

1. Product and Company Identification

Product identifier	Protinus
Other means of identification	Not available
Recommended use	Plant Food
Recommended restrictions	None known.
Manufacturer information	Compass Minerals USA Inc. 9900 West 109th Street, Suite 100 Overland Park, KS 66210 US Phone (913) 344-9200
Supplier	Compass Minerals Manitoba Inc. 6700 Century Avenue Mississauga L5N 6A4 CA http://www.compassminerals.com/ Phone (905) 567-0231 techservicesrequests @compassminerals.com
CHEMTREC	1-800-424-9300
CANUTEC	1-613-996-6666

2. Hazards Identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 3
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	
Label elements		



Signal word	Danger	
Hazard statement	Harmful if swallowed. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.	
Precautionary statement		
Prevention	Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye/face protection.	
Response	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention if you feel unwell.	
Storage	Store away from incompatible materials.	
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.	

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Metal oxide		HMIRA 10635	HMIRA 10635
Metal Salt #1		HMIRA 10635	HMIRA 10635
Metal Salt #2		HMIRA 10635	HMIRA 10635
Metalloid oxide		HMIRA 10635	HMIRA 10635

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

Composition comments The filing date associated with this trade secret exemption is 2016-11-23

4. First Aid Measures

Inhalation	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Skin contact	Brush away excess of dry material. Flush with water. Obtain medical attention if irritation persists.
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: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Most important symptoms/effects, acute and delayed	Dusts may irritate the respiratory tract, skin and eyes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Symptoms may be delayed.
General information	In the case of accident or if you feel unwell, seek medical advice immediately (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. Wear suitable protective clothing. Keep out of reach of children.

5. Fire Fighting Measures

Suitable extinguishing media	Water spray. Water fog. Foam. Carbon dioxide (CO ₂). Apply extinguishing media carefully to avoid creating airborne dust.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Firefighters should wear a self-contained breathing apparatus.
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self-contained breathing apparatus.
Fire-fighting equipment/instructions	In the event of fire, cool tanks with water spray. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	Not available.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of sulfur. Metal oxides.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Sweep up or vacuum up spillage and collect in suitable container for disposal. Following product recovery, flush area with water.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Minimize dust generation and accumulation. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Avoid breathing dust. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Use good industrial hygiene practices in handling this material. Keep container tightly closed.
Conditions for safe storage, including any incompatibilities	Keep away from heat, sparks and open flame. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

8. Exposure Controls/Personal Protection

Occupational exposure limits

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

Components	Type	Value	Form
Metal oxide (CAS HMIRA 10635)	STEL	10 mg/m3	Respirable.
	TWA	2 mg/m3	Respirable.
Metal Salt #1 (CAS HMIRA 10635)	TWA	0.2 mg/m3	

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

Components	Type	Value	Form
Metal oxide (CAS HMIRA 10635)	STEL	10 mg/m3	Respirable.
	TWA	2 mg/m3	Respirable.
Metal Salt #1 (CAS HMIRA 10635)	TWA	0.2 mg/m3	
Metalloid oxide (CAS HMIRA 10635)	TWA	4 mg/m3	Total
		1.5 mg/m3	Respirable.

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

Components	Type	Value	Form
Metal oxide (CAS HMIRA 10635)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.
Metal Salt #1 (CAS HMIRA 10635)	TWA	0.1 mg/m3	Inhalable fraction.
		0.02 mg/m3	Respirable fraction.

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

Components	Type	Value	Form
Metal oxide (CAS HMIRA 10635)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.
Metal Salt #1 (CAS HMIRA 10635)	TWA	0.2 mg/m3	

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

Components	Type	Value	Form
Metal oxide (CAS HMIRA 10635)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		10 mg/m3	Total dust.
Metal Salt #1 (CAS HMIRA 10635)	TWA	5 mg/m3	Dust.
Metalloid oxide (CAS HMIRA 10635)	TWA	6 mg/m3	Respirable dust.

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

Components	Type	Value	Form
Metal oxide (CAS HMIRA 10635)	PEL	5 mg/m3	Fume.
		5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Metal Salt #1 (CAS HMIRA 10635)	Ceiling	5 mg/m3	

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Metalloid oxide (CAS HMIRA 10635)	TWA	0.8 mg/m3	
		20 mppcf	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Metal oxide (CAS HMIRA 10635)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.
Metal Salt #1 (CAS HMIRA 10635)	TWA	0.1 mg/m3	Inhalable fraction.
		0.02 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Metal oxide (CAS HMIRA 10635)	Ceiling	15 mg/m3	Dust.
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Dust.
		5 mg/m3	Fume.
Metal Salt #1 (CAS HMIRA 10635)	STEL	3 mg/m3	Fume.
	TWA	1 mg/m3	Fume.
Metalloid oxide (CAS HMIRA 10635)	TWA	6 mg/m3	

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. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual protection measures, such as personal protective equipment**Eye/face protection**

Safety goggles or glasses.

Skin protection**Hand protection**

Protective gloves are recommended.

Other

Wear suitable protective clothing. As required by employer code.

Respiratory protection

Use of personal dust mask is recommended. Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

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	Solid.
Physical state	Solid.
Form	Powder
Color	Pink
Odor	Odorless
Odor threshold	Not available.

pH	6.5 - 7 (5% solution)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not applicable.
Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Not available.
Flash point	Not available.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Non-flammable.
Flammability limit - upper (%)	Non-flammable.
Explosive limit - lower (%)	Non-explosive.
Explosive limit - upper (%)	Non-explosive.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.

10. Stability and Reactivity

Reactivity	Do not mix with other chemicals.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Keep away from heat, sparks and open flame. Minimize dust generation and accumulation.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of nitrogen. Oxides of sulfur. Metal oxides.

