SAFETY DATA SHEET

1. Product and Company Identification

Product identifier	Trade Grade Phosphate Remover
Other means of identification	Not available
Recommended use	Phosphate remover
Recommended restrictions	None known.
Manufacturer information	NC Brands 40 Richards Ave. Norwalk, CT 06854 US Phone: (800) 753-1233 Emergency Phone: CHEMTREC (800) 424-9300
Supplier	See above.

2. Hazards Identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	

Label elements

Signal word	Danger
Hazard statement	Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation.
Precautionary statement	
Prevention	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist or vapor. Use only outdoors or in a well-ventilated area.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. Specific treatment (see information on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)	None known
WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)	None known
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Lanthanum Chloride (lacl3), Hydrate		20211-76-1	11
Zinc chloride		7646-85-7	9
Aluminum chlorhydrate		12042-91-0	8

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
Skin contact	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. Immediately call a POISON CENTER/doctor. Specific treatment (see information on this label).
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 CENTER/doctor.
Ingestion	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid contact with eyes and skin. Wear rubber gloves and chemical splash goggles. Keep out of reach of children.

5. Fire Fighting Measures

Suitable extinguishing media	Dry chemical. Carbon dioxide. Water spray. Foam.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	May include and are not limited to: Hydrogen chloride. Oxides of sulfur. Oxides of aluminum.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	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. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Use care in handling/storage.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in original tightly closed container. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Aluminum chlorhydrate (CAS 12042-91-0)	TWA	2 mg/m3	
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Aluminum chlorhydrate (CAS 12042-91-0)	TWA	1 mg/m3	Respirable.
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Aluminum chlorhydrate (CAS 12042-91-0)	TWA	1 mg/m3	Respirable fraction.
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Aluminum chlorhydrate (CAS 12042-91-0)	TWA	1 mg/m3	Respirable fraction.
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Aluminum chlorhydrate (CAS 12042-91-0)	TWA	2 mg/m3	
Zinc chloride (CAS 7646-85-7)	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.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum chlorhydrate (CAS 12042-91-0)	TWA	1 mg/m3	Respirable fraction.
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Aluminum chlorhydrate (CAS 12042-91-0)	TWA	2 mg/m3	
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Safety goggles or glasses.
Skin protection	
Hand protection	Impervious gloves. Confirm with reputable supplier first.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Not applicable.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and Chemical Properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Not available.
Odor threshold	Not available.
pH	2 - 4
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	1.1 - 1.3
Partition coefficient (n-octanol/water)	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	8 - 11 lb/gal
Solubility(ies)	Complete
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and Reactivity

Reactivity	Reacts vigorously with alkaline material.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Caustics. Reducing agents.
Hazardous decomposition products	May include and are not limited to: Hydrogen chloride. Oxides of sulfur. Oxides of aluminum.

11. Toxicological Information

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.

Information on likely routes of exposure

Ingestion	Causes digestive tract burns. Harmful if swallowed.
Inhalation	Prolonged inhalation may be harmful. May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity: Harmful if swallowed. May cause respiratory irritation.

Components	Species	Test Results
Aluminum chlorhydrate (CAS 12042-91-0)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 21 Days, ECHA
		> 2000 mg/kg, 24 Hours, ECHA
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	> 2000 mg/kg, ECHA, male rat
		9187 mg/kg, ECHA, female rat
Lanthanum Chloride (lacl3), Hydrate (CAS 20211-76-1)		
Acute		
Dermal		
LD50	Not available	
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	4184 mg/kg, Sigma Aldrich
Zinc chloride (CAS 7646-85-7)		
Acute		
Dermal		
LD50	Not available	
	Rabbit	> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Not available	
	Rat	20000 mg.min/m3, 10 Minutes
		2000 mg/m3, 10 Minutes
Oral		
LD50	Guinea pig	200 mg/kg
	Mouse	350 mg/kg

Components	Species	Test Results
	Rat	350 mg/kg

Skin corrosion/irritation: Causes severe skin burns and eye damage.

- Exposure minutes: Not available.
- Erythema value: Not available.
- Oedema value: Not available.

Serious eye damage/eye irritation: Causes serious eye damage.

