

Material Safety Data Sheet

Product Trade Name: NOVA PHOS 221

ID: H379

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name: NOVA PHOS 221

Manufacturer Information

Chemtech Finishing Systems
14057 Stephens Road
Warren, MI 48089

Contact Phone: (800) 791-2928

Chemtec Emergency Phone: (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
Not Available	Surfactant(s)	10-30
7664-38-2	Phosphoric acid	1-10
7631-95-0	Sodium molybdate	1-10
7558-79-4	Disodium phosphate	1-10
1333-83-1	Sodium bifluoride	1-10
112-34-5	Diethylene glycol monobutyl ether	1-10

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Glycol ethers, Fluorides (16984-48-8), Molybdenum soluble compounds, Molybdenum compounds, n.o.s..

Additional Information:

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

*** Section 3 - Hazards Identification ***

Emergency Overview:

WARNING! This product is severely irritating to the eyes and may cause eye burns. This product is irritating to the respiratory system and skin. May cause dizziness, loss of coordination, headache, nausea, and vomiting.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

This product is irritating to the skin. This product may be severely irritating to the skin. Contact with wet skin may result in a rash. Following skin exposure to this product, the sensation of irritation or pain may be delayed.

Skin Absorption:

A component in this product may be absorbed through the skin, especially if skin is damaged.

Ingestion:

Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of large amounts of this product may result in fluoride poisoning including symptoms of calcification of the ligaments and severe bone changes making normal movements painful, mottling of the teeth, pulmonary fibrosis, anemia, anorexia, dental effects, and possibly death.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin, gastrointestinal and respiratory disorders may be aggravated by exposure.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

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Skin Contact:

Immediately take off all contaminated clothing. Flush with large amounts of water. Soak the affected area for one hour in an iced solution (0.13%) of Zephiran chloride (30 cc of 17% concentrate per gallon of iced distilled water.) GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Flash Point:	> 212 °F	Upper Flammable Limit (UFL):	Not applicable
Flammability Classification:	Nonflammable	Lower Flammable Limit (LFL):	Not applicable

Fire & Explosion Hazards:

This product is an aqueous mixture, which will not burn. If evaporated to dryness, solid residue is an oxidizing agent and may cause spontaneous ignition of combustible materials.

Decomposition Products:

Irritating and toxic gases or fumes may be released during a fire.

Extinguishing Media:

Use any media suitable for the surrounding fires.

Fire-Fighting Instructions:

Firefighters: Wear full protective clothing including self-contained breathing apparatus. Properly decontaminate all equipment after use.

*** Section 6 - Accidental Release Measures ***

Containment and Clean up procedures must be conducted in accordance with all local, state, and federal regulations.

Containment Procedures:

Stop the flow of material, if this can be done without risk. Wear appropriate protective equipment and clothing during clean up. Keep unnecessary and unprotected people away from area of spill.

Clean-Up Procedures:

Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of collected material according to regulation.

*** Section 7 - Handling and Storage ***

Handling Procedures:

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Wash thoroughly after handling. Use this product with adequate ventilation.

Storage Procedures:

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials.

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*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

Phosphoric acid (7664-38-2)

ACGIH: 1 mg/m3 TWA; 3 mg/m3 STEL

OSHA: 1 mg/m3 TWA; 3 mg/m3 STEL

NIOSH: 1 mg/m3 TWA; 3 mg/m3 STEL

Sodium bifluoride (1333-83-1)

ACGIH: as F: 2.5 mg/m3 TWA (related to Fluorides)

OSHA: as F: 2.5 mg/m3 TWA (related to Fluorides)

NIOSH: as F: 2.5 mg/m3 TWA (related to Fluorides)

Sodium molybdate (7631-95-0)

ACGIH: 5 mg/m3 TWA (related to Molybdenum soluble compounds)

OSHA: as Mo: 5 mg/m3 TWA (related to Molybdenum soluble compounds)

NIOSH: as Mo: no established RELs - see Appendix D (related to Molybdenum soluble compounds)

The supplier recommends a 35 ppm exposure limit for diethylene glycol butyl ether.

Engineering Controls:

Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face Protective Equipment:

Wear chemical goggles; face shield (if splashing is possible).

Skin Protection:

Use impervious gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron and boots are recommended.

Respiratory Protection:

If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Personal Protective Equipment:

Provide eyewash fountains in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection.

Provide facilities for quickly drenching the body within the immediate work area for emergency use where there is a possibility of exposure. Depending on the specific circumstances, a deluge shower, a sink or hose could be considered adequate

*** Section 9 - Physical & Chemical Properties ***

Physical State: Liquid	Appearance: Colorless
Odor: Bland	Vapor Pressure: Not determined
Vapor Density: Not determined	Boiling Point: >215 ° F (>101.7 ° C)
Specific Gravity: 1.135 @ 77 °F (25 °C)	pH: 3.8
Viscosity: Not determined	VOC: Not determined
Solubility Water: Complete	Evaporation Rate: Not determined
Percent Volatile: Not determined	Percent Solids: Not determined

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*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability:

Stable under normal conditions.

Conditions to Avoid:

None expected.

Incompatibility:

This product may react with strong alkalis.

Decomposition Products:

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. May liberate hydrogen fluoride.

Hazardous Polymerization:

Will not occur.

*** Section 11 - Toxicological Information ***

Acute Toxicity:

A: General Product Information

No information available for the product.

