



MATERIAL SAFETY DATA SHEET

# Prefar<sup>®</sup> 4-E

Product: **Selective Herbicide**

Formulator: Gowan Company  
P.O. Box 5569  
Yuma, Arizona 85366-5569  
(520)783-8844

Emergency Phone: (520) 783-3803  
For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC<sup>®</sup>:

For MEDICAL Emergency:

(520) 783-3803

Inside the U.S.: (800) 424-9300  
Outside the U.S.: (703) 527-3887  
(800) 225-5635 ext. 283

## 1. CHEMICAL IDENTIFICATION

**Product:** Prefar 4-E  
**EPA Signal Word:** Caution  
**Active Ingredient:** Bensulide (46.0%)  
**Chemical Name:** S-(O,O-diisopropyl phosphorodithioate) ester of N-(2-mercaptoethyl) benzenesulfonamide  
**Chemical Class:** Herbicide

**EPA Registration No.:** 10163-200  
**CAS No.:** 741-58-2

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	OSHA – PEL	ACGIH – TLV	OTHER	NTP/IARC/OSHA CARCINOGEN
Bensulide (46.0%)	Not applicable	Not applicable	Not applicable	No
Naphthalene (3.8% max) CAS# 91-20-3	10 ppm	10 ppm	Not applicable	No

## 3. HAZARDS IDENTIFICATION

### Physical Properties

**Appearance:** Amber liquid

### Symptoms of Acute Exposure

Bensulide produces cholinesterase inhibition in experimental animals. Symptoms of cholinesterase inhibition include salivation, sweating, headache, nausea, muscle twitching, tremors, uncoordinated, blurred vision, tears, abdominal cramps, diarrhea, and chest discomfort.

**Ingestion** Irritation of the gastrointestinal tract is associated with ingestion of the hydrocarbon solvent. Ingestion of excessive quantities can also induce signs of central nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue). Small amounts of the hydrocarbon solvent, if aspirated into the lungs during ingestion or subsequent vomiting, may induce severe lung congestion resulting in labored breathing, coma, and death.

**Eye Contact** Causes eye irritation.

**Skin Contact** Causes skin irritation.

### Medical Conditions Likely to be Aggravated by Exposure

Not available

### Primary route(s) of entry

May be harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin, or clothing.

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### 3. HAZARDS IDENTIFICATION (continued)

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#### Hazardous Decomposition Products

Combustion and toxic materials

#### Unusual Fire, Explosion, and Reactivity Hazards

Considered combustible. Supports combustion and may decompose under fire conditions to give off toxic materials. Do not use, pour, spill, or store near heat or open flame.

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### 4. FIRST AID MEASURES

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If poisoning is suspected, immediately contact a physician, the nearest hospital, or the nearest Poison Control Center. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given. Be sure to advise the person contacted that the compound is a cholinesterase inhibitor.

**Ingestion:** Immediately give several glasses of water and do not induce vomiting. If vomiting does occur, give fluids again. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

**Inhalation:** Remove to fresh air. Seek medical attention if respiratory irritation occurs or if breathing becomes difficult.

**Eye Contact:** Immediately flush eyes and skin with large amounts of running water for at least 15 minutes while removing contaminated clothing and shoes. For eyes, hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. Get medical attention immediately. Wash clothing before reuse.

**Skin Contact:** Flush all affected areas with plenty of water for several minutes. Remove and clean contaminated clothing and shoes. Seek medical attention if irritation occurs.

#### Note to Physician

Exposure may cause cholinesterase inhibition. Atropine by injection is antidotal. 2-PAM (Protopam Chloride) is also antidotal when administered early and in conjunction with atropine.

**!! IN ALL CASES OF SUSPECTED POISONING, GET MEDICAL ATTENTION IMMEDIATELY !!**

For emergency **MEDICAL** response and hazard communication **ONLY**, call:  
**Hazard Information Services at (800) 228-5635 ext. 283.**

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### 5. FIRE FIGHTING MEASURES

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**Flashpoint (test method):** 154°F, 67°C (Tag OC)

**Flammable Limits (% in air):** Not available

**Autoignition Temperature:** Not available

**Flammability:** Flammable

#### Appropriate Extinguishing Media

Use water, dry chemicals, foam, or carbon dioxide.

#### Fire Fighting Guidance

Evacuate nonessential personnel from the fire area. Firefighters should wear full-face self-contained breathing apparatus and impervious protective clothing. Use standard firefighting techniques to extinguish fires involving this material - use water, dry chemicals, foam, or carbon dioxide. If not leaking, keep fire-exposed containers cool with water spray to prevent rupture due to excessive heat. High-pressure water hose may spread product from broken containers increasing contamination or fire hazard. Contaminated buildings, areas and equipment must not be used until they are properly decontaminated.

#### Unusual Fire, Explosion, and Reactivity Hazards

Considered combustible. Supports combustion and may decompose under fire conditions to give off toxic materials. Do not use, pour, spill, or store near heat or open flame.

