



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®: **Inside the U.S.:** (800) 424-9300
Outside the U.S.: (703) 527-3887
(888) 478-0798
For Medical Emergency:

Product: Rubigan® E.C.
EPA Signal Word: Warning
Active Ingredient: Fenarimol (12%)
Chemical Name: α -(2-chlorophenyl)- α -(4-chlorophenyl)-5-pyrimidinemethanol
Chemical Class: Pyrimidine

EPA Registration No.: 10163-273
CAS No.: 060168-88-9

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Hazardous chemical. Amber/pale brown liquid with an aromatic odor. May cause severe eye irritation with corneal injury, resulting in permanent vision impairment or blindness. May cause skin irritation. Avoid freezing. Do not store near heat.

Physical Properties

Appearance: Amber/pale brown liquid
Odor: Aromatic

Symptoms of Acute Exposure

Eyes May cause severe irritation
Skin May cause irritation with short, single exposures and severe skin irritation with prolonged or repeated exposure.
Inhalation Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.

Primary Routes of Exposure

May be harmful if swallowed, inhaled or exposed to skin.

Medical Conditions Likely to be Aggravated by Exposure

None known.

Hazardous Decomposition Products

Nitrogen oxides and other toxic vapors will be formed if product is involved in fire.

Unusual Fire, Explosion, and Reactivity Hazards

Closed containers may explode due to pressure build-up when subjected to excessive heat or intense fire. Will emit toxic fumes and gases when it burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	OSHA – PEL	ACGIH – TLV	OTHER	NTP/IARC/OSHA CARCINOGEN
Fenarimol (12%)	Not Established	Not Established	N/A	No
Solvent Naptha (1%) CAS #064742-94-5	Not established	Not Established	N/A	No
Napthalene (9%) CAS #091-20-3	10 ppm TWA 15 ppm STEL	10 ppm TWA 15 ppm STEL	N/A	No
Propylene Glycol Methyl Ether (17%) CAS #0107-98-2	100 ppm TWA 150 ppm STEL	100 ppm TWA 150 ppm STEL	N/A	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

- Eye Contact:** 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.
- Ingestion:** 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.
- Skin Contact:** 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.
- Inhalation:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further 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: The decision of whether to induce vomiting or not should be made by an attending physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

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

5. FIRE FIGHTING MEASURES

- Flashpoint (test method):** 104°F, 40°C (SCC)
- Flammable Limits (% in air):** 1.1 +/- 0.1% by volume at 80°C (LFL)
- Autoignition Temperature:** 738°F, 392°C
- Appropriate Extinguishing Media** Use water, CO₂, or dry chemicals
- Fire Fighting Guidance** Wear full protective clothing and positive-pressure, self-contained breathing apparatus.
- Fire, Explosion, and Reactivity Hazards:** Closed containers may explode due to pressure build-up when subjected to excessive heat or intense fire. Will emit toxic fumes and gases when it burns.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spills or Leaks

Use absorbent materials to contain and clean up small spills and dispose as waste. Prohibit the use of hot or sparking equipment in immediate area. Prevent runoff.

7. HANDLING AND STORAGE

Handling: Keep out of reach of children. Causes substantial eye injury and skin irritation. Harmful if swallowed, inhaled, or absorbed through the skin. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mists. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Storage: Do not contaminate water, food or feed by storage or disposal. Avoid freezing. Do not store near heat or open flame. Store in original container only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

These precautions are suggested for conditions with a high potential for exposure. If handling procedures are such that there is only a low potential for exposure, less protection may be needed. Emergency conditions may require additional precautions.

Engineering Controls: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves such as barrier laminate or Viton
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing or loading

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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.
- 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Amber/pale brown liquid
Odor: Aromatic odor
Boiling Point: (@ 1 atmosphere) 239°F, 115°C
Specific Gravity: 0.998 g/ml at 20°C
Vapor Density: 1.020 relative to air at 25°C
Solubility in H₂O: Emulsifies in water
Vapor Pressure: 7.1 mm Hg at 25°C
pH: (aqueous 50/50) 4.8 to 5.3

10. STABILITY AND REACTIVITY

Stability: Stable @ 52° C
Hazardous Polymerization: Not known to occur
Decomposition Products: Nitrogen oxides and other toxic vapors will be formed if product is involved in fire.
Conditions To Avoid: Do not store near heat or flame

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies

Ingestion:	Oral LD ₅₀	1270 mg/kg (rats – male) 1057 mg/kg (rats – female)
Dermal:	Dermal LD ₅₀	>2000 mg/kg (rabbits)
Inhalation:	Inhalation LC ₅₀	2.27 – 4.51 mg/L – 4 hours (rats – male)
Skin Contact:		Not an irritant (guinea pig)

Mutagenic Potential

In-vitro and animal mutagenicity studies were negative.

Reproductive Hazard Potential

Fenarimol has been shown to interfere with reproduction and fertility in animal studies.

11. TOXICOLOGICAL INFORMATION (continued)

Chronic/Subchronic Toxicity Studies

Carcinogenic Potential

Did not cause cancer in long-term animal studies.

Other Toxicity Information

In animals, has been shown to cause liver and kidney effects. Repeated excessive exposure to propylene glycol may cause central nervous system effects.

12. ECOLOGICAL INFORMATION

This product is toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply when weather conditions favor runoff or drift from the target equipment washwaters or rinsate.

13. DISPOSAL CONSIDERATION

Pesticide Disposal

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.

Container Disposal

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

DOT Classification

Not Regulated

International Maritime Organization

Flammable Liquids, N.O.S. (contains propylene glycol methyl ether), 3, UN 1993, PGIII

International Civil Aviation Organization

Flammable Liquids, N.O.S. (contains propylene glycol methyl ether), 3, UN 1993, PGIII

Gowan Company does not recommend shipping this product by air.

15. REGULATORY INFORMATION

SARA Title III Classification

Section 302/304:	Not applicable
Section 311/312:	Immediate health hazard Delayed health hazard Fire hazard
Section 313 chemical(s):	Naphthalene (9.22%) Fenarimol (12%)

Proposition 65

Not applicable

CERCLA Reportable Quantity (RQ)

131.5 gallons 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.

TSCA Status

Exempt

16. OTHER INFORMATION

NFPA Hazard Ratings

Health:	2
Flammability:	2
Reactivity:	0

0	Least
1	Slight
2	Moderate
3	High
4	Severe

Prepared By:

Gowan Company
(928) 783-8844

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.

Rubigan® is a registered trademark of Gowan Company, L.L.C.