B: Component Analysis - LD50/LC50

Disodium phosphate (7558-79-4)

Oral LD50 Rat : 17 gm/kg

Phosphoric acid (7664-38-2)

Inhalation LC50 Rat : >850 mg/m³/1H

Oral LD50 Rat : 1530 mg/kg

Dermal LD50 Rabbit : 2740 mg/kg

Diethylene glycol monobutyl ether (112-34-5)

Oral LD50 Rat : 5660 mg/kg

Oral LD50 Mouse : 2400 mg/kg

Dermal LD50 Rabbit : 2700 mg/kg

Sodium molybdate (7631-95-0)

Inhalation LC50 Rat : >2080 mg/m³/4H

Oral LD50 Rat : 4 gm/kg

Carcinogenicity:

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

Sodium bifluoride (1333-83-1)

ACGIH: As F: A4 - Not Classifiable as a Human Carcinogen (related to Fluorides)

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Chronic Toxicity

Chronic fluoride exposure can produce fluorosis, a condition characterized by nausea, vomiting, loss of appetite, diarrhea or constipation, anemia, weakness, and joint stiffness.

Exposure to molybdenum compounds may produce abnormal liver function, anemia, hypothyroidism and has been associated with gout. In animals, diarrhea, anorexia and fatty degeneration of the liver have been observed.

Inhalation of diethylene glycol butyl ether may produce central nervous system depression with symptoms including nausea, vomiting, headache, dizziness, fatigue, loss of coordination and unconsciousness. Prolonged or repeated exposures may damage the respiratory system, liver, kidneys and produce changes in the blood.

*** Section 12 - Ecological Information ***

Ecotoxicity:

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Phosphoric acid (7664-38-2)

Test & Species

LC50 (96 hr) mosquito fish 138 mg/L.

Conditions

Diethylene glycol monobutyl ether (112-34-5)

Test & Species

LC50 (96 hr) bluegill 1300 mg/L. Cond Static, 23 °C.

LC50 (24 hr) goldfish 2700 mg/L.

LC50 (24 hr) water flea 2850 mg/L.

Environmental Fate:

No data available for this product.

*** Section 13 - Disposal Considerations ***

Wastes must be tested using methods described in 40 CFR Part 261. It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous wastes. State and local regulations may differ from Federal disposal regulations. Dispose of waste material according to Local, State, Federal and Provincial Environmental Regulations.

*** Section 14 - Transportation Information ***

US DOT Information

Proper Shipping Name	Corrosive Liquid, Toxic, N.O.S. (contains Phosphoric Acid, Sodium Bifluoride)
Hazard Class	8
UN / NA Number	UN2922
Packing Group	II
Product RQ (lb)	--

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

No additional information available.

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B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Disodium phosphate (7558-79-4)

CERCLA: final RQ = 5000 pounds (2270 kg)

Phosphoric acid (7664-38-2)

SARA 313: form R reporting required for 1.0% de minimis concentration

CERCLA: final RQ = 5000 pounds (2270 kg)

Diethylene glycol monobutyl ether (112-34-5)

SARA 313: form R reporting required for 1.0% de minimis concentration (related to Glycol ethers)

CERCLA: Statutory RQ = 1 pound (.454 kg); no final RQ is being assigned to the generic or broad class (related to Glycol ethers)

Sodium bifluoride (1333-83-1)

CERCLA: final RQ = 100 pounds (45.4 kg)

SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No Reactive: No

State Regulations

A: General Product Information

No additional information available.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Disodium phosphate	7558-79-4	Yes	No	Yes	No	Yes	Yes
Phosphoric acid	7664-38-2	Yes	Yes	Yes	Yes	Yes	Yes
Diethylene glycol monobutyl ether (¹ related to Glycol ethers)	112-34-5	No	No	No	No	No	Yes¹
Sodium bifluoride (¹ related to Fluorides)	1333-83-1	Yes	No	Yes	Yes¹	Yes	Yes
Sodium molybdate (¹ related to Molybdenum compounds, n.o.s.) (² related to Molybdenum soluble compounds)	7631-95-0	Yes¹	No	No	Yes²	No	No

Other Regulations

A: General Product Information

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

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Disodium phosphate	7558-79-4	Yes	Yes	Yes
Phosphoric acid	7664-38-2	Yes	Yes	Yes
Diethylene glycol monobutyl ether	112-34-5	Yes	Yes	Yes
Sodium bifluoride	1333-83-1	Yes	Yes	Yes
Sodium molybdate	7631-95-0	Yes	Yes	Yes

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Phosphoric acid	7664-38-2	1% item 1291 (127)
Diethylene glycol monobutyl ether	112-34-5	1% item 581 (814)
Sodium molybdate	7631-95-0	1% item 1450 (1165)

***** Section 16 - Other Information *****

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0 Other:
 Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

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HMIS Ratings: Health: 3* Fire: 0 Reactivity: 0 Pers. Prot.:
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Key/Legend:

ACGIH = American Conference of Governmental Industrial Hygienists	NFPA = National Fire Protection Association
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act	NIOSH = National Institute for Occupational Safety and Health
EPA = Environmental Protection Agency	NTP = National Toxicology Program
HMIS = Hazardous Material Identification System	OSHA = Occupational Safety and Health Administration
IARC = International Agency for Research on Cancer	SARA = Superfund Amendments and Reauthorization Act
MSHA = Mine Safety and Health Administration	TSCA = Toxic Substance Control Act

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Chemtech Finishing Systems bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

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This is the end of MSDS for NOVAPHOS 221.