

**REFINE® SG HERBICIDE**

Version 1.0

Revision Date 03/01/2018

Ref. 130000012163

This SDS adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : REFINE® SG HERBICIDE  
Tradename/Synonym : B11645335  
DPX-R9674 50SG  
Refine Extra SG  
Refine Extra 50 SG  
Refine SG  
THIFENSULFURON METHYL: (Methyl 3-[[[(4-methoxy-6-methyl-1,3,5- triazin-2-yl)amino]carbonyl]amino] sulfonyl]-2-thiophenecarboxylate)  
TRIBENURON METHYL: (Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]- amino]sulfonyl] benzoate)  
Refine SG MUP  
Refine SG Toss-n-Go

SDS Number : 130000012163

Product Use : Herbicide

Manufacturer/Supplier : FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (E-Mail General Information)

Medical Emergency : 1 800 / 331-3148 (ProPharma Group - U.S.A. & Canada)  
1 651 / 632-6793 (ProPharma Group - All Other Countries - Collect)  
For leak, fire, spill or accident emergencies, call:  
1 800 / 424 9300 (CHEMTREC - U.S.A.)  
1 703 / 741-5970 (CHEMTREC - International)  
1 703 / 527 3887 (CHEMTREC - Alternate)

**SECTION 2. HAZARDS IDENTIFICATION**

Potential Health Effects  
Skin

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Thifensulfuron methyl : May cause skin irritation.  
May cause: Irritation with discomfort or pain, redness or rash, itching or swelling.

Tribenuron methyl : May cause allergic skin reaction.

**Eyes**

Thifensulfuron methyl : May cause eye irritation.  
May cause: Tearing, redness, or discomfort.

Tribenuron methyl : May irritate eyes.

**Inhalation**

Thifensulfuron methyl : May cause: Respiratory irritation, Discomfort, Cough.

**Carcinogenicity**

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
Thifensulfuron methyl	79277-27-3	33.33 %
Tribenuron methyl	101200-48-0	16.67 %
Other Ingredients		50 %

**SECTION 4. FIRST AID MEASURES**

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Skin contact	: Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Eye contact	: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Inhalation	: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
Ingestion	: No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
General advice	: Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
Notes to physician	: In case of methemoglobinemia administer methylene blue 1% solution. Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

## Flammable Properties

Flash point : Not applicable

Ignition temperature : 385 °C (725 °F)

Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media : High volume water jet, (contamination risk)

Firefighting Instructions : Wear full protective clothing and self-contained breathing apparatus. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Prevent fire extinguishing water from contaminating surface water or the ground water system. Burns with colourless flame. Cool containers/tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Safeguards (Personnel) : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.
- Spill Cleanup : Sweep up and shovel into suitable containers for disposal. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.
- Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas. Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

**SECTION 7. HANDLING AND STORAGE**

- Handling (Personnel) : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Handling (Physical Aspects) : Keep away from heat and sources of ignition. Avoid dust formation in confined areas. During processing, dust may form explosive mixture in air.
- Storage : Store in original container. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Keep out of the reach of children.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- Personal protective equipment
- Skin and body protection : Applicators and other handlers must wear:  
Long sleeved shirt and long pants  
Chemical-resistant gloves, Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all greater than or equal to 14 mils  
Shoes plus socks  
PPE required for early entry to treated areas that is permitted under the

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Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls

Chemical-resistant gloves, Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all greater than or equal to 14 mils

Shoes plus socks

Protective measures : Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Guidelines  
Exposure Limit Values

No data available

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form : extruded granules  
 Color : light brown  
 Odor : slight, slightly sour  
 pH : 9.2 - 9.8  
 Water solubility : soluble

**SECTION 10. STABILITY AND REACTIVITY**

Stability : Stable at normal temperatures and storage conditions.  
 Incompatibility : No materials to be especially mentioned.  
 Hazardous decomposition products : Decomposes slowly on exposure to water.

**SECTION 11. TOXICOLOGICAL INFORMATION**

REFINE® SG

Inhalation 4 h LC50 : > 5.0 mg/l , Rat  
Active ingredient

Dermal LD50 : > 5,000 mg/kg , Rat

Oral LD50 : > 5,000 mg/kg , Rat

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Skin irritation : No skin irritation, Rabbit

Eye irritation : No eye irritation, Rabbit

Sensitisation : Did not cause sensitisation on laboratory animals., Guinea pig

Further information : Information given is based on data on the components and the toxicology of similar products.

Thifensulfuron methyl

Repeated dose toxicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Oral - feed  
multiple species

Reduced body weight gain

Carcinogenicity : Animal testing did not show any carcinogenic effects.

Reproductive toxicity : No toxicity to reproduction  
Animal testing showed no reproductive toxicity.

Teratogenicity : Did not show teratogenic effects in animal experiments.  
Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Tribenuron methyl

Repeated dose toxicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Oral - feed  
Mouse  
90 d  
Reduced body weight gain

Oral  
Rat  
28 d  
Reduced body weight gain

Carcinogenicity : Not classifiable as a human carcinogen.  
An increased incidence of tumours was observed in laboratory animals.  
Target(s):

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Mammary glands

Reproductive toxicity : No toxicity to reproduction

**SECTION 12. ECOLOGICAL INFORMATION**
**Aquatic Toxicity**
**Thifensulfuron methyl**

96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 100 mg/l

14 d EC50 : Lemna minor (duckweed) 0.0013 mg/l

48 h EC50 : Daphnia magna (Water flea) 470 mg/l

28 d : NOEC Americamysis bahia (mysid shrimp) 7.93 mg/l

**Tribenuron methyl**

96 h LC50 : Oncorhynchus mykiss (rainbow trout) 738 mg/l

120 h EC50 : Pseudokirchneriella subcapitata (microalgae) 0.11 mg/l

14 d EC50 : Lemna gibba (duckweed) 0.00425 mg/l

48 h EC50 : Daphnia magna (Water flea) > 894 mg/l

Additional ecological information : Environmental Hazards: 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 contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Disposal : Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container disposal: : Container Refilling and Disposal:  
Refer to the product label for instructions.  
Do not transport if this container is damaged or leaking.

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**SECTION 14. TRANSPORT INFORMATION**

IATA_C	UN number	: 3077
	Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Thifensulfuron-methyl, Tribenuron methyl)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9MI
IMDG	UN number	: 3077
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Tribenuron methyl)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Thifensulfuron-methyl, Tribenuron methyl)

Not regulated as a hazardous material by TDG.

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA special provision A197, and ADR/RID special provision 375.

**SECTION 15. REGULATORY INFORMATION**

PCP Registration #	: 28285
Remarks	: Regulated under the Pest Control Products Act - WHMIS exempt.

**SECTION 16. OTHER INFORMATION**



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MSDS preparation date : 03/01/2018

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Philadelphia, PA 19104  
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