- Corneal opacity value: Not available.
- Iris lesion value: Not available.
- Conjunctival reddening value: Not available.
- Conjunctival oedema value: Not available.
- Recover days: Not available.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Aluminum chlorhydrate (CAS 12042-91-0)	Irritant
Zinc chloride (CAS 7646-85-7)	Irritant

- Respiratory sensitization: Not classified.
- Skin sensitization: This product is not expected to cause skin sensitization.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Canada - Manitoba OELs: carcinogenicity

ALUMINUM METAL AND INSOLUBLE COMPOUNDS, RESPIRABLE FRACTION (CAS 12042-91-0)	Not classifiable as a human carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.

Teratogenicity: Not classified.

Specific target organ toxicity - single exposure: Respiratory tract irritation.

Specific target organ toxicity - repeated exposure: Not classified.

Aspiration hazard: Not classified.

Chronic effects: Prolonged inhalation may be harmful.

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)	0.151 - 0.278 mg/L, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.101 - 0.197 mg/L, 96 hours

Persistence and degradability: No data is available on the degradability of this product.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Mobility in general: Not available.

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

Transport of Dangerous Goods (TDG) Proof of Classification	In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue.

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number	UN3264
Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Technical name	Zinc chloride
Hazard class	8
Packing group Marine	III
pollutant Special	Yes
provisions Packaging	IB3, T7, TP1, TP28
exceptions Packaging	<5L - Limited Quantity
non bulk Packaging	203
bulk	241

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name	Zinc chloride
Hazard class	8
Packing group Marine	III
pollutant Special	Yes
provisions Packaging	16
exceptions	<5L - Limited Quantity

IMDG (Marine Transport)

Basic shipping requirements:

UN number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name	Zinc chloride
Hazard class	8
Packing group	III
Marine pollutant	Yes
EmS	F-A, S-B

DOT

IMDG; TDG

15. Regulatory Information

Canadian federal regulations — This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Canada CEPA Schedule I: Listed substance

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

Canada Priority Substances List (Second List): Listed substance

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

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions — Not applicable

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.

CERCLA Hazardous Substance List (40 CFR 302.4)

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

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

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

SARA 302 Extremely hazardous substance — No

SARA 311/312 Hazardous chemical — No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Zinc chloride	7646-85-7	9

Other federal regulations

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

Not regulated.

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

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) — Hazardous substance

US state regulations

US - California Hazardous Substances (Director's): Listed substance

Aluminum chlorhydrate (CAS 12042-91-0) — Listed.
Zinc chloride (CAS 7646-85-7) — Listed.

US - Illinois Chemical Safety Act: Listed substance

Zinc chloride (CAS 7646-85-7)

US - Louisiana Spill Reporting: Listed substance

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

US - Michigan Critical Materials Register: Parameter number

Zinc chloride (CAS 7646-85-7)	ZINC

US - Minnesota Haz Subs: Listed substance

Aluminum chlorhydrate (CAS 12042-91-0)	Listed.
Zinc chloride (CAS 7646-85-7)	Listed.

US - New Jersey RTK - Substances: Listed substance

Zinc chloride (CAS 7646-85-7)

US - Texas Effects Screening Levels: Listed substance

Aluminum chlorhydrate (CAS 12042-91-0)	Listed.
Zinc chloride (CAS 7646-85-7)	Listed.

US. Massachusetts RTK - Substance List

Zinc chloride (CAS 7646-85-7)

US. New Jersey Worker and Community Right-to-Know Act

Zinc chloride (CAS 7646-85-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Aluminum chlorhydrate (CAS 12042-91-0)
Zinc chloride (CAS 7646-85-7)

US. Rhode Island RTK

Zinc chloride (CAS 7646-85-7)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

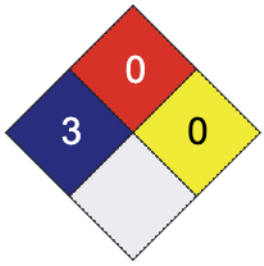
Inventory status

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



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. 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.

Issue date	24-August-2017
Version #	02
Effective date	24-August-2017
Prepared by	Dell Tech Laboratories, Ltd. Phone: (519) 858-5021
Other information	For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.