

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **FPPF 4000 Cooling System Treatment**

Product Code(s) : 00149, 90149, 00150P, 00151

Recommended use of the chemical and restrictions on use

: Cooling system treatment
No restrictions on use known.

Chemical family : Mixture

Manufacturer's Telephone # : 1-800-735-3773

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

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

Name, address, and telephone number of the supplier:

Refer to manufacturer

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Appearance: Clear liquid.

Odour: Not reported

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Classification:

Oxidizing liquid - Category 3

Skin corrosion/irritation - Category 1

Serious eye damage/eye irritation - Category 1

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

May intensify fire; oxidizer.

Causes severe skin burns and eye damage.

Precautionary statement(s)

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Keep away from heat.
Keep/Store away from clothing and other combustible materials.
Take any precaution to avoid mixing with combustibles.
Do not breathe dust or mist.
Wash hands and face thoroughly after handling.
Wear protective gloves/clothing and eye/face protection.

In case of fire, use water fog, carbon dioxide, or foam to extinguish.
Immediately call a POISON CENTRE or doctor/physician.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
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. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Store locked up.

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

Other hazards

No OSHA defined hazard classes.
Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes.
Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract.
If mists are formed, may cause severe irritation to the nose, throat and respiratory tract.

Environmental precautions:
Harmful to aquatic life with long lasting effects. Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
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	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

Description of first aid measures

- Ingestion* : If swallowed: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Immediately call a POISON CENTRE or doctor/physician.
- Inhalation* : If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Immediately call a POISON CENTRE or doctor/physician.
- Skin contact* : IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTRE or doctor/physician. Wash contaminated clothing before reuse.

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Eye contact : 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 CENTRE or doctor/physician.

Most important symptoms and effects, both acute and delayed

- : Causes skin burns. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Symptoms may include redness, blistering, pain and swelling.
Causes serious eye damage. Severe irritation, burns and possibly permanent eye damage may result from direct contact. Symptoms may include severe pain, blurred vision, redness and corrosive damage.
Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract. Symptoms include: Gastrointestinal discomfort, nausea, vomiting, cramping and diarrhea.
If mists are formed, may cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, mucous production and difficulty breathing.

Indication of any immediate medical attention and special treatment needed

- : Immediate medical attention is required. Corrosive liquid. 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.

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

- : May intensify fire; oxidizer. Contains oxidizers, which may increase the burning rate of combustible materials.
Keep away from heat. Take any precaution to avoid mixing with combustibles. Contact with combustible material may cause fire. 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. Contains oxidizers, which may increase the burning rate of combustible materials.

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 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

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- : Keep all other personnel upwind and away from the spill/release. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Individuals involved in the cleanup must wear alkali resistant personal protective equipment. 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. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Dilute alkali with water and neutralize with acids (e.g. acetic acid/vinegar). For spilled liquids: absorb spill with inert, non-combustible material such as sand, then place into suitable containers. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.
- 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 with adequate ventilation. Keep away from heat. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Label containers appropriately.
Wear chemically resistant protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe dust or mist. Do not ingest. Do not eat, drink, smoke or use cosmetics while working with this product. Avoid contact with skin, eyes and clothing. Wash hands before eating, drinking or smoking. Keep containers closed when not in use. Keep away from incompatibles. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Conditions for safe storage

- : Store locked up. Store in a cool, dry, well-ventilated area. Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Store in corrosion-resistant containers. Store away from incompatibles and out of direct sunlight. Inspect periodically for damage or leaks. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking in the area.

Incompatible materials

- : Oxidizing agents; Reducing agents; Strong acids; Ammonium compounds; Reactive metals.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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Exposure Limits:				
Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Sodium molybdate	0.5mg/m ³ (respirable)(soluble Molybdenum compounds)(as Mo)	N/Av	5 mg/m ³ (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 protective gloves/clothing. Gloves impervious to the material are recommended. Wear impervious clothing to prevent skin contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection

: Wear eye/face protection. Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Do not breathe dust or mist. 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/Av
- Lower flammable limit (% by vol.) : N/Av

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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/Av
Flame projection length : N/Av
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 : May intensify fire; oxidizer. Contains oxidizers, which may increase the burning rate of combustible materials. Contact with combustible material may cause fire. Hazardous polymerization does not occur.
Conditions to avoid : Ensure adequate ventilation, especially in confined areas. Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Avoid contact with incompatible materials.
Incompatible materials : Oxidizing agents; Reducing agents; Strong acids; Ammonium compounds; Reactive metals.
Hazardous decomposition products : None reported by the manufacturer. Refer also to hazardous combustion products, Section 5.

