

MATERIAL SAFETY DATA SHEET

PHORATE 20 G

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

FORMULATED FOR:

LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286

24-Hour Emergency Phone: 1-800-424-9300
Medical Emergencies: 1-800-301-7976
U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: PHORATE 20 G
CHEMICAL NAME: Phorate; O,O-diethyl S-[(ethylthio) methyl] phosphorodithioate
CHEMICAL FAMILY: Organophosphate insecticide
EPA REG. NO.: 34704-259
MSDS Number: 000259-08-LPI

MSDS Revisions: All sections reviewed

Date of Issue: 06/10/08

Supersedes: 07/09/04

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – DANGER POISON - PELIGRO – Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle (If you do not understand the label, find someone to explain it to you in detail. Fatal if swallowed, inhaled, or absorbed through skin. Corrosive. Causes irreversible eye damage. DO NOT breathe dust. DO NOT get in eyes, on skin, on clothing. Rapidly absorbed through skin. Repeated inhalation or skin contact may, without warning, progressively increase susceptibility to poisoning.

This product is light gray to brown granules with a pungent, garlic-like, mercaptan (rotten egg) odor. Primary route of entry is skin contact.

Warning Statements:

NOTE TO PHYSICIAN: Warning symptoms including weakness, headache, tightness of chest, blurred vision, nonreactive pinpoint pupils, salivation, sweating, nausea, vomiting, diarrhea and abdominal cramps. Give atropine intramuscularly or intravenously, depending on severity of poisoning, 2 to 4 milligrams (3 to 6 tablets, 1/100 grain each) every 10 minutes until fully atropinized as shown by dilated pupils, dry flushed skin and tachycardia. Twenty to thirty milligrams, or more, may be required during the first 24 hours. Never give opiates or phenothiazine tranquilizers. Clear chest by postural drainage. Artificial respiration or oxygen administration may be necessary. Probable mucosal damage may contraindicate the use of gastric lavage. Observe patient continuously for at least 48 hours. Allow no further exposure to any cholinesterase inhibitor until cholinesterase regeneration has taken place as determined by blood tests. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Phorate	20.00	298-02-2	0.05 mg/m ³
Inert Ingredients	80.00		

4. FIRST AID MEASURES

- If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- If inhaled:** Move person to fresh air. Call a poison control center or doctor for further treatment advice. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
- If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-301-7976. Have the product label or container with you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES

- FLASH POINT (°F/Test Method):** Does not flash.
- FLAMMABLE LIMITS (LFL & UFL):** None established
- EXTINGUISHING MEDIA:** Dry chemical, carbon dioxide, foam, water spray or fog.
- HAZARDOUS COMBUSTION PRODUCTS:** Smoke and fumes from fire contain hazardous components.
- SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus with full protective clothing. Fight fire from upwind and keep all non-essential personnel out of area. Equipment should be completely decontaminated after use.
- UNUSUAL FIRE AND EXPLOSION HAZARDS:** If water is used to fight fire or cool containers, contain runoff, using dikes to prevent contamination of water supplies. Dusts may form explosive mixtures with air. Avoid using heavy water streams.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Contain spill, put on PPE then sweep or scoop up and place in container for disposal. Decontaminate area by washing with diluted household bleach and water (1:2) and absorb liquid with clay or other absorbent materials for disposal. Flush residual spill area with water. Check local, state and federal regulations for proper disposal. Consult appropriate state agency when considering a land application option for disposal according to label rates.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

HANDLING: Wear PPE according to label instruction. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. If pesticide comes in contact with skin, wash off with soap and water.

STORAGE: Store in a safe manner. Store in original container only. Store in cool dry place. Keep container tightly closed when not in use. Do not store opened containers. Once a closed-system package has been opened, use it completely. Use PPE when handling open containers.

Personal Protective Equipment (PPE): Loaders, applicators and other handlers must wear: long sleeved shirt and long pants, shoes plus socks. In addition to the PPE listed above, loaders must wear chemical-resistant gloves. All other handlers performing tasks such as spill clean up or equipment cleaning for which engineering controls are not feasible must wear: coveralls over long sleeved shirt and long pants, chemical resistant footwear plus socks, chemical-resistant gloves, protective eyewear, NIOSH-approved dust/mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH approved respirator with any N, R, P, or HE filter, chemical-resistant apron if exposed to the concentrate. Follow manufacturer's instructions for cleaning and maintaining PPE. If no instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: This product is formulated into an EZ Load System that meets the definition of a closed loading system as defined by the Worker Protection Standard for Agricultural Pesticides 40 CFR 170.240 (d)(4). In addition to wearing the required PPE for handlers using engineering controls, loaders must be provided, must have immediately available, and must wear in case of a broken package, spill or equipment breakdown: chemical-resistant apron, chemical-resistant footwear, and a NIOSH-approved dust/mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH approved respirator with any N, R, P, or HE filter. **Applicators** must use an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides for dermal protection. In addition the applicator: must wear the PPE required for handlers using engineering controls, and must either use an enclosed cab that provides equivalent respiratory protection to a dust/mist filtering respirator or wear a NIOSH-approved dust/mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH approved respirator with any N, R, P, or HE filter, must be provided, must have immediately available for use, and must wear if they must exit the cab in the treated area: coveralls, chemical-resistant gloves, chemical-resistant footwear, protective eyewear, and if using an enclosed cab that provides respiratory protection NIOSH-approved dust/mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH approved respirator with and N, R, P, or HE filter. Applicators using enclosed cabs shall: take off any PPE that was worn in the treatment area before reentering the cab, and store all such PPE in a chemical resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

