

\* **1 Identification**

· **Product identifier**

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

**EPA Registration No.:** 10163-287

· **CAS Number:** Active Ingredient: Triallate (10%), CAS:2303-17-5

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

· **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

· **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**

· **Classification of the substance or mixture**



GHS07

Skin Sens. 1B H317 May cause an allergic skin reaction.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** Warning

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

triallate (ISO)

· **Hazard statements**

May cause an allergic skin reaction.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

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

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

· **Hazard description:** Causes Moderate Eye Irritation. Avoid contact with skin, eyes or clothing.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

(Contd. of page 1)

- **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

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable in US.
- **vPvB:** Not applicable in US.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 2303-17-5	triallate (ISO) 	10.0%
----------------	---------------------	-------

### 4 First-aid measures

- **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 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.
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed** Unknown

(Contd. on page 3)

US

# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

· *Indication of any immediate medical attention and special treatment needed* None

(Contd. of page 2)

## 5 Fire-fighting measures

- **Extinguishing media**
  - **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
  - Carbon monoxide (CO)
  - Nitrogen oxides (NO<sub>x</sub>)
  - Phosgene (COCL<sub>2</sub>)
  - Carbonyl sulphide (COS)
  - Hydrogen chloride (HCl)
- **Advice for firefighters**
  - **Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to item 13.
- **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

- **Handling:**
  - **Precautions for safe handling**  
Causes Moderate Eye Irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
  - **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **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.
- **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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

(Contd. of page 3)

- **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.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

- **Breathing equipment:**

A NIOSH approved particulate filtering respirator equipped with N, R, or P class filter media. The respirator should have a NIOSH approval number prefix TC-84A.

- **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.

- **Body protection:**

Handlers must wear:

Long-sleeved shirt

Long pants

Shoes plus socks

## \* 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:** Granulate

- **Color:** Beige-grey

- **Odor:** Sulfur-like

- **Odor threshold:** Not determined.

- **pH-value:** N/A

- **Change in condition**

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

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

- **Flash point:** Not applicable.

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

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

(Contd. of page 4)

· <b>Ignition temperature:</b>	
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not self-igniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Dispersible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
· <b>Dynamic:</b>	Not applicable.
· <b>Kinematic:</b>	Not applicable.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
  - Carbon monoxide (CO)
  - Nitrogen oxides (NO<sub>x</sub>)
  - Phosgene (COCL<sub>2</sub>)
  - Carbon sulphide (COS)
  - Hydrogen chloride (HCl)

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>Avadex® MicroActiv Herbicide</b>		
Oral	LD50	12000 mg/kg (rat)
Dermal	LD50	>20000 mg/kg (rabbit)

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

(Contd. of page 5)

- **Primary irritant effect:**
  - *on the skin:* Slightly irritating
  - *on the eye:* Slight irritation
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
*The product shows the following dangers according to internally approved calculation methods for preparations:*

Irritant

- **Carcinogenic categories**

<b>· IARC (International Agency for Research on Cancer)</b>
---

None of the ingredients are listed.
-------------------------------------

<b>· NTP (National Toxicology Program)</b>
--

None of the ingredients are listed.
-------------------------------------

<b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
--

None of the ingredients are listed.
-------------------------------------

## \* 12 Ecological information

- **Toxicity**

*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 cleaning equipment or disposing of equipment washwaters or rinsate.*

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

- **Persistence and degradability** No further relevant information available.

- **Other information:**

*Triallate has properties and characteristics associated with chemicals detected in ground water. The chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.*

*This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs, will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.*

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** Toxic for fish

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

US

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

(Contd. of page 6)

## 13 Disposal considerations

**· 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, state or local procedures.

**· Uncleaned packagings:**

**· Recommendation:**

Nonrefillable container. Do not reuse or refill this container. Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Completely empty container into transfer or application equipment. Offer for recycling, if available, or dispose of empty sack in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## 14 Transport information

**· UN-Number**

**· DOT**

Not regulated

**· ADR**

Marine Pollutants Exemption (TDG 1.45.1)

**· IMDG, IATA**

UN3077

**· UN proper shipping name**

**· ADR**

3077 Environmentally hazardous substances, solid, n.o.s. (tri-  
allate (ISO))

**· IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (tri-allate (ISO)), MARINE POLLUTANT

**· IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (tri-allate (ISO))

**· Transport hazard class(es)**

**· ADR, IMDG, IATA**



**· Class**

9 Miscellaneous dangerous substances and articles

**· Label**

9

**· Packing group**

**· ADR, IMDG, IATA**

III

**· Environmental hazards:**

Product contains environmentally hazardous substances: triallate  
(ISO)

**· Marine pollutant:**

Yes

Symbol (fish and tree)

**· Special marking (ADR):**

Symbol (fish and tree)

**· Special marking (IATA):**

Symbol (fish and tree)

**· Special precautions for user**

Warning: Miscellaneous dangerous substances and articles

**· Danger code (Kemler):**

90

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

(Contd. of page 7)

· <b>EMS Number:</b>	F-A,S-F
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5 kg
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· <b>UN "Model Regulation":</b>	US DOT: Non Bulk: Not regulated Bulk: UN3077, RQ, Environmentally hazardous substances, solid, n.o.s. (tri-allate (ISO)), 9, III  All others mode of transportation: UN3077, Environmentally hazardous substances, solid, n.o.s. (tri-allate (ISO)), 9, III

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EPA /FIFRA Information:**

This chemical is a pesticide product registered by the Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

· **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)

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

None of the ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

CAS: 14808-60-7 Quartz (SiO<sub>2</sub>)

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

(Contd. on page 9)



# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

(Contd. of page 8)

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 14808-60-7 Quartz (SiO<sub>2</sub>)

A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

CAS: 14808-60-7 Quartz (SiO<sub>2</sub>)

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

Not applicable

· **Signal word**

(US EPA) CAUTION

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

triallate (ISO)

· **Hazard statements**

Causes moderate eye irritation.

Avoid contact with skin, eyes, or clothing.

Wash thoroughly with soap and water after handling.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

May cause an allergic skin reaction.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

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

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

· **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.

· **Department issuing SDS:** Supply Chain

· **Contact:** sds@gowanco.com

· **Date of preparation / last revision** 04/11/2017 / 8

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA

Printing date 04/11/2017

Reviewed on 04/11/2017

**Trade name: AVADEx® MICROACTIV HERBICIDE**  
**EPA Registration No.: 10163-287**

(Contd. of page 9)

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*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*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*Acute Tox. 4: Acute toxicity – Category 4*

*Skin Sens. 1: Skin sensitisation – Category 1*

*Skin Sens. 1B: Skin sensitisation – Category 1B*

*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*

*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*

*Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1*

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

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

US