

1 Identification

· Product identifier

· Trade name: **Buckle® Microactiv Herbicide**

EPA Registration No.: 10163-289

· CAS Number:

Active Ingredient: Triallate (10.0%), CAS:2303-17-5

Trifluralin (3.0%), CAS:1582-09-8

· 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. 1 H317 May cause an allergic skin reaction.

Eye Irrit. 2B H320 Causes eye irritation.

· 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) / diisopropylthiocarbamate de S-2,3,3-tri-chloroallyle

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

· Hazard statements

H320 Causes eye irritation.

H317 May cause an allergic skin reaction.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

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P321 Specific treatment (see on this label).
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P363 Wash contaminated clothing before reuse.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**

CAUSES MODERATE EYE IRRITATION. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Wash thoroughly with soap and water after handling.

· **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) / diisopropylthiocarbamate de S-2,3,3-tri-chloroallyle STOT RE 2, H373; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Sens. 1, H317	10.0%
CAS: 1582-09-8	trifluralin (ISO) (containing < 0,5 ppm NPDA) Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	3.0%

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 physician, or going for treatment.

In case of an emergency involving this product, call toll free 1-888-478-0798.

· **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.

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- **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.
- **Information for doctor:**
 - **Most important symptoms and effects, both acute and delayed** Unknown
 - **Indication of any immediate medical attention and special treatment needed** None

5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, 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_x)
Hydrogen fluoride (HF)
Sulphur oxides (SO_x)
- **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:**
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.
- **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** Avoid contact with eyes, skin or clothing.
 - **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:**
Keep container closed to prevent spills and contamination.
 - **Information about storage in one common storage facility:** Store away from foodstuffs.
 - **Further information about storage conditions:** None.

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· **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.

· **Control parameters**

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

CAS: 14808-60-7 Quartz (SiO₂)

PEL see Quartz listing

REL Long-term value: 0.05* mg/m³
 *respirable dust; See Pocket Guide App. A

TLV Long-term value: 0.025* mg/m³
 *as respirable fraction

· **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 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.

· **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, such as nitrile rubber, neoprene rubber or polyethylene.

· **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.

· **Body protection:** Long-sleeved shirt and long pants, shoes plus socks.

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

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

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· 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 at 20 °C (68 °F):	39-40.5 lbs/ft ³
· 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.
· Other information	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_x)
 - Hydrogen fluoride (HF)
 - Sulfur oxides (SO_x)

US

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11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

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

· Primary irritant effect:

· **on the skin:** No irritant effect.

· **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

· IARC (International Agency for Research on Cancer)		
CAS: 1582-09-8	trifluralin (ISO) (containing < 0,5 ppm NPDA)	3
CAS: 14808-60-7	Quartz (SiO ₂)	1
· NTP (National Toxicology Program)		
CAS: 14808-60-7	Quartz (SiO ₂)	K
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients are listed.		

12 Ecological information

· Toxicity

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.

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 over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain surface water.

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

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

· **Behavior in environmental systems:**

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

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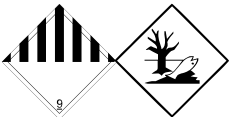
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- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
 - **Remark:** Toxic for fish
- **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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 sack 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

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · DOT · ADR, IMDG, IATA | <p>Not regulated
UN3077</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG · IATA | <p>Void
3077 Environmentally hazardous substances, solid, n.o.s. (tri-
allate (ISO), trifluralin (ISO) (containing < 0,5 ppm NPDA))
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (tri-allate (ISO), trifluralin (ISO) (containing < 0,5 ppm
NPDA)), MARINE POLLUTANT
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (tri-allate (ISO), trifluralin (ISO) (containing < 0,5 ppm
NPDA))</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT · Class · ADR, IMDG, IATA | |
| <div style="display: flex; align-items: center;"> <div style="text-align: center;">  </div> <div style="margin-left: 20px;"> <ul style="list-style-type: none"> · Class </div> </div> | |
| <p style="text-align: right;">9 Miscellaneous dangerous substances and articles</p> | |

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· Label	9
· Packing group	
· DOT	Void
· ADR, IMDG, IATA	III
· 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:	Yes
· 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
· EMS Number:	F-A,S-F
· Transport in bulk according to Annex II of MARPOL 73/78 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":	US DOT: Non Bulk: Not regulated ALL OTHERS including bulk containers: UN3077, Environmentally hazardous substances, solid, n.o.s. (tri-allate, trifluralin), 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) / diisopropylthiocarbamate de S-2,3,3-tri-chloroallyle
CAS: 1582-09-8 trifluralin (ISO) (containing < 0,5 ppm NPDA)

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

CAS: 14808-60-7 Quartz (SiO₂)

· **Proposition 65**

· **Chemicals known to cause cancer:**

CAS: 14808-60-7 Quartz (SiO₂)

· **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.

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

None of the ingredients are listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

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

C

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

CAS: 14808-60-7 Quartz (SiO₂)

A2

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

CAS: 14808-60-7 Quartz (SiO₂)

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

· **Hazard statements**

Causes moderate eye irritation.

Avoid contact with skin, eyes, or clothing.

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

Wash thoroughly with soap and water after handling.

H320 Causes eye irritation.

H317 May cause an allergic skin reaction.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

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P321 *Specific treatment (see on this label).*
 P337+P313 *If eye irritation persists: Get medical advice/attention.*
 P363 *Wash contaminated clothing before reuse.*
 P501 *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.

· **Date of preparation / last revision** 06/25/2019 / 11

· **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

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

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

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** Buckle® is a registered trademark used under license by Gowan Company, L.L.C.

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