11. Toxicological Information

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Information on likely routes of exposure	
Ingestion	Harmful if swallowed.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	May be harmful in contact with skin.
Eye contact	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	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.

Components	Species	Test Results
Metal oxide (CAS HMIRA 10635)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	> 5.7 mg/L, 4 Hours 2500 mg/m3
<i>Oral</i>		
LD50	Mouse	7950 mg/kg

Components	Species	Test Results
	Rat	> 5 g/kg 5000 mg/kg
Metal Salt #1 (CAS HMIRA 10635)		
Acute		
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	2330 mg/kg
	Rat	2150 mg/kg
Metal Salt #2 (CAS HMIRA 10635)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Oral</i>		
LD50	Mouse	57 mg/kg
	Rat	623 mg/kg
Metalloid oxide (CAS HMIRA 10635)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	> 15000 mg/kg
	Rat	> 5000 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
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		
Respiratory sensitization	Not available.	
Skin sensitization	Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.	
Mutagenicity	Not classified.	
Carcinogenicity	Not classified.	
Canada - Manitoba OELs: carcinogenicity		
MANGANESE ELEMENTAL AND INORGANIC COMPOUNDS, AS MN, INHALABLE FRACTION (CAS HMIRA 10635)	Not classifiable as a human carcinogen.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Metalloid oxide (CAS HMIRA 10635)	Volume 68 - 3 Not classifiable as to carcinogenicity to humans.	
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	Non-hazardous by WHMIS/OSHA criteria.	
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.	
Specific target organ toxicity - single exposure	Not classified.	

Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure. Chronic manganese poisoning can result in impairment of the central nervous system and lung damage.

12. Ecological Information

Ecotoxicity See below

Ecotoxicological data

Components	Species	Test Results
Metal oxide (CAS HMIRA 10635)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 2246 mg/L, 96 hours
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 7.09 - 9.36 mg/L, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 24.3 - 38.9 mg/L, 96 hours
Crustacea	EC50	Rotifer (<i>Philodina acuticornis</i>) 0.3 mg/L, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>) 0.162 mg/L, 96 hours
Algae	IC50	Algae 440 mg/L, 72 Hours
Crustacea	EC50	Daphnia 7600 mg/L, 48 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, 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. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

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)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations Not available

Canada CEPA Schedule I: Listed substance

Metal oxide (CAS HMIRA 10635) Listed.

Metal Salt #2 (CAS HMIRA 10635) Listed.

Canada Priority Substances List (Second List): Listed substance

Metal oxide (CAS HMIRA 10635) Listed.

Metal Salt #2 (CAS HMIRA 10635) Listed.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions Controlled**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)

Metal oxide (CAS HMIRA 10635) Listed.

Metal Salt #1 (CAS HMIRA 10635) 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 - Yes
Fire Hazard - Yes
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.
Metal oxide	HMIRA 10635	HMIRA 10635
Metal Salt #1	HMIRA 10635	HMIRA 10635
Metal Salt #2	HMIRA 10635	HMIRA 10635

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Metal Salt #1 (CAS HMIRA 10635)

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

Not regulated.

US state regulations See below**US - California Hazardous Substances (Director's): Listed substance**

Metal oxide (CAS HMIRA 10635) Listed.

Metal Salt #1 (CAS HMIRA 10635) Listed.

Metal Salt #2 (CAS HMIRA 10635) Listed.

Metalloid oxide (CAS HMIRA 10635) Listed.

US - Illinois Chemical Safety Act: Listed substance

Metal oxide (CAS HMIRA 10635)

Metal Salt #1 (CAS HMIRA 10635)

US - Louisiana Spill Reporting: Listed substance

Metal oxide (CAS HMIRA 10635) Listed.

Metal Salt #1 (CAS HMIRA 10635) Listed.

US - Michigan Critical Materials Register: Parameter number

Metal oxide (CAS HMIRA 10635) ZINC

Metal Salt #2 (CAS HMIRA 10635) ZINC

US - Minnesota Haz Subs: Listed substance

Metal oxide (CAS HMIRA 10635) Listed.

Metal Salt #1 (CAS HMIRA 10635) Listed.

Metalloid oxide (CAS HMIRA 10635) Listed.

US - New Jersey RTK - Substances: Listed substance

Metal oxide (CAS HMIRA 10635)

Metal Salt #1 (CAS HMIRA 10635)

Metalloid oxide (CAS HMIRA 10635)

US - North Carolina Toxic Air Pollutants: Listed substance

Metal Salt #1 (CAS HMIRA 10635)

US - Texas Effects Screening Levels: Listed substance

Metal oxide (CAS HMIRA 10635) Listed.
Metalloid oxide (CAS HMIRA 10635) Listed.

US. Massachusetts RTK - Substance List

Metal oxide (CAS HMIRA 10635)
Metal Salt #2 (CAS HMIRA 10635)
Metalloid oxide (CAS HMIRA 10635)

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

Metal oxide (CAS HMIRA 10635)
Metal Salt #1 (CAS HMIRA 10635)
Metal Salt #2 (CAS HMIRA 10635)

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

Metal oxide (CAS HMIRA 10635)
Metal Salt #1 (CAS HMIRA 10635)
Metalloid oxide (CAS HMIRA 10635)

US. Rhode Island RTK

Metal oxide (CAS HMIRA 10635)
Metal Salt #1 (CAS HMIRA 10635)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Inventory status

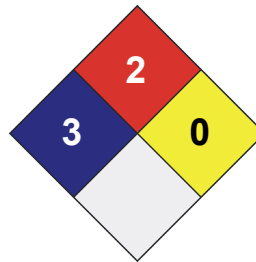
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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	* 3
FLAMMABILITY	2
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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01

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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.