

1 Identification

1.1 Product identifier

· **Trade name:** Treflan MicroActiv Herbicide

· **CAS Number:**

Trifluralin (10.0%): 1582-09-8

Registration number PCP Registration No.: 21742

Group 3 Herbicide

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

1.3 Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

Gowan Company

P.O. Box 5569

Yuma, Arizona 85366-5569

(928) 783-8844

· **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(s) 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

Acute Toxicity (Oral) - Category 4 H302 Harmful if swallowed.

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:**

trifluralin (ISO) (containing < 0,5 ppm NPDA)

· **Hazard statements**

H302 Harmful if swallowed.

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.

P280 Wear protective gloves.

P273 Avoid release to the environment.

P321 Specific treatment (see on this label).

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

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

· **Hazard description:**

· **WHMIS-symbols:**

D2B - Toxic material causing other toxic effects



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

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: 1582-09-8	trifluralin (ISO) (containing < 0,5 ppm NPDA)	10.0% w/w
	Carcinogenicity – Category 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sensitizer - Category 1, H317	

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.

· **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.

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- 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 Fire-fighting 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**
 - Nitrogen oxides (NO_x)
 - Hydrogen fluoride (HF)
 - Carbon monoxide (CO)
 - Carbon dioxide (CO₂)
- **5.3 Advice for firefighters**
Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.
 - **Protective equipment:** Wear self-contained respiratory protective device.

* 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Not required.
Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid contamination of foodstuffs, feed and fish ponds.

All handlers must wear a long-sleeved shirt and long pants. In addition, wear chemical-resistant gloves during mixing, loading, repair and clean-up activities.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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.

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See Section 13 for disposal information.

7 Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

· **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Store in a dry place.

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:

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

· **Breathing equipment:** Not required.

· Protection of hands:



Protective gloves

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **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:** Not required.

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· Body protection:

All handlers must wear a long-sleeved shirt and long pants. In addition, wear chemical-resistant gloves during mixing, loading, repair and clean-up activities.

9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

- **Form:** Granulate
- **Color:** Yellowish
- **Odor:** Aromatic
- **Odor threshold:** Not determined.

· **pH-value:** 7.7

· Change in condition

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

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not determined.

· Ignition temperature:

- **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 at 20 °C (68 °F):** 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.

· **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** Stable under normal conditions

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

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- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Excessive heat.
- **10.5 Incompatible materials:** Strong oxidizers
- **10.6 Hazardous decomposition products:**
Carbon monoxide (CO)
Carbon dioxide
Hydrogen fluoride (HF)
Nitrogen oxides (NOx)
Silicon oxides.

11 Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity:

Harmful if swallowed.

· LD/LC50 values that are relevant for classification:

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)

· Primary irritant effect:

· **on the skin:** Prolonged exposure not likely to cause significant skin irritation.

· **on the eye:**

May cause moderate eye irritation.

May cause slight corneal injury.

Solid or dust may cause irritation or corneal injury due to mechanical action.

· Sensitization:

May cause an allergic skin reaction.

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Trifluralin

Acute inhalation toxicity

Vapors are unlikely due to physical properties. No adverse effects are anticipated from single exposure to dust. Based on the available data, respiratory irritation was not observed.

LC50, Rat, 4 Hour, dust/mist, > 4.8 mg/l

· 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

Direct contamination of any body of water with this product may kill fish. Do not contaminate any body of water by direct application, cleaning of equipment or disposal of wastes.

Trifluralin

Acute toxicity to fish

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive

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species).

LC50, *Oncorhynchus mykiss* (rainbow trout), flow-through test, 96 Hour, 0.088 mg/l

LC50, *Lepomis macrochirus* (Bluegill sunfish), flow-through test, 96 Hour, 0.089 mg/l

Acute toxicity to aquatic invertebrates

EC50, water flea *Daphnia magna*, static test, 48 Hour, 0.245 mg/l

EC50, mussel *Mytilus edulis*, static test, 48 Hour, 0.096 mg/l

Acute toxicity to algae/aquatic plants

ErC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, 0.0532 mg/l

EC50, *Lemna gibba*, Growth inhibition, 7 d, 0.043 mg/l

EbC50, diatom *Navicula* sp., 5 d, Biomass, 0.015 mg/l

- **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.
 - **Ecotoxicological effects:**
 - **Remark:** Toxic for fish
 - **Additional ecological information:**
 - **General notes:**
 - Water hazard class 2 (Self-assessment): hazardous for water
 - Do not allow product to reach ground water, water course or sewage system.
 - Danger to drinking water if even small quantities leak into the ground.
 - Also poisonous for fish and plankton in water bodies.
 - Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

13 Disposal considerations

- **13.1 Waste treatment methods**
 - **Recommendation:**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
 - **Uncleaned packagings:**
 - **Recommendation:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site.

14 Transport information

- **14.1 UN-Number**
- **DOT** Void
- **TDG** Marine Pollutants Exemption (TDG 1.45.1)
- **IMDG, IATA** UN3077

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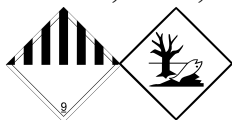
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· **14.2 UN proper shipping name**· **TDG**3077 Environmentally hazardous substances, solid, n.o.s.
(trifluralin (ISO) (containing < 0,5 ppm NPDA))· **IMDG**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (trifluralin (ISO) (containing < 0,5 ppm NPDA)),
MARINE POLLUTANT· **IATA**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (trifluralin (ISO) (containing < 0,5 ppm NPDA))· **14.3 Transport hazard class(es)**· **14.3 TDG, IMDG, IATA**· **Class**

9 Miscellaneous dangerous substances and articles

· **Label**

9

· **14.4 Packing group**· **TDG, IMDG, IATA**

III

· **14.5 Environmental hazards:**Product contains environmentally hazardous substances:
trifluralin (ISO) (containing < 0,5 ppm NPDA)· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (TDG):**

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:**· **TDG**· **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)

US DOT:

Not regulated

Others:

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*UN 3077 ENVIRONMENTALLY HAZARDOUS
SUBSTANCES, SOLID, N.O.S. (TRIFLURALIN (ISO)
(CONTAINING < 0,5 PPM NPDA)), 9, III*

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

- TSCA (Toxic Substances Control Act):

CAS: 1302-78-9 | bentonite

- Canadian substance listings:

- Canadian Domestic Substances List (DSL)

All ingredients are listed.

- Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients are listed.

- Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients are listed.

- 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

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

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 preparation / last revision 03/29/2017 / -

- 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)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

- * Data compared to the previous version altered.