



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Formulator: Gowan Company
P.O. Box 5569
Yuma, Arizona 85366-5569
(928) 783-8844

Emergency Phone: (928) 783-3803
For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC®:
For MEDICAL Emergency:

Inside the U.S.: (800) 424-9300
Outside the U.S.: (703) 527-3887
(888) 478-0798

Product: **Prefar® 4-E Selective Herbicide**

EPA Signal Word: Caution **EPA Registration No.:** 10163-200

Active Ingredient: Bensulide (46.0%) **CAS No.:** 741-58-2

Chemical Name: S-(O,O-diisopropyl phosphorodithioate) ester of N-(2-mercaptoethyl) benzenesulfonamide

Chemical Class: Organophosphorous Pesticide

2. 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.

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.

3. 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

Only the identities of the active ingredient(s) and any *hazardous* inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

4. FIRST AID MEASURES

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.

- If swallowed**
- Immediately call a poison control center or doctor.
 - Do not induce vomiting unless told to do so by the poison control center or doctor.
 - Do not give ANY liquid to the person.
 - Do not give anything by mouth to an unconscious person.
- If inhaled**
- Move person to fresh air.
 - If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
 - Call a poison control center or doctor for further treatment advice.
- 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 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.
 - Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NOTE TO PHYSICIAN

This product is an organophosphate herbicide. If symptoms of cholinesterase inhibition are present, atropine by injection is antidotal. 2-PAM is also antidotal and may be administered, but only in conjunction with atropine. Contains petroleum distillates – vomiting may cause aspiration pneumonia.

FOR MEDICAL EMERGENCIES INVOLVING THIS PRODUCT, CALL TOLL FREE: (888) 478-0798

5. FIRE FIGHTING MEASURES

Flashpoint (test method): 176°F, 80°C (CC)

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.

6. ACCIDENTAL RELEASE MEASURES

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.

7. HANDLING AND STORAGE

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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 \geq 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

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 H₂O	
Bensulide	5.6 ppm @ 25°C
Vapor Pressure	
Bensulide	8.2×10^{-7} torr @ 25°C

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies

Ingestion:	Moderately toxic Acute Oral LD ₅₀ (rat):	960 mg/kg body weight
Dermal:	Moderate toxicity Acute Dermal LD ₅₀ (rabbit): Not a contact sensitizer	>2.0 g/kg
Inhalation:	Inhalation LC ₅₀ (rat):	>2.1 mg/L air – 4 hour
Eye Contact:	Moderately irritating (rabbit)	
Skin Contact:	Non-irritating (rabbit)	

Carcinogenic Potential

None

12. ECOLOGICAL INFORMATION

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.

13. DISPOSAL CONSIDERATION

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.

14. TRANSPORT INFORMATION

DOT Classification

Bulk: NA 1993, Combustible Liquid, NOS (Contains Petroleum Naphtha, Bensulide), PG III
Non-Bulk: Not regulated

International Maritime Organization

UN 3082,, Environmentally Hazardous Substance, Liquid, NOS (Bensulide 46% Solution), 9, PG III, Marine Pollutant

International Civil Aviation Organization

UN 3082, Environmentally Hazardous Substance, Liquid, NOS (Bensulide 46% Solution), 9, PG III

15. REGULATORY INFORMATION

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)

RCRA Classification

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

16. OTHER INFORMATION

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:

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