

1 Identification

1.1 Product identifier

· **Trade name:** FORTRESS® MICROACTIV HERBICIDE

· **CAS Number:**

Triallate (10.0 %): 2303-17-5

Trifluralin (4.0 %): 1582-09-8

Registration number: PCP Registration No.: 19521

Group 3 8 Herbicide

· **Application of the substance / the mixture** Agricultural Herbicide

1.3 Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

Gowan Company

P.O. Box 5569

Yuma, Arizona 85366-5569

(800) 883-1844

· **Information department:** sds@gowanco.com

1.4 Emergency telephone number:

Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300

Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency (Prosar®): (888) 478-0798

2 Hazard identification

2.1 Classification of the substance or mixture

· **Classification according to Regulation (EC) No 1272/2008**



GHS09 Environment

Aquatic Acute 1

H400 Very toxic to aquatic life.

Aquatic Chronic 1

H410 Very toxic to aquatic life with long lasting effects.



GHS07

Skin Sensitizer - Category 1 H317 May cause an allergic skin reaction.

2.2 Label elements

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labeled according to the CLP regulation.

· **Hazard pictograms**



GHS07 GHS09

· **Signal word** Warning

· **Hazard-determining components of labeling:**

Triallate (ISO) / diisopropylthiocarbamate de S-2,3,3-tri-chloroallyle
trifluralin (ISO) (containing < 0,5 ppm NPDA)

· **Hazard statements**

H317 May cause an allergic skin reaction.

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H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves.

P302+P352 If on skin: Wash with plenty of water.

P362+P364 Take off contaminated clothing and wash it before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P321 Specific treatment (see on this label).

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**

MAY CAUSE SKIN AND EYE IRRITATION.

MAY BE HARMFUL IF SWALLOWED.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 1

Reactivity = 1

HAZARD INDEX:

4 Severe Hazard

3 Serious Hazard

2 Moderate Hazard

1 Slight Hazard

0 Minimal Hazard

· **2.3 Other hazards**

· PBT: Not applicable.

· vPvB: Not applicable.

3 Composition/Information on ingredients

· **3.2 Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 2303-17-5	Triallate (ISO) / diisopropylthiocarbamate de S-2,3,3-tri-chloroallyle ⚠ Specific Target Organ Toxicity - Repeated Exposure - Category 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Toxicity (Oral) - Category 4, H302; Skin Sensitizer - Category 1, H317	10.0% w/w
CAS: 1582-09-8	trifluralin (ISO) (containing < 0,5 ppm NPDA) ⚠ Carcinogenicity - Category 2, H351; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sensitizer - Category 1, H317	4.0% w/w

4 First aid measures

· **4.1 Description of first aid measures**

· **General information:**

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

You may also contact 1-888-478-0798 for emergency medical treatment information.

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- **After 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 poison control center or doctor for further treatment advice.
- **After 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.
- **After eye contact:**
 - Hold eye open and rinse slowly and gently with water for 15-20 minutes.
 - Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.
 - Call a poison control center or doctor for treatment advice.
- **After swallowing:**
 - 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.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **5.1 Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Hydrogen fluoride (HF)
Sulphur oxides (SO_x)
- **5.3 Advice for firefighters**
 - **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
All handlers must wear chemical-resistant coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, socks, and chemical-resistant footwear during mixing, loading, application, clean-up and repair. In addition, during mixing, loading, clean-up and repair activities, wear either a respirator with a NIOSH/MSHA/BHSE-approved organic-vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH/MSHA/BHSE-approved canister approved for pesticides. Aerial mixers/loaders must also wear coveralls.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Pick up mechanically.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and storage

· 7.1 Precautions for safe handling

KEEP OUT OF REACH OF CHILDREN. MAY CAUSE SKIN AND EYE IRRITATION. MAY BE HARMFUL IF SWALLOWED. Wash thoroughly after handling. Do not take internally. Do not get in eyes or on skin or on clothing.

· **Information about protection against explosions and fires:** No special measures required.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

· **Information about storage in one common storage facility:** Store away from foodstuffs.

· **Further information about storage conditions:** Keep receptacle tightly sealed.

· 7.3 Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· 8.1 Control parameters

· **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists that were valid during the creation were used as basis.

· 8.2 Exposure controls

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

· **Breathing equipment:**

During mixing, loading, clean-up and repair activities, wear either a respirator with a NIOSH/MSHA/BHSE-approved organic-vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH/MSHA/BHSE-approved canister approved for pesticides.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves** Chemical-resistant gloves.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Goggles recommended during refilling.

· **Body protection:**

All handlers must wear chemical-resistant coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, socks, and chemical-resistant footwear during mixing, loading, application, clean-up and repair.

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9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

- Form: Granulate
- Color: Yellow to orange
- Odor: Slight
- Odor threshold: Not determined.

· pH-value: Not applicable.

