



**Product Name:**  
**CS-100-2525 Herbicide**  
**PCP #32121**

CS-100-2525 Herbicide is considered a mechanical mixture of three individual products. Attached are the component product SDS which make up CS-100-2525 Herbicide.

Express® 50 SG MUP

PCP # 28176  
SDS Date: 03/01/2018  
Ref: 130000012165

Thifensulfuron 50 SG MUP

PCP # 28809  
SDS Date: 03/01/2018  
Ref: 130000036149

GP MUP

PCP # 32117  
SDS Date: 03/19/2018

Please review the attached SDS, for a full and complete understanding of the hazards associated with each product before use.

**Manufacturer/Distributor:**

FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104  
USA

**Telephone Numbers:**

Product Information: 1-215-299-6000  
Medical Emergency: 1-800-331-3148 (USA & Canada)  
Preparation Date: 01/29/2019

Member of CropLife Canada

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**Express® 50 SG MUP**

Version 1.0

Revision Date 03/01/2018

Ref. 130000012165

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	:	Express® 50 SG MUP
Tradename/Synonym	:	B11646119 DPX-L5300 50SG Tribenuron methyl 50SG Affinity 2 Herbicide Affinity 50 SG Granstar 50 SG Tribenuron methyl: Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoate Express® SG MUP
SDS Number	:	130000012165
Product Use	:	Herbicide
Manufacturer	:	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 (U.S.A. & Canada) 1 651 / 632-6793 (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**
**Emergency Overview**
**Caution**

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes and clothing.

**Potential Health Effects**

This section includes potential acute adverse effects which could occur if this material is not used according to the label.

**Skin**

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Tribenuron methyl : May cause allergic skin reaction.

**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
Tribenuron methyl	101200-48-0	50 %
Other Ingredients		50 %

**SECTION 4. FIRST AID MEASURES**

- 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** : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
- Inhalation** : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary. Remove person to fresh air. If signs/symptoms continue, get medical attention. Artificial respiration and/or oxygen may be necessary. 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.

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General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  
See Section 1 for emergency phone numbers. See Label for Additional Precautions and Directions for Use.

Notes to physician : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

## Flammable Properties

Flash point : Not applicable

Fire and Explosion Hazard : Not a fire or explosion hazard. Under severe dusting conditions, this material may form explosive mixtures in air.

Suitable extinguishing media : Water spray, Dry chemical, Foam, 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. (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

**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.

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.

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**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. Wash the outside of gloves before removing. Remove personal protective equipment immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.
- Handling (Physical Aspects) : Keep away from heat and sources of ignition.
- Storage : Store in original container. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. Keep out of the reach of children.

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

- Engineering controls : Use only with adequate ventilation.
- Personal protective equipment
  - Respiratory protection : No personal respiratory protective equipment normally required.
  - Skin and body protection : Applicators and other handlers must wear:
    - Long sleeved shirt and long pants
    - Shoes plus socks
    - Chemical resistant gloves made of any waterproof material, such as polyethylene or polyvinyl chloride.
    - PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
      - Coveralls
      - Chemical resistant gloves made of any waterproof material
      - 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. Notify workers of the application by warning them orally or by posting warning signs at entrances to treated areas.
- Exposure Guidelines
  - Exposure Limit Values
    - No data available

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form	: solid, granular
Color	: light brown
Odor	: mild
pH	: 8.4 - 9.4 at 10 g/l 20 °C (68 °F) (1% solution in water)
Oxidizing Substance	: The product is not oxidizing.
Bulk density	: 640 kg/m <sup>3</sup> packed
Water solubility	: soluble

**SECTION 10. STABILITY AND REACTIVITY**

Stability	: Stable at normal temperatures and storage conditions.
Conditions to avoid	: None reasonably foreseeable.
Incompatibility	: No materials to be especially mentioned.
Hazardous reactions	: Polymerization will not occur.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Express® 50 SG MUP	
Dermal LD50	: > 5,000 mg/kg , Rat
Oral LD50	: > 5,000 mg/kg , Rat
Skin irritation	: No skin irritation, Rabbit
Eye irritation	: No eye irritation, Rabbit
Sensitisation	: The product is a skin sensitiser, sub-category 1B., Guinea pig
Tribenuron methyl	
Inhalation 4 h LC50	: > 6.0 mg/l , Rat
Repeated dose toxicity	: The following effects occurred at levels of exposure that significantly

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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):  
 Mammary glands
- Mutagenicity** : Animal testing did not show any mutagenic effects.  
 Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- Reproductive toxicity** : No toxicity to reproduction

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

Express® SG herbicide

- 96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 120 mg/l
- 72 h ErC50 : Pseudokirchneriella subcapitata (microalgae) > 0.080 mg/l
- 48 h EC50 : Daphnia (water flea) > 120 mg/l

- Additional ecological information** : 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**

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- 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.

