Safety Data Sheet

Reviewed on 10/26/2023

1 Identification

· **Product identifier**

· **Trade name:** **FBN TRIFLURALIN 10% HERBICIDE**
PMRA registration # 35256
· **CAS Number:** Active Ingredient: Trifluralin (10.0%), CAS:1582-09-8
· **Application of the substance / the mixture** Agricultural herbicide

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Farmers Business Network Canada, Inc.
Box 5607
High River, Alberta T1V 1M7
1-844-200-FARM (3276)

Information department: regulatory@farmersbusinessnetwork.com
· **Emergency telephone number:**
FOR EMERGENCY MEDICAL ASSISTANCE (HUMAN OR ANIMAL) CONTACT ROCKY MOUNTAIN POISON CONTROL AT 1-866-767-5041.
· **FOR CHEMICAL EMERGENCY ASSISTANCE (SPILL, LEAK, FIRE OR ACCIDENT) CONTACT CHEMTREC AT 1-800-424-9300 (NORTH AMERICA) OR 1-703-527-3887 (INTERNATIONAL).**

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS08 Health hazard

Carc. 1A H350 May cause cancer.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
trifluralin (ISO) (containing < 0,5 ppm NPDA)
· **Hazard statements**
H350 May cause cancer.
· **Precautionary statements**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**
Causes Eye Irritation • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals. Avoid contact with eyes or clothing.

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· **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: 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	10.0%
CAS: 14808-60-7	Quartz (SiO2) Carc. 1A, H350	<9.0%

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 1-613-966-6666 for emergency medical treatment information.
· **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** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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.

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· **Special hazards arising from the substance or mixture**
Nitrogen oxides (NOx)
Hydrogen fluoride (HF)
Carbon monoxide (CO)
Carbon dioxide (CO2)
· **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

· **Personal precautions, protective equipment and emergency procedures**
Causes Eye Irritation • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals. Avoid contact with eyes or clothing.
· **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
This pesticide is extremely toxic to freshwater marine, and estuarine fish and aquatic invertebrates including shrimp and oyster. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply in a manner which will directly expose canals, lakes, streams, ponds, marshes or estuaries to aerial drift. Do not contaminate water when disposing of equipment washwaters.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **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**
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.

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

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8 Exposure controls/personal protection

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

· **Control parameters**

Component	Regulation	Type of listing	Value/Notation
Silica, crystalline (quartz)	OSHA Z-1		
	OSHA Z-3	TWA total dust	30 mg/m3 / %SiO2+2
	OSHA Z-3	TWA respirable	10 mg/m3 / %SiO2+2
	OSHA Z-3	TWA respirable	250 mppcf / %SiO2+5
	ACGIH	TWA Respirable fraction	0.025 mg/m3 , Silica

· **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**
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

· **Personal protective equipment:**

· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **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, such as butyl rubber ≥11 mils; or natural rubber ≥14 mils; or neoprene rubber ≥14 mills; or nitrile rubber ≥14 mils.

· **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:**
- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as butyl rubber ≥11 mils; or natural rubber ≥14 mils; or neoprene rubber ≥14 mills; or nitrile rubber ≥14 mils.
- Shoes plus socks

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**
· **Form:** Granulate
· **Color:** Yellow
· **Odor:** Aromatic
· **Odor threshold:** Not determined.

· **pH-value at 20 °C (68 °F):** 6.75 -6.90 pH

· **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):** 0.57 - 0.66 g/cm3
· **Relative density** Not determined.
· **Vapor density** Not applicable.
· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**
· **Water:** Insoluble.

· **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** Excessive heat.
· **Incompatible materials:** Strong oxidizers
· **Hazardous decomposition products:**
Carbon monoxide (CO)
Carbon dioxide

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Hydrogen fluoride (HF)
Nitrogen oxides (NOx)
Silicon oxides.
No dangerous decomposition products known.

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	>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:** No sensitizing effects known.
· **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

Silica, crystalline (quartz)
Acute inhalation toxicity
Vapors are unlikely due to physical properties. Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs. Excessive exposure may cause lung injury.

The LC50 has not been determined.

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)
All components have the value 3.

· NTP (National Toxicology Program)
None of the ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.

12 Ecological information

· **Toxicity**
This pesticide is extremely toxic to freshwater marine, and estuarine fish and aquatic invertebrates including shrimp and oyster. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply in a manner which will directly expose canals, lakes, streams,

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ponds, marshes or estuaries to aerial drift. Do not contaminate water when disposing of equipment washwaters.

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 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

Toxicity to bacteria
EC50, activated sludge, 3 Hour, > 100 mg/l

Chronic toxicity to fish
NOEC, Oncorhynchus mykiss (rainbow trout), static test, 48 d, growth, 0.00114 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, growth, 0.0507 mg/l

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), > 2250mg/kg bodyweight.
dietary LC50, Colinus virginianus (Bobwhite quail), 5 d, > 5000mg/kg diet.
oral LD50, Apis mellifera (bees), > 100micrograms/bee
contact LD50, Apis mellifera (bees), > 100micrograms/bee

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, > 1,000 mg/kg

Silica, crystalline (quartz)
Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.

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

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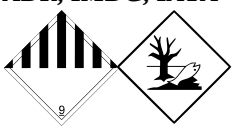
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

· **Uncleaned packagings:**
· **Recommendation:**
Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

14 Transport information

· **UN-Number**	
· **DOT**	Void
· **ADR, IMDG, IATA**	UN3077
· **UN proper shipping name**	
· **DOT**	Packages < 100 LB: NOT REGULATED Packages ñ 100 LB: UN3077, RQ , Environmentally Hazardous Substance, Solid, N.O.S.(Trifluralin), 9, PGIII
· **ADR**	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))
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	Void
· **ADR, IMDG, IATA**	
· **Class**	9 Miscellaneous dangerous substances and articles
· **Label**	9
· **Packing group**	
· **DOT**	Void

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· **ADR, IMDG, IATA**	III
· **Environmental hazards:**	Product contains environmentally hazardous substances: 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)
· **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.
· **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":**	US DOT: Packages < 100 LB: NOT REGULATED Packages ñ 100 LB: UN3077, RQ , Environmentally Hazardous Substance, Solid, N.O.S.(Trifluralin), 9, PGIII

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):**

All ingredients are listed.

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

None of the ingredients are listed.

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· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **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)**
All components have the value C.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

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

· **Hazard pictograms**
Not applicable

· **Signal word**
CAUTION

· **Hazard-determining components of labeling:**
trifluralin (ISO) (containing < 0,5 ppm NPDA)

· **Hazard statements**
H350 May cause cancer.

· **Precautionary statements**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Additional classification according to Decree on Hazardous Materials:**
Carcinogenic hazardous material group III (dangerous).

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

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· **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:** Farmers Business Network Canada, Inc.
· **Contact:** regulatory@farmersbusinessnetwork.com
· **Date of preparation / last revision** 10/26/2023
· **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
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 1A: Carcinogenicity – Category 1A
Carc. 2: Carcinogenicity – 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