

1 Identification

1.1 Product identifier

· **Trade name:** Edge® MicroActiv® Herbicide

· **CAS Number:**

Ethalfluralin (10.0 %): 55283-68-6

Registration number: PCP Registration No.: 32904

Group 3 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 Chronic 2

H411 Toxic to aquatic life with long lasting effects.



GHS07

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

Eye Irritation - Category 2A H319 Causes serious eye irritation.

Aquatic Acute 2

H401 Toxic to aquatic life.

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 statements**

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H401 Toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: Edge® MicroActiv® Herbicide

(Contd. of page 1)

Precautionary statements

- P264 Wash thoroughly after handling.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
 P330 Rinse mouth.
 P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:

POTENTIAL SKIN SENSITIZER

HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN

Classification system:

- NFPA ratings (scale 0 - 4)



Health = 2
 Fire = 1
 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: 55283-68-6	Ethalfluralin Carcinogenicity – Category 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1B, H317	10.0% 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.

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.

(Contd. on page 3)

CA/EN

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: Edge® MicroActiv® Herbicide

(Contd. of page 2)

- **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**
Specific antidote. Employ supportive care. Treatment should be based on judgement of the physician in response to reactions of the patient.

5 Firefighting measures

- **5.1 Extinguishing media**
 - **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
This material does not burn. Fight fire for other material that is burning. 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.
 - **Additional information**
Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **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.

7 Handling and storage

- **7.1 Precautions for safe handling**
Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or mist. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation
 - **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: Edge® MicroActiv® Herbicide

(Contd. of page 3)

· **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:**

Store in areas not exposed to high temperatures or prolonged, direct sunlight. Also, do not let product remain standing in applicators under these conditions.

· **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:**

Change contaminated clothing daily and wash before reuse. Rinse gloves with water before removal and wash hands thoroughly before eating, drinking or smoking.

· **Breathing equipment:**

NIOSH approved organic- vapour-removing cartridge with a prefliter approved for pesticides or a NIOSH approved canister approved for pesticide while loading.

· **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:**



Safety glasses

· **Body protection:**

Wear coveralls over a long-sleeved shirt and long pants, chemical resistant gloves and protective eyewear during all activities

CA/EN

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: Edge® MicroActiv® Herbicide

(Contd. of page 4)

9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

- Form: Granulate
- Color: Brown-reddish
- Odor: Characteristic
- Odor threshold: Not determined.

· pH-value at 20 °C (68 °F): 4.19

· Change in condition

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

· Flash point: 750 °C (1,382 °F)

· 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 at 20 °C (68 °F): 36.6 lbs/ft³

- 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

· 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: Excessive heat.

· 10.5 Incompatible materials: No further relevant information available.

· 10.6 Hazardous decomposition products: No dangerous decomposition products known.

CA/EN

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: Edge® MicroActiv® Herbicide

(Contd. of page 5)

11 Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity:

Harmful if swallowed.

· Primary irritant effect:

· on the skin:

Prolonged contact may cause skin irritation with local redness.

May cause drying and flaking of the skin.

May cause thickening or hardening of the skin.

Effects may be delayed.

· on the eye:

Causes serious eye irritation.

May cause slight eye irritation.

May cause slight corneal injury.

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

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

· Additional toxicological information:

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

· NTP (National Toxicology Program)

None of the ingredients are listed.

12 Ecological information

· 12.1 Toxicity

Ethalfluralin

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 species).

LC50, *Lepomis macrochirus* (Bluegill sunfish), static test, 96 Hour, 0.054 - 0.102 mg/l, OECD Test Guideline 203 or Equivalent

LC50, *Oncorhynchus mykiss* (rainbow trout), flow-through test, 96 Hour, 0.136 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, eastern oyster (*Crassostrea virginica*), flow-through test, 96 Hour, 0.100 - 0.172 mg/l, OECD Test Guideline 202 or Equivalent

EC50, *Daphnia magna* (Water flea), static test, 48 Hour, > 0.365 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, *Pseudokirchneriella subcapitata* (green algae), static test, 7 d, Growth rate inhibition, 0.004 - 0.0091 mg/l, OECD Test Guideline 201 or Equivalent

