



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

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

For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC^U:

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

For MEDICAL Emergency:

Product: Domark[®] 230 ME

EPA Signal Word: Caution

EPA Registration No.: 80289-7

Active Ingredient: Tetraconazole

CAS No.: 112281-77-3

Chemical Name: 1-[2-(2,4-dichlorophenyl)-3-(1,1,2,2-tetrafluoroethoxy)propyl]-1,2,4-triazole

Chemical Class: Azole

2. Hazards Identification

Physical Properties

Appearance: Light yellow liquid

Odor: Characteristic

Medical Conditions Likely to be Aggravated by Exposure

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

Primary Routes of Exposure

Skin contact, eye contact, inhalation.

Hazardous Decomposition Products

Carbon monoxide (CO), sulphur oxides (SO_x), hydrogen chloride (HCl), nitrogen oxides (NO_x).

Unusual Fire, Explosion, and Reactivity Hazards

None

3. Composition/Information On Ingredients

INGREDIENT NAME	CAS No.	OSHA – PEL	ACGIH – TLV	NTP/IARC/OSHA CARCINOGEN
Tetraconazole (20.50%)	112281-77-3	None	None	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 INHALED	<ul style="list-style-type: none">• 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.
IF IN EYES:	<ul style="list-style-type: none">• 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.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none">• 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 SWALLOWED:	<ul style="list-style-type: none">• Call 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 the poison control center or doctor.• Do not give anything by mouth to an unconscious person.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR MEDICAL EMERGENCIES INVOLVING THIS PRODUCT, CALL TOLL FREE: 1-888-478-0798.	

5. Fire Fighting Measures

Flash Point

Not applicable

Appropriate Extinguishing Media

In case of fire, use water, dry chemical, carbon dioxide (CO₂), or foam.

Special Fire Fighting Procedures

Firefighters and others that may be exposed to vapors, mists, dusts, or products of combustion should wear full protective clothing and self-contained breathing apparatus. Equipment should be thoroughly cleaned after use.

Unusual Fire or Explosion Hazards

None

6. Accidental Release Measures

In Case of Spills or Leaks

Keep unnecessary people away and isolate hazard area. Wear appropriate personal protective equipment described in Section 8: Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Suitable material for taking up: absorbing material, organic, sand. Refer to Section 13 for disposal information and Section 15 for reportable quantity information.

7. Handling and Storage

Handling

Avoid contact with eyes, skin, or clothing. Wash hands thoroughly after handling or contact. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Wash contaminated clothing before re-use. Thoroughly clean equipment after use. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Storage

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Store in original container in a dry, temperature-controlled, secure, place.

8. Exposure Controls/Personal Protection

Personal Protective Equipment:

Eye Protection: If there is significant potential for contact, wear goggles.

Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves, such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber. Shoes plus socks.

Respiratory Protection: No special requirement when used as recommended. If airborne exposure is excessive, wear respirator. Respiratory protection programs must comply with all local, regional, and national regulations.

9. Physical and Chemical Properties

Appearance: Light yellow liquid

Odor: Characteristic

pH: 6 - 8 @ 25°C 10 g/l

Density: 1.12 g/cm³; (tap density)

Solubility: Emulsifiable in water

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 under normal conditions of handling and storage.

Hazardous decomposition products: At high temperatures, may contain toxic substances such as CO_x, NO_x, SO_x, HCl, HF and HCN

Conditions to avoid: Store in original container in a dry, temperature-controlled, secure, place. Avoid high temperatures, direct sunlight

11. Toxicological Information

Acute Toxicity/Irritation Studies: (Based on the mixture)

Acute Oral Toxicity LD50: > 2000 mg/kg

Acute Dermal Toxicity LD50: > 5000 mg/kg

Acute Inhalation Toxicity LC50 (4h): > 3.68 mg/L

Eye Irritation: Non-irritating

Skin Irritation: Non-irritating

Dermal Sensitization: Not a skin sensitizer

Other Toxicological Information:

Tetraconazole:

Chronic Toxicity/Carcinogenic effect: Not likely to be carcinogenic to humans at levels that do not cause increased cell proliferation in the liver. The significance of the neoplastic effect in mouse liver is unknown with respect to potential human exposure.

Reproductive Toxicity: No evidence of reproductive toxicity.

Teratogenic Effect: No teratogenic effect.

Mutagenic Effects: Not mutagenic effect.

12. Ecological Information

Environmental Hazards: This product is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift or runoff from treated areas may be hazardous to aquatic organisms adjacent to treatment areas. Exercise caution when making applications of Domark, and do not apply when atmospheric conditions favor drift or runoff. Do not contaminate water when disposing of equipment wash waters or rinsate.

Ecotoxicological Information:

Bluegill Sunfish LC₅₀ (96h): 4.3 mg/L
Rainbow Trout LC₅₀ (96h): 4.8 mg/L
Daphnia magna LC₅₀ (48h): 3.0 mg/L

Environmental Fate:

Tetraconazole:

Stable to hydrolysis and not expected to be degradable by photolysis in water.
Not readily biodegradable.
Bioaccumulative potential : BCF = 35.7 (whole fish).
Soil K_{oc} between 531 and 1922.

13. Disposal Considerations

Product disposal: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Container disposal: Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container one-fourth full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of resulting smoke.

14. Transport Information

DOT Classification

UN 3082, Environmentally Hazardous Substance, Liquid, N.O.S., (tetraconazole), 9, PG III

International Maritime Organization

UN 3082, Environmentally Hazardous Substance, Liquid, N.O.S., (tetraconazole), 9, PG III, Marine Pollutant

International Civil Aviation Organization

UN 3082, Environmentally Hazardous Substance, Liquid, N.O.S., (tetraconazole), 9, PG III

15. Regulatory Information

SARA Title III Classification

Section 302/304: Not applicable
Section 311/312: Acute health hazard (immediate)
Section 313 chemical(s): Not applicable

Proposition 65

Not Applicable

CERCLA Reportable Quantity (RQ)

None

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 from TSCA

16. Other Information

NFPA Hazard Ratings

Health: 1
Flammability: 0
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
(928) 783-8844

Domark® is a registered trademark of Isagro.