· Change in condition

- Melting point/Melting range: Undetermined.
- Boiling point/Boiling range: Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not determined.

· Decomposition temperature: Not determined.

· Auto igniting: Product is not self-igniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

- Lower: Not determined.
- Upper: Not determined.

· Vapor pressure: Not applicable.

· Density: Not determined.

- Relative density: Not determined.
- Vapor density: Not applicable.
- Evaporation rate: Not applicable.

· Solubility in / Miscibility with

· Water: Dispersible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

- Dynamic: Not applicable.
- Kinematic: Not applicable.

· Solvent content:

· Organic solvents: 0.0 %

· Solids content: 100.0 %

· 9.2 Other information: No further relevant information available.

10 Stability and reactivity

· 10.1 Reactivity: No further relevant information available.

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· 10.3 Possibility of hazardous reactions: No dangerous reactions known.

· 10.4 Conditions to avoid: No further relevant information available.

· 10.5 Incompatible materials: No further relevant information available.

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· 10.6 Hazardous decomposition products:

Carbon monoxide (CO)
 Nitrogen oxides (NO_x)
 Hydrogen fluoride (HF)
 Sulfur oxides (SO_x)

11 Toxicological information

· 11.1 Information on toxicological effects

· **Acute toxicity:** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)

CAS: 2303-17-5 Triallate (ISO) / diisopropylthiocarbamate de S-2,3,3-tri-chloroallyle

Oral	LD50	1700 mg/kg (rat)
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· Primary irritant effect:

· **on the skin:** Based on available data, the classification criteria are not met.
 · **on the eye:** Slight irritation

· Sensitization:

May cause an allergic skin reaction.

· Additional toxicological information:
· Carcinogenic categories
· IARC (International Agency for Research on Cancer)

CAS: 1582-09-8	trifluralin (ISO) (containing < 0,5 ppm NPDA)	3
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· NTP (National Toxicology Program)

None of the ingredients are listed.

12 Ecological information

· 12.1 Toxicity

Do not apply this product directly to aquatic habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands), estuaries and marine habitats. Do not contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· Additional ecological information:
· General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

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13 Disposal considerations

· 13.1 Waste treatment methods

· Recommendation:

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.

· Uncleaned packagings:

· Recommendation:

Disposal must be made according to official regulations.

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.

2. Follow the provincial instruction for any required additional cleaning of the container prior to its disposal.

3. Make the empty container unsuitable for further use.

4. Dispose the container in accordance with provincial requirements.

5. For information on the disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the Provincial Regulatory Agency in case of a spill, and for the cleanup of spills.

14 Transport information

· 14.1 UN-Number

· DOT/TDG

Not Regulated

· ADR

Marine Pollutants Exemption (TDG 1.45.1)

· IMDG, IATA

UN3077

· 14.2 UN proper shipping name

· DOT/TDG

Void

· ADR

Marine Pollutants Exemption (TDG 1.45.1)

· IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (trifluralin (ISO), trifluralin (ISO) (containing < 0,5 ppm NPDA)), MARINE POLLUTANT

· IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (trifluralin (ISO), trifluralin (ISO) (containing < 0,5 ppm NPDA))

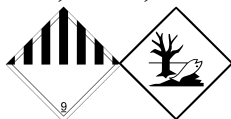
· 14.3 Transport hazard class(es)

· 14.3 DOT/TDG (Transport dangerous goods):

· Class

Void

· ADR, IMDG, IATA



· Class

9 Miscellaneous dangerous substances and articles

· Label

9

· 14.4 Packing group

· DOT/TDG

Void

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· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: Triallate (ISO) / diisopropylthiocarbamate de S-2,3,3-tri-chloroallyle, trifluralin (ISO) (containing < 0,5 ppm NPDA)
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special marking (IATA):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F
· Stowage Category	A
· Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· IMDG	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· UN "Model Regulation":	Canada TDG: Marine Pollutants Exemption (TDG 1.45.1)

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA Title III**

- **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

- **Section 313 (Specific toxic chemical listings):**

CAS: 2303-17-5 | Triallate (ISO) / diisopropylthiocarbamate de S-2,3,3-tri-chloroallyle

CAS: 1582-09-8 | trifluralin (ISO) (containing < 0,5 ppm NPDA)

- **TSCA (Toxic Substances Control Act):**

None of the ingredients are listed.

- **Canadian substance listings:**

- **Canadian Domestic Substances List (DSL)**

CAS: 1582-09-8 | trifluralin (ISO) (containing < 0,5 ppm NPDA)

- **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients are listed.

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· **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients are listed.

· **National regulations:**

· **Additional classification according to Decree on Hazardous Materials:**

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· **Department issuing SDS:** Supply Chain

· **Contact:** sds@gowanco.com

· **Date of the latest revision of the safety data sheet** 07/01/2019 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

· **Sources** Fortress® is a registered trademark of Gowan Company LLC.

· * **Data compared to the previous version altered.**