



## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

Gowan Company  
P.O. Box 5569  
Yuma, Arizona 85366-5569  
(800) 883-1844

Emergency telephone number: (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

For medical emergency: (888) 478-0798

**Product:** Fortress® Herbicide  
**Signal Word:** CAUTION  
**Active Ingredient:** Triallate (10%)  
**Chemical Name:** S-(2,3,3-trichloro-2-propenyl) bis(1-methylethyl)carbamoithioate  
**Chemical Class:** Thiocarbamate  
**Active Ingredient:** Trifluralin (4%)  
**Chemical Name:**  $\alpha,\alpha,\alpha$ -trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine  
**Chemical Class:** Dinitroaniline

**PCP Registration No.:** 19521  
**CAS No.:** 2303-17-5  
**CAS No.:** 1582-09-8

### 2. HAZARDS IDENTIFICATION

#### Physical Properties

**Appearance:** Yellow to orange granules  
**Odour:** Slight

#### Primary Routes of Exposure

Skin contact, eye contact and inhalation.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

	Component	CAS No.	% by weight
<b>Active Ingredient:</b>	Triallate	2303-17-5	10%
<b>Active Ingredient:</b>	Trifluralin	1582-09-8	4%
<b>Other Ingredients:</b>	Clay	1302-87-0	84%
	Quartz	14808-60-7	2%

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.

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## 4. FIRST AID MEASURES

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<b>If in eyes</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control centre or doctor for treatment advice.</li></ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control centre or doctor for treatment advice.</li></ul>
Have the product container or label with you when calling a poison control centre or physician, or going for treatment.	

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

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## 5. FIRE FIGHTING MEASURES

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**Flashpoint (test method):** Not applicable

### Fire Fighting Procedures

Firefighters and other persons exposed to vapours, mists, dusts or products of combustion should wear full protective clothing and self-contained breathing apparatus. Equipment should be thoroughly cleaned after use. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

### Extinguishing Media

In case of fire, use water (fog), foam, dry chemical or carbon dioxide (CO<sub>2</sub>).

### Hazardous Products of Combustion

Carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), hydrogen fluoride (HF), sulphur oxides (SO<sub>x</sub>)

### Unusual Fire, Explosion, and Reactivity Hazards

This material as normally packaged and handled can contain sufficient fines to form an explosive mixture if dispersed in a sufficient quantity of air.

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## 6. ACCIDENTAL RELEASE MEASURES

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### In Case of Spills or Leaks

Keep unnecessary people away and isolate hazard area. Wear appropriate personal protective equipment as described under EXPOSURE CONTROLS/PERSONAL PROTECTION (Section 8). Sweep up spill, scoop or vacuum and remove. Flush residual spill area with water. Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Flush residual spill area with water. Refer to Section 13 for disposal information and Section 15 for reportable quantity information.

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## 7. HANDLING AND STORAGE

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### Handling

Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. When using, do not eat, drink or smoke. Thoroughly clean equipment after use. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

### Storage

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Keep bag closed to prevent spills and contamination.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Personal Protection

**Loaders, applicators and other handlers must wear:** a long-sleeved shirt and long pants, shoes plus socks.

**In addition, loaders must 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.

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Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance:** Yellow to orange granules  
**Odour:** Slight  
**Flash Point:** Not applicable  
**Partition Coefficient (log Pow):** 4.6 (Triallate)

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## 10. STABILITY AND REACTIVITY

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**Stability:** Stable under normal conditions of handling and storage.  
**Hazardous Polymerization:** Will not occur.  
**Hazardous Decomposition:** Thermal decomposition.

### Hazardous Products of Combustion

Carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), hydrogen fluoride (HF), sulphur oxides (SO<sub>x</sub>).

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity/Irritation Studies (Similar Formulation)

Oral LD<sub>50</sub> (rat): >5000 mg/kg body weight  
Dermal LD<sub>50</sub> (rabbit): >5000 mg/kg body weight  
Eye Contact (rabbit): Slight irritation  
Skin Contact (rabbit): No irritation  
Skin Sensitization (guinea pig): Not a sensitizer

### Carcinogenic Potential

This product contains 2% crystalline silica, which is considered a hazard by inhalation. IARC has concluded that crystalline silica inhaled in the form of quartz from occupational sources is carcinogenic for humans. Crystalline silica is listed by NTP as a known human carcinogen. Inhalation of crystalline silica is a known cause of silicosis, a non-cancerous lung disease.

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## 12. ECOLOGICAL INFORMATION

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### Summary of Effects

This chemical is extremely toxic to freshwater marine, and estuarine fish and aquatic invertebrates including shrimp and oyster. Do not apply in a manner which will directly expose canals, lakes, streams, ponds, marshes or estuaries to aerial drift. Do not apply directly to water, or to areas where water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters.

### Ecotoxicity data shown below is for similar formulation:

96-hr LC<sub>50</sub> Bluegill sunfish: 0.68 mg/L  
96-hr LC<sub>50</sub> Rainbow trout: 0.32 mg/L  
48-hr EC<sub>50</sub> Water flea: 0.42 mg/L

### Ground Water Advisory

Triallate has a degradation product TCPSA (trichloropropene sulfonic acid) with properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

### Surface Water Advisory

Under some conditions, the triallate degradate TCPSA may have a high potential for runoff into surface water (primarily via dissolution in runoff water). These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas not separated from adjacent surface waters with vegetated filter strips and areas overlaying tile drainage systems that drain surface water.

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## 13. DISPOSAL CONSIDERATIONS

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### Pesticide 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, provincial or municipal procedures. Keep out of drains, sewers, ditches and waterways.

### Container Disposal

Emptied container retains vapour and product residue. Observe all labelled safeguards until container is cleaned, reconditioned or destroyed. Completely empty container into transfer or application equipment. Do not reuse container.

Triple or jet rinse the container then offer for recycling or reconditioning. If offering for reconditioning, contact the manufacturer. If offering for recycling, remove all caps, labels and booklets and take to a pesticide container depot.

Recycling sites are identified on the CropLife Canada (Clean Farms) website at : [www.croplife.ca](http://www.croplife.ca)

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## 14. TRANSPORT INFORMATION

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### TDG Classification

Not regulated

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## 15. REGULATORY INFORMATION

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### WHMIS Classification

This product is registered under the Pest Control Products Act and has been prepared in accordance with the WHMIS requirements.

### IARC Classification

Category 1 chemical(s): Quartz

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## 16. OTHER INFORMATION

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### NFPA Hazard Ratings

**Health:** 1  
**Flammability:** 1  
**Reactivity:** 1

0	Least
1	Slight
2	Moderate
3	High
4	Severe

### Prepared by:

Gowan Company  
(800) 883-1844

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