**SECTION 14. TRANSPORT INFORMATION**

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

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 # : HERBICIDE: 28262 /MUP: 28176



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Ref. 130000012165

Remarks : Regulated under the Pest Control Products Act - WHMIS exempt.

**SECTION 16. OTHER INFORMATION**

MSDS preparation date : 03/01/2018

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Contact person : FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (E-Mail General Information)**Disclaimer**

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**Thifensulfuron 50 SG MUP**

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Ref. 130000036149

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 : Thifensulfuron 50 SG MUP  
 Tradename/Synonym : DPX-M6316 50SG  
 B11646126  
 THIFENSULFURON METHYL: Methyl 3-[[[(4-methoxy-6-methyl-1,3,5- triazin-2-yl)amino]carbonyl]amino] sulfonyl]-2-thiophenecarboxylate  
 C11224244 - HARMONY 50SX (M)

MSDS Number : 130000036149

Product Use : Herbicide  
 Manufacturer : 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 (U.S.A. & Canada)  
 1 651 / 632-6793 (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  
 Thifensulfuron methyl : May cause skin irritation.  
 May cause: Irritation with discomfort or pain, redness or rash, itching or swelling.

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

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

Carcinogenicity

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Ref. 130000036149

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	50 %
Other Ingredients		50 %

**SECTION 4. FIRST AID MEASURES**

- 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 : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
- Inhalation : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
- Ingestion : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
- General advice : Never give anything by mouth to an unconscious person.  
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. See Section 1 for emergency phone numbers.

**SECTION 5. FIREFIGHTING MEASURES**

- Flammable Properties
- Flash point : Not applicable

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Lower explosion limit/ lower flammability limit : 0.1 - 0.25 g/l

Fire and Explosion Hazard : Under severe dusting conditions, this material may form explosive mixtures in air.

Suitable extinguishing media : Water spray, Dry chemical, Foam, Carbon dioxide (CO2)

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

Firefighting Instructions : Wear full protective clothing and self-contained breathing apparatus. (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

**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. For minor spills, leaks, etc., follow all precautions indicated on the label and clean up immediately. 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

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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.

Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in original container. Store in a cool, dry place. Keep out of the reach of children.

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

Engineering controls : When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. **IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified for "Applicators and Other Handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

Personal protective equipment  
 Skin and body protection : Applicators and other handlers must wear:  
 Long sleeved shirt and long pants  
 Chemical resistant gloves made of any waterproof material  
 Shoes plus socks  
 PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:  
 Coveralls  
 Chemical resistant gloves made of any waterproof material  
 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 : granules

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Ref. 130000036149

Color : light brown  
Odor : mild  
pH : 8.7 - 9.7  
Melting point/range : ca. 182 °C (360 °F)  
Bulk density : Tapped  
Water solubility : soluble

**SECTION 10. STABILITY AND REACTIVITY**

Stability : Stable at normal temperatures and storage conditions.  
Conditions to avoid : None reasonably foreseeable.  
Incompatibility : No materials to be especially mentioned.  
Hazardous reactions : Polymerization will not occur.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Thifensulfuron 50 SG MUP

Inhalation 4 h LC50 : > 5.3 mg/l , Rat  
Dermal LD50 : > 5,000 mg/kg , Rabbit  
Oral LD50 : > 5,000 mg/kg , Rat  
Skin irritation : No skin irritation, Rabbit  
Eye irritation : No eye irritation, Rabbit  
Sensitisation : Animal test did not cause sensitization by skin contact., Guinea pig

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

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Carcinogenicity	:	Animal testing did not show any carcinogenic effects.
Mutagenicity	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic 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.

**SECTION 12. ECOLOGICAL INFORMATION**

## Aquatic Toxicity

## Thifensulfuron 50 SG MUP

96 h LC50 : Oncorhynchus mykiss (rainbow trout) &gt; 120 mg/l

14 d EC50 : Lemna gibba (duckweed) 0.00130 mg/l

48 h EC50 : Daphnia magna (Water flea) &gt; 120 mg/l

## Thifensulfuron methyl

28 d : NOEC *Americamysis bahia* (mysid shrimp) 7.93 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. Do not apply where/when conditions favour runoff.