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 : YES

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Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: If mists are formed, may cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, mucous production and difficulty breathing.

Sign and symptoms ingestion

: Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract. Symptoms include: Gastrointestinal discomfort, nausea, vomiting, cramping and diarrhea.

Sign and symptoms skin

: Causes skin burns. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Symptoms may include redness, blistering, pain and swelling.

Sign and symptoms eyes

: Causes serious eye damage. Severe irritation, burns and possibly permanent eye damage may result from direct contact. Symptoms may include severe pain, blurred vision, redness and corrosive damage.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

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

: There is no data available for this product. Not classified for acute toxicity based on available data.

The calculated ATE values for this mixture are:

ATE oral = 7537.7mg/kg

ATE inhalation (dust/mist) = 19.6mg/L/4H

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
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/m ³ /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 : Harmful to aquatic life with long lasting effects. Contains material that may be harmful in the environment. No data is available on the product itself. The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	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.

<u>Ingredients</u>	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.

<u>Ingredients</u>	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.

Bioaccumulation potential : No data is available on the product itself. See the following data for ingredient information.

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<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
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.

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. Contact your local, state or federal environmental agency for specific rules.

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	UN3219	NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S. (Sodium nitrite)	5.1	III	
TDG Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 Litres; in packages not exceeding 30 kg gross mass. Under the TDG, refer to Section 1.17 for additional exemption requirements, if shipping under this exemption.				
49CFR/DOT	UN3219	NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S. (Sodium nitrite)	5.1	III	
49CFR/DOT Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 Litres; in packages not exceeding 30 kg gross mass. Refer to 49 CFR Section 173.152 for additional Limited quantity shipping requirements.				

Special precautions for user : Keep away from heat. 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. See ECOLOGICAL INFORMATION, Section 12.

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

: Not available.

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SECTION 15 - REGULATORY INFORMATION

US Federal Information:

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

<u>Ingredients</u>	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, SDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Immediate (Acute) health hazard Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals. .

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	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).

Canadian National Pollutant Release Inventory (NPRI): This product contains the following substances listed on the NPRI: Sodium nitrite (Part 1, Group A Substance)

WHMIS classification: See Section 2.

International Information:

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

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<u>Ingredients</u>	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
- DOT: Department of Transportation
- EC50: Effective Concentration 50%.
- EINECS: European Inventory of Existing Commercial chemical Substances
- ENCS: Existing and New Chemical Substances
- EPA: Environmental Protection Agency
- HMIS: Hazardous Materials Identification System
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- IECSC: Inventory of Existing Chemical Substances
- Inh: Inhalation
- KECI: Korean Existing Chemicals Inventory
- KECL: Korean Existing Chemicals List
- LC: Lethal Concentration
- LD: Lethal Dose
- MA: Massachusetts
- MN: Minnesota
- MSHA: Mine Safety and Health Administration
- N/Av: 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
- OECD: Organisation for Economic Co-operation and Development
- 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
- RI: Rhode Island
- SARA: Superfund Amendments and Reauthorization Act
- STEL: Short Term Exposure Limit
- TDG: Canadian Transportation of Dangerous Goods Act & Regulations

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TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References : Canadian Centre for Occupational Health and Safety, CCHInfoWeb 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)

: 12/22/2015

Reviewed Date SDS (dd/mm/yyyy)

:

Revision No.

: 2

Revision Information

: 2. HAZARDS IDENTIFICATION
4. FIRST AID MEASURES
5. FIRE-FIGHTING MEASURES
6. ACCIDENTAL RELEASE MEASURES
7. HANDLING AND STORAGE
10. STABILITY AND REACTIVITY
11. TOXICOLOGICAL INFORMATION
12. ECOLOGICAL INFORMATION
14. TRANSPORT INFORMATION
15. REGULATORY INFORMATION

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for:

FPPF Chemical Company, Inc.
117 West Tupper Street
Buffalo, NY 14201 USA
Telephone: 1-800-735-3773
Please direct all enquiries to FPPF Chemical Company

Prepared by:

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



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