Chronic toxicity to fish

NOEC, *Oncorhynchus mykiss* (rainbow trout), 50 d, 0.0004 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, *Daphnia magna* (Water flea), 21 d, 0.0237 mg/l

(Contd. on page 7)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: Edge® MicroActiv® Herbicide

(Contd. of page 6)

Toxicity to Above Ground Organisms

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

oral LD50, *Colinus virginianus* (Bobwhite quail), 14 d, > 2000mg/kg bodyweight.

dietary LC50, *Colinus virginianus* (Bobwhite quail), > 5000mg/kg diet.

oral LD50, *Apis mellifera* (bees), > 109.9micrograms/bee

contact LD50, *Apis mellifera* (bees), 46 - 100micrograms/bee

Toxicity to soil-dwelling organisms

LC50, *Eisenia fetida* (earthworms), 14 d, > 1,000 mg/kg

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

· 12.2 Persistence and degradability

Ethalfuralin

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

Biodegradation: 2 - 15 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

Stability in Water (1/2-life)

Hydrolysis, pH 3, Stable

Hydrolysis, pH 6, Stable

Hydrolysis, pH 9, Stable

Photodegradation

Atmospheric half-life: 1.8 Hour

Method: Estimated.

· 12.3 Bioaccumulative potential

Ethalfuralin

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 5.11 Measured

Bioconcentration factor (BCF): 1,330 Fish. Measured

· 12.4 Mobility in soil

Ethalfuralin

Expected to be relatively immobile in soil (Koc > 5000).

Partition coefficient(Koc): 4100 - 8400 Measured

· Additional ecological information:

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· 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:

Disposal of this material must be in accordance with your local or area regulatory authorities.

(Contd. on page 8)

CA/EN

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: **Edge® MicroActiv® Herbicide**

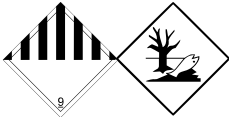
(Contd. of page 7)

· **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. Before taking the container to the collection site:

- 1.- Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
- 2.- Make the empty, rinsed container unsuitable for further use.

14 Transport information

<ul style="list-style-type: none"> · 14.1 UN-Number · DOT/TDG · ADR · ADN, IATA · IMDG 	<p>Not Regulated Marine Pollutants Exemption (TDG 1.45.1) Void UN3077</p>
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · DOT/TDG, ADN, IATA · ADR · IMDG 	<p>Void Marine Pollutants Exemption (TDG 1.45.1)- ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Ethalfuralin technical), MARINE POLLUTANT</p>
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · 14.3 DOT, ADR, ADN, IATA · Class 	<p>Void</p>
<ul style="list-style-type: none"> · IMDG <div style="text-align: center;">  </div>	<p>9 Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> · Class · Label 	<p>9 Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> · 14.4 Packing group · DOT/TDG, ADR, IATA · IMDG 	<p>Void III</p>
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: 	<p>Product contains environmentally hazardous substances: Ethalfuralin Symbol (fish and tree)</p>
<ul style="list-style-type: none"> · 14.6 Special precautions for user · EMS Number: · Stowage Category · Stowage Code 	<p>Not applicable F-A,S-F A SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.</p>
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p>Not applicable</p>

(Contd. on page 9)

CA/EN

Safety Data Sheet
according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: **Edge® MicroActiv® Herbicide**

(Contd. of page 8)

· **Transport/Additional information:**· **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):**

None of the ingredients are listed.

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

CAS: 55283-68-6 Ethalfluralin

CAS: 61790-53-2 Diatomaceous earth (Silica-Amorphous)

CAS: 14808-60-7 Quartz (SiO₂)· **Canadian substance listings:**· **Canadian Domestic Substances List (DSL)**

None of the 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.

· **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**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

(Contd. on page 10)

CA/EN

Safety Data Sheet
according to HPR, Schedule 1

Printing date 05/28/2019

Reviewed on 05/28/2019

Trade name: Edge® MicroActiv® Herbicide

(Contd. of page 9)

*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 the latest revision of the safety data sheet** 05/28/2019 / -
- **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)*
 - PBT: Persistent, Bioaccumulative and Toxic*
 - vPvB: very Persistent and very Bioaccumulative*
- **Sources** Edge® is a registered trademark of Gowan Company, L.L.C.
- * **Data compared to the previous version altered.**

CA/EN