MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name	**PhosFree Extra Strength**
CAS #	Mixture
Product use	Phosphate remover
Manufacturer	Natural Chemistry L.P. 40 Richards Ave. Norwalk, CT 06854 US Phone: (800) 753-1233 Emergency Phone: CHEMTREC (800) 424-9300

2. Hazards Identification

Emergency overview	WARNING CAUSES SKIN IRRITATION. CAUSES EYE IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.
Potential short term health effects	
Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	Causes irritation.
Skin	Causes irritation.
Inhalation	May cause respiratory tract irritation.
Ingestion	May cause stomach distress, nausea or vomiting.
Target organs	Eyes. Skin. Respiratory system.
Chronic effects	Prolonged or repeated exposure can cause drying, defatting and dermatitis.
Signs and symptoms	Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
OSHA regulatory status	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Potential environmental effects	See section 12.

3. Composition/Information on Ingredients

Components	CAS #	Percent
Lanthanum(iii) Chloride Heptahydrate	10025-84-0	5 - 10
Aluminum, water-soluble salts, n.o.s.***	1327-41-9	3 - 7
Zinc chloride	7646-85-7	3 - 7

4. First Aid Measures

First aid procedures	
Eye contact	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention if irritation develops or persists.
Skin contact	Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Ingestion	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
Notes to physician	Symptoms may be delayed.
General advice	If you feel unwell, seek medical advice (show the label where possible). 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. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties Not flammable by WHMIS/OSHA criteria.

Extinguishing media

Suitable extinguishing media Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media Do not use water jet.

Protection of firefighters

Specific hazards arising from the chemical Not available

Protective equipment and precautions for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products May include and are not limited to: Hydrogen chloride. Oxides of sulfur. Oxides of aluminum.

Explosion data

Sensitivity to mechanical impact Not available.

Sensitivity to static discharge Not available.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions Do not discharge into lakes, streams, ponds or public waters.

Methods for containment Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use.

7. Handling and Storage

Handling Use good industrial hygiene practices in handling this material.
Avoid contact with eyes, skin and clothing.
Use only with adequate ventilation.
Avoid breathing vapors or mists of this product.
Wash thoroughly after handling.

Storage Keep out of reach of children.
Store in a closed container away from incompatible materials.

8. Exposure Controls/Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Zinc chloride (CAS 7646-85-7)	PEL	1 mg/m3	Fume.

Exposure limits Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH or OSHA PEL.

Engineering controls Use only under good ventilation conditions or with respiratory protection.

Personal protective equipment

Eye / face protection Wear safety glasses with side shields.

Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Skin and body protection	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Skim milk when shaken
Color	White
Form	Liquid
Odor	Not available.
Odor threshold	Not available.
Physical state	Liquid.
pH	3 - 4
Freezing point	Not available.
Boiling point	Not available.
Pour point	Not available.
Evaporation rate	Not available
Flash point	Not available.
Auto-ignition temperature	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	1 - 1.3
Partition coefficient (n-octanol/water)	Not available.
Solubility (water)	Complete
Relative density	8 - 10
Viscosity	Not available.
VOC	Not available
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	Reacts vigorously with alkaline material.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Caustics. Reducing agents.
Hazardous decomposition products	May include and are not limited to: Hydrogen chloride. Oxides of sulfur. Oxides of aluminum.

11. Toxicological Information

Toxicological data

Components	**Species**	**Test Results**
Aluminum, water-soluble salts, n.o.s.*** (CAS 1327-41-9)		
Acute		
Oral		
LD50	Rat	681 mg/kg

Components	Species	Test Results
Lanthanum(iii) Chloride Heptahydrate (CAS 10025-84-0)		
Acute		
Oral		
LD50	Rat	4184 mg/kg
Zinc chloride (CAS 7646-85-7)		
Acute		
Inhalation		
LC50	Rat	<= 2 mg/l, 10 Minutes
Oral		
LD50	Guinea pig	200 mg/kg
	Mouse	350 mg/kg
	Rat	350 mg/kg

Effects of acute exposure

Eye contact	Causes irritation.
Skin contact	Causes irritation.
Inhalation	May cause respiratory tract irritation.
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.
Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity See below

Ecotoxicological data

Components		Species	Test Results
Zinc chloride (CAS 7646-85-7)			
Aquatic			
Crustacea	EC50	American or virginia oyster (Crassostrea virginica)	0.2 - 0.3 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.1 - 0.2 mg/l, 96 hours

Persistence and degradability	Not available.
Bioaccumulation / Accumulation	Not available
Mobility in environmental media	Not available.
Environmental effects	Not available.
Aquatic toxicity	Not available.
Partition coefficient	Not available.
Chemical fate information	Not available.

13. Disposal Considerations

Disposal instructions Dispose in accordance with all applicable regulations.

Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada WHMIS Ingredient Disclosure: Threshold limits

Zinc chloride (CAS 7646-85-7)	1 %

WHMIS status Controlled

WHMIS classification Class D - Division 2B

WHMIS labeling

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

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

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US CWA Section 311 Hazardous Substances: Listed substance

Zinc chloride (CAS 7646-85-7)	Listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Zinc chloride (CAS 7646-85-7)	Listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

CERCLA (Superfund) reportable quantity

Zinc chloride: 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Clean Water Act (CWA) Hazardous substance

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - Illinois Chemical Safety Act: Listed substance

Zinc chloride (CAS 7646-85-7)	Listed.

US - Louisiana Spill Reporting: Listed substance

Zinc chloride (CAS 7646-85-7)	Listed.

US - Minnesota Haz Subs: Listed substance

Zinc chloride (CAS 7646-85-7)	Listed.

US - New Jersey RTK - Substances: Listed substance

Zinc chloride (CAS 7646-85-7)	Listed.

US - New York Release Reporting: Hazardous Substances: Listed substance

Zinc chloride (CAS 7646-85-7)	Listed.

US - Texas Effects Screening Levels: Listed substance

Aluminum, water-soluble salts, n.o.s.*** (CAS 1327-41-9)	Listed.
Zinc chloride (CAS 7646-85-7)	Listed.

US. Massachusetts RTK - Substance List

Zinc chloride (CAS 7646-85-7)	Listed.

US. Pennsylvania RTK - Hazardous Substances

Zinc chloride (CAS 7646-85-7)	Listed.

US. Rhode Island RTK

Zinc chloride (CAS 7646-85-7)	Listed.

Inventory status

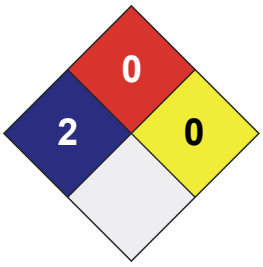
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/	2
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		X



Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Other information For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.