**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.

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Ref. 130000036149

In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

**SECTION 14. TRANSPORT INFORMATION**

IATA_C	UN number	: 3077
	Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Thifensulfuron-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)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9

**SECTION 15. REGULATORY INFORMATION**

PCP Registration #	: 28809
Remarks	: Regulated under the Pest Control Products Act - WHMIS exempt.

**SECTION 16. OTHER INFORMATION**

MSDS preparation date : 03/01/2018

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**Thifensulfuron 50 SG MUP**

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Ref. 130000036149

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

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Significant change from previous version is denoted with a double bar.



# Material Safety Data Sheet

Issue Date: 03/19/2018  
Print Date: 03/19/2018

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## 1. PRODUCT AND COMPANY IDENTIFICATION

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Product name: **GP MUP**

**Recommended use of the chemical and restrictions on use**

**Identified uses:** End use herbicide product

**COMPANY IDENTIFICATION:**

FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (General Information)

Medical Emergency:  
1 800 / 331-3148 (U.S.A. & Canada)  
1 651 / 632-6793 (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)

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## 2. HAZARDS IDENTIFICATION

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### Emergency Overview

#### Appearance

Physical state                      Granules.

Color                                      Tan

**Odor**                                      Mild

<b>Hazard Summary</b>	<b><u>WARNING!!</u></b> May cause allergic skin reaction. May cause eye irritation. Isolate area. Toxic fumes may be released in fire situations. Slipping hazard. Highly toxic to fish and/or other aquatic organisms.
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**Potential Health Effects**

**Eyes:** May cause eye irritation.  
May cause slight corneal injury.

**Skin:** Brief contact may cause slight skin irritation with local redness.  
Prolonged skin contact is unlikely to result in absorption of harmful amounts.  
For the active ingredient(s):  
Has caused allergic skin reactions when tested in guinea pigs.

**Inhalation:** No adverse effects are anticipated from single exposure to dust.  
Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

**Ingestion:** Very low toxicity if swallowed.  
Harmful effects not anticipated from swallowing small amounts.

**Chronic Exposure:** For the active ingredient(s):  
In animals, effects have been reported on the following organs:  
Liver.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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This product is a mixture.

Component	CASRN	Weight percent
Substituted Quinoline Derivative	Trade Secret	Trade secret
Pyroxsulam	422556-08-9	21.5%
Kaolin	1332-58-7	4.2%
Balance	Not available	Trade secret

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### 4. FIRST AID MEASURES

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**Description of first aid measures**

**General advice:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be available in work area.

**Eye contact:** Hold eyes 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 eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

**Ingestion:** 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 the poison control center or doctor. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## 5. FIREFIGHTING MEASURES

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**Suitable extinguishing media:** Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers.

**Unsuitable extinguishing media:** No data available

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Dense smoke. Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** No data available

**Advice for firefighters**

**Fire Fighting Procedures:** 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. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). 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. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact FMC Corporation for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Keep out of reach of children. Avoid prolonged or repeated contact with skin. Avoid contact with eyes, skin, and clothing. Do not swallow. Avoid breathing dust or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Pyroxsulam		TWA	5 mg/m <sup>3</sup>
		TWA	Skin Sensitizer
Kaolin	ACGIH	TWA Respirable fraction	2 mg/m <sup>3</sup>
		CA AB OEL	2 mg/m <sup>3</sup>
		CA BC OEL	2 mg/m <sup>3</sup>
		CA QC OEL	TWAEV respirable dust 5 mg/m <sup>3</sup>

Consult local authorities for recommended exposure limits.

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### 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.

**Individual protection measures**

**Eye/face protection:** Use chemical goggles.

**Skin protection**

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance**

<b>Physical state</b>	Granules.
<b>Color</b>	Tan
<b>Odor</b>	Mild
<b>Odor Threshold</b>	No data available
<b>pH</b>	4.13 <i>pH Electrode</i>
<b>Melting point/range</b>	No data available
<b>Freezing point</b>	Not applicable
<b>Boiling point (760 mmHg)</b>	Not applicable
<b>Flash point</b>	<b>closed cup</b> Not applicable
<b>Evaporation Rate (Butyl Acetate = 1)</b>	Not applicable
<b>Flammability (solid, gas)</b>	No data available
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Vapor Pressure</b>	Not applicable
<b>Relative Vapor Density (air = 1)</b>	Not applicable
<b>Relative Density (water = 1)</b>	No data available

<b>Water solubility</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	No data available
<b>Dynamic Viscosity</b>	Not applicable
<b>Kinematic Viscosity</b>	No data available
<b>Explosive properties</b>	No
<b>Oxidizing properties</b>	No significant increase (>5C) in temperature.
<b>Bulk density</b>	0.591 g/ml <i>Loose Volumetric</i> 0.6538 g/ml <i>Tapped Volumetric</i>
<b>Molecular weight</b>	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Thermally stable at typical use temperatures.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose.