RESPIRATORY PROTECTION: Wear a NIOSH approved pesticide respirator for protection against organophosphate pesticide dusts. Refer to Engineering Controls above for more detailed information.

EYE PROTECTION: Chemical goggles or shielded safety glasses.

SKIN PROTECTION: Wear protective clothing: coveralls over long-sleeved shirts and pants, hat, shoes plus socks. Wear chemical-resistant gloves.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Phorate	not listed	0.05 mg/m ³ IFV* (Skin; BEI _A)
Nuisance particulates	15 mg/m ³ (Total Dust)	not listed

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Light gray to brown granules with a pungent, garlic-like, mercaptan (rotten egg) odor. **SOLUBILITY:** Insoluble

SPECIFIC GRAVITY (Water = 1): 0.774-0.8696 g/ml **BULK DENSITY:** 48.3-54.3 lb/ft³ **pH:** 4-5 (5% solution)

VAPOR PRESSURE: 23.3 mm Hg **BOILING POINT:** Not established

PERCENT VOLATILE (by volume): 57% **EVAPORATION RATE:** Not established

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: High temperatures (above 248°F/120°C) and moisture.

INCOMPATIBILITY: Strong oxidizers, strong acids, bases, and alkaline materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of sulfur, carbon, and phosphorus, hydrogen sulfide, mercaptans, thiophosphates, and dialkylsulfides may be formed in a fire situation. Incomplete combustion may lead to formation of carbon monoxide and/or other asphyxiants.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (rat): 7.1 mg/kg

Eye Irritation (rabbit): Irritating

Inhalation LC₅₀ (rat): 0.008 mg/L (4 hr).

Carcinogenic Potential: None listed in OSHA, NTP, IARC or ACGIH

Acute Dermal LD₅₀ (rabbit): 204 mg/kg

Skin Irritation (rabbit): Not established

Skin Sensitization: Will cause stomach distress, nausea or vomiting.

12. ECOLOGICAL INFORMATION

Phorate is very highly toxic to fish and wildlife and toxic to bees. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff may be hazardous to aquatic organisms in neighboring areas. Collect granules that are spilled on soil surface and visible in turn areas. Do not contaminate water when disposing of equipment wastewater or rinsate. Birds and mammals may be killed if granules are not properly covered with soil in all areas of the treated field and in loading areas.

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty box into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Offer for recycling if available or dispose of empty box in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. Do not place hands inside or near the open bottom of the box.

14. TRANSPORT INFORMATION

DOT Shipping Description: ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC, 6.1, UN2783, II (PHORATE) ERG GUIDE 152

U.S. Surface Freight Classification: INSECTICIDES OR FUNGICIDES, INSECT OR ANIMAL REPELLENTS, NOI, POISON (NMFC 102100, CLASS: 77.5)

Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.

15. REGULATORY INFORMATION

NFPA & HMIS Hazard Ratings:	NFPA		HMIS
	3 Health	0 Least	3 Health
	0 Flammability	1 Slight	0 Flammability
	0 Instability	2 Moderate	0 Reactivity
		3 High	J PPE
		4 Severe	

SARA Hazard Notification/Reporting

SARA Title III Hazard Category:	Immediate <u>Y</u>	Fire <u>N</u>	Sudden Release of Pressure <u>N</u>
	Delayed <u>N</u>	Reactive <u>N</u>	

Reportable Quantity (RQ) under U.S. CERCLA: Phorate (CAS: 298-02-2): 10 pounds

SARA, Title III, Section 313: Not listed

RCRA Waste Code: P094

CA Proposition 65: Not listed.

16. OTHER INFORMATION

MSDS STATUS: All sections reviewed and/or revised.

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental/ Regulatory Services

This product is a Restricted Use Pesticide (Acute oral, dermal and inhalation toxicity and avian hazards)

***IFV:** Measured as inhalable fraction and vapor.

BEI_A: ACGIH has recommended a Biological Exposure Index: Acetylcholinesterase Inhibiting Pesticides.

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