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## 6. ACCIDENTAL RELEASE MEASURES

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### In Case of Spills or Leaks

Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices. A small spill can be handled routinely. Use adequate ventilation or wear an air-supplied respirator to prevent inhalation. Wear suitable protective clothing and eye protection to prevent skin and eye contact. Spread a suitable absorbent such as clay, sawdust or kitty litter on the spilled material. Place sweepings in an appropriate chemical waste container. Generously cover the contaminated areas with common, household detergent. Using a stiff brush and small amounts of water, work the detergent into the spill material forming a slurry. Do not splatter on one's self or bystanders and completely avoid skin or eye contact with this material. Brush the slurry into cracks and crevices and allow to stand for 2-3 minutes. Spread absorbents on the slurry liquid and shovel the absorbed material into the container. Repeat if necessary. Flush the area with water while observing proper environmental considerations. Seal container and dispose of in approved pesticide landfill. Large spills should be handled according to a predetermined plan. For assistance in developing a plan, contact Gowan Company.

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## 7. HANDLING AND STORAGE

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### Precautions in storing

DO NOT contaminate water, food or feed by storage or disposal. Keep out of reach of children.

### Storage

Protect from temperatures below 42° F. At temperatures below 42° F, product may crystallize. Dissolve crystals with quiet storage at warm temperatures (75° F). Redissolution rate: 40-48° F (40-60 days); 60° F (1-3 weeks); 70-80° F (1-3 days). Roll container and agitate contents to provide a uniform product prior to use.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Engineering Controls

This product is intended for use outdoors where engineering controls are not necessary. If use conditions are different (e.g. product reformulation or repackaging), employee exposure should be minimized using traditional techniques such as enclosed system design and/or local exhaust ventilation.

#### Eye/Face

Not required; use normal safety precautions.

#### Skin Protection

When handling wear protective clothing and rubber gloves.

#### Respiratory Protection

Applicators and other handlers must wear long-sleeved shirt and long pants, chemical-resistant gloves such as barrier laminate or Viton ≥ 14 mils, and shoes plus socks.

#### Additional Protection Information

Emergency eyewash station must be available in work area. Workers must follow good hygiene practices to avoid accidental ingestion. Shower at the end of each work day.

#### User Safety

#### Recommendations

Users should 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance:** Amber liquid

**Melting Point:** 33-36°C; this product super-cools and may remain liquid at temperatures below 34°C

**Boiling Point:** Decomposes

#### Specific Gravity/

**Density:** 1.224 @ 25°C / 12.5 lbs./gal.

#### Solubility in H<sub>2</sub>O

**Bensulide** 5.6 ppm @ 25°C

#### Vapor Pressure

**Bensulide** 8.2 x 10<sup>-7</sup> torr @ 25°C

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## 10. STABILITY AND REACTIVITY

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<b>Stability:</b>	Stable under normal conditions
<b>Hazardous Polymerization:</b>	Will not occur
<b>Decomposition Products:</b>	Combustion and toxic materials
<b>Hazardous Mixtures:</b>	Not available
<b>Conditions To Avoid:</b>	Relatively non-reactive. Non-corrosive to materials commonly used in the construction of process equipment, storage and shipping containers.

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity/Irritation Studies

<b>Ingestion:</b>	Moderately toxic	
	Acute Oral LD <sub>50</sub> (rat-female):	704 mg/kg body weight
	Acute Oral LD <sub>50</sub> (rat-male):	819 mg/kg body weight
<b>Dermal:</b>	Moderate toxicity	
	Acute Dermal LD <sub>50</sub> (rabbit):	>2.0 g/kg
<b>Inhalation:</b>	Inhalation LC <sub>50</sub> (rat):	>8.0 mg/L air – 1 hour
<b>Eye Contact:</b>	Moderately irritating (rabbit)	
<b>Skin Contact:</b>	Moderately irritating (rabbit)	

### Mutagenic Potential

Not available

### Reproductive Hazard Potential

Not available

### Chronic/Subchronic Toxicity Studies

Not available

### Carcinogenic Potential

None

### Other Toxicity Information

Not available

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## 12. ECOLOGICAL INFORMATION

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Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

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## 13. DISPOSAL CONSIDERATION

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### Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. For information concerning the proper disposal of pesticide-related wastes, contact your State Environmental Department, State Department of Agriculture, or the Regional Office of the Environmental Protection Agency for your area.

### Container Disposal

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

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## 14. TRANSPORT INFORMATION

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### DOT Classification

Bulk: Combustible Liquid, N.O.S., (Petroleum Naptha), NA 1993, PG III

Non-Bulk: Not regulated

### International Maritime Organization

Bulk/Non-Bulk: Flammable Liquid, N.O.S., (Petroleum Naptha), 3.3, UN 1993,

PG III, Marine Pollutant, EmS 3-07, MFAG 311, NAERG# 128

### International Civil Aviation Organization

Bulk/Non-Bulk: Flammable Liquid, N.O.S., (Petroleum Naptha), 3, UN 1993,

PG III, Marine Pollutant, NAERG# 128

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## 15. REGULATORY INFORMATION

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### SARA Title III Classification

Section 302/304: Not applicable

Section 311/312: Immediate (acute) health hazard

Fire hazard

Section 313 chemical(s): Naphthalene

### Proposition 65

Not applicable

### CERCLA Reportable Quantity (RQ)

300 gals. product (100 lbs. naphthalene)

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## 16. OTHER INFORMATION

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### NFPA Hazard Ratings

Health: 1

Flammability: 2

Reactivity: 0

0	Least
1	Slight
2	Moderate
3	High
4	Severe

**Notice:** The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information herein.

### Prepared By:

Gowan Company  
(520) 783-8844

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