
REFINE SG
GPAREFSG Revised 17-FEB-2006 Printed 17-FEB-2006

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"DuPont" is a trademark of DuPont.

Product Use

Herbicide

Tradenames and Synonyms

THIFENSULFURON METHYL

TRIBENURON METHYL

Company Identification

MANUFACTURER/DISTRIBUTOR

E.I. du Pont Canada Company
P.O. Box 2200
Streetsville
Mississauga, Ontario L5M 2H3

PHONE NUMBERS

Product Information : 1-800-387-2122
Medical Emergency : 1-800-441-3637 (24 hours)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
THIFENSULFURON METHYL	79277-27-3	33.35 %
Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate		
*TRIBENURON METHYL	101200-48-0	16.65 WT%
Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoate		
INERT INGREDