause slight or mild, transient irritation.

Sign and symptoms eyes : Direct eye contact may cause slight or mild, transient irritation.

Potential Chronic Health Effects : Repeated exposure may cause skin dryness or cracking.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity : Not expected to have other reproductive effects.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : The substance or mixture is not classified as specific target organ toxicant, single exposure.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Medical conditions aggravated by overexposure : Pre-existing skin, eye and respiratory disorders.

Synergistic materials : None reported by the manufacturer.

Toxicological data : The calculated ATE values for this mixture are:
ATE oral = 7537.7Not applicable.
ATE dermal = Not applicable.
ATE inhalation (dust/mist) = 19.6mg/L/4H

See below for individual ingredient acute toxicity data.

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Sodium molybdate	> 1.93 mg/L (dust) (No mortality)	4233 mg/kg	> 2000 mg/kg (No mortality)
Sodium nitrite	5.5 mg/L/4H (dust)	180 mg/kg	N/Av
Sodium tolytriazole	N/Av	735 - 1980 mg/kg (50% solution)	> 2000 mg/kg (No mortality)
Polyalkylene glycol monobutyl ether	106mg/m3/4H (0.106mg/L/4H) (aerosol)	48700mg/kg	>21000mg/kg

Other important toxicological hazards : None known or reported by the manufacturer.

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Sodium molybdate	7631-95-0	609.1 mg/L (Rainbow trout) (Read-across)	200 mg/L/32-day	None.
Sodium nitrite	7632-00-0	0.54mg/L (Rainbow trout)	N/Av	None.
Sodium tolytriazole	64665-57-2	25 mg/L (Rainbow trout)	N/Av	None.
Polyalkylene glycol monobutyl ether	9038-95-3	N/Av	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Sodium molybdate	7631-95-0	130.9 mg/L (Daphnia magna)	368.3 mg/L (Read-across)	None.
Sodium nitrite	7632-00-0	15.4mg/L (Water flea)	114.9mg/L (80 day)(salt water shrimp)	None.
Sodium tolytriazole	64665-57-2	280 mg/L (Daphnia magna)	18.4 mg/L	None.
Polyalkylene glycol monobutyl ether	9038-95-3	N/Av	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Sodium molybdate	7631-95-0	362.9 mg/L/72hr (Green algae)	27 mg/L/72hr (Read-across)	None.
Sodium nitrite	7632-00-0	>100mg/L (Green algae)	100mg/L (Green algae)	None.
Sodium tolytriazole	64665-57-2	26.2 mg/L/72hr (Green algae)	10 mg/L/72hr	None.
Polyalkylene glycol monobutyl ether	9038-95-3	N/Av	N/Av	None.

Persistence and degradability

: No data is available on the product itself. Biodegradation is not applicable to inorganic substances.

Bioaccumulation potential : No data is available on the product itself.

Components	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)
Sodium molybdate (CAS 7631-95-0)	N/Ap	N/Ap
Sodium nitrite (CAS 7632-00-0)	-3.7 at 25 °C	3.162estimated
Sodium tolytriazole (CAS 64665-57-2)	1.083	No information available.
Polyalkylene glycol monobutyl ether (CAS 9038-95-3)	N/Av	No information available.

Mobility in soil : No data is available on the product itself.

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Other Adverse Environmental effects

: The ecological characteristics of this product have not been fully investigated. Contains material that may be harmful in the environment. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Empty product containers may contain hazardous product residue. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	None.				
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	None.				

Special precautions for user : Appropriate advice on safety must accompany the package.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Sodium molybdate	7631-95-0	Yes	None.	None.	No	N/Ap
Sodium nitrite	7632-00-0	Yes	100 lb/ 45.4 kg	N/Ap	Yes	1%
Sodium tolytriazole	64665-57-2	Yes	N/Ap	N/Ap	No	N/Ap
Polyalkylene glycol monobutyl ether	9038-95-3	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: None.

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US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Sodium molybdate	7631-95-0	No	Not listed	No	No	No	No	No	No
Sodium nitrite	7632-00-0	No	Not listed	Yes	Yes	No	Yes	Yes	No
Sodium tolytriazole	64665-57-2	No	Not listed	No	No	No	No	No	No
Polyalkylene glycol monobutyl ether	9038-95-3	No	Not listed	No	No	No	No	No	No

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS classification: See Section 2.

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Sodium molybdate	7631-95-0	231-551-7	Present	Present	(1)-478	KE-12357	Present	HSR004007
Sodium nitrite	7632-00-0	231-555-9	Present	Present	(1)-483	KE-31546	Present	HSR001286
Sodium tolytriazole	64665-57-2	265-004-9	Present	Present	Not listed	KE-23499	Present	May be used as a single component chemical under an appropriate group standard
Polyalkylene glycol monobutyl ether	9038-95-3	N/Av	Present	Present	(7)-327	KE-24620	Present	HSR003207

SECTION 16. OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
ATE: Acute Toxicity Estimate
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CNS: Central Nervous System
DOT: Department of Transportation
EC50: Effective Concentration 50%.
EINECS: European Inventory of Existing Commercial chemical Substances
EPA: Environmental Protection Agency
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
KECI: Korean Existing Chemicals Inventory

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KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NJ: New Jersey
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References : Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015 (Chempendium, RTECs, HSDB, INCHEM).
OECD- The Global Portal to Information on Chemical Substances - eChemPortal, 2015 European Chemicals Agency, Classification Legislation, 2015
Material Safety Data Sheet from manufacturer
Information taken from reference works and the literature.

Preparation Date (mm/dd/yyyy)

: 05/27/2015

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for:	
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	

DISCLAIMER

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