**Incompatible materials:** Avoid contact with: Strong oxidizers.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Hydrogen chloride. Nitrogen oxides.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### Acute toxicity

#### Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined. Based on information for component(s): Estimated.  
LD50, Rat, > 5,000 mg/kg

**Acute dermal toxicity**

As product: The dermal LD50 has not been determined. Based on information for component(s):  
Estimated.  
LD50, Rat, > 5,000 mg/kg

**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).  
As product: The LC50 has not been determined.

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause moderate eye irritation.  
Corneal injury is unlikely.

**Sensitization**

For the active ingredient(s):  
Has caused allergic skin reactions when tested in guinea pigs.  
Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:  
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

For the active ingredient(s):  
In animals, effects have been reported on the following organs:  
Liver.

**Carcinogenicity**

For the active ingredient(s): Pyroxsulam. For similar active ingredient(s). Did not cause cancer in laboratory animals.

**Teratogenicity**

For the active ingredient(s): Pyroxsulam. For similar active ingredient(s). Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**

For the active ingredient(s): In animal studies, did not interfere with reproduction.

**Mutagenicity**

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.



**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Substituted Quinoline Derivative**

**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. Based on the available data, respiratory irritation was not observed.

LC50, Rat, male and female, 4 Hour, dust/mist, > 6.11 mg/l No deaths occurred at this concentration.

**Pyroxsulam**

**Acute inhalation toxicity**

LC50, Rat, 4 Hour, Aerosol, > 5.12 mg/l No deaths occurred at this concentration.

**Kaolin**

**Acute inhalation toxicity**

As product: The LC50 has not been determined.

**Balance**

**Acute inhalation toxicity**

The LC50 has not been determined.

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Toxicity**

**Acute toxicity to algae/aquatic plants**

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 5.3 mg/l, OECD Test Guideline 201

ErC50, Lemna gibba, 7 d, 0.0015 mg/l

NOEC, Lemna gibba, 7 d, 0.0026 mg/l

**Persistence and degradability**

**Substituted Quinoline Derivative**

**Biodegradability:** No relevant data found.

**Pyroxsulam**

**Biodegradability:** Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

**Biodegradation:** 20 - 30 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

**Kaolin**

**Biodegradability:** Biodegradation is not applicable.

**Balance**

**Biodegradability:** No relevant data found.

**Bioaccumulative potential**

**Substituted Quinoline Derivative**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 2.12 Estimated.

**Pyroxsulam**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** -1.01 Measured

**Balance**

**Bioaccumulation:** No relevant data found.

**Mobility in soil**

**Substituted Quinoline Derivative**

Potential for mobility in soil is medium (Koc between 150 and 500).

**Partition coefficient(Koc):** 206 Estimated.

**Pyroxsulam**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient(Koc):** <= 42 Estimated.

**Balance**

No relevant data found.

### 13. DISPOSAL CONSIDERATIONS

**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

### 14. TRANSPORT INFORMATION

**TDG**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(PYROXSULAM)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	PYROXSULAM

**Classification for SEA transport (IMO-IMDG):**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(PYROXSULAM)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	PYROXSULAM
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

<b>Proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.(PYROXSULAM)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III

**Further information:**

NOT REGULATED PER TDG EXEMPTION 1.45.1 FOR ROAD OR RAIL

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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**Hazardous Products Act Information: CPR Compliance**

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**Hazardous Products Act Information: WHMIS Classification**

This product is exempt under WHMIS.

**National Fire Code of Canada**

Not applicable

**Canadian Domestic Substances List (DSL) (DSL)**

This product contains chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements.

**Pest Control Products Act Registration Number: 32117**

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## 16. OTHER INFORMATION

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**Hazard Rating System****NFPA**

Health	Fire	Reactivity
1	0	0

**Revision**

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DAS Code: GF-3361

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	Canada. British Columbia OEL
CA QC OEL	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
TWA	8-hour time weighted average
TWAEV	Time-weighted average exposure value

**Information Source and References**

The information in this Safety Data Sheet is based entirely on information from FMC Corporation.

This SDS is prepared by the Global Regulatory Chemical Compliance team in the Global Regulatory Affairs Group from information supplied by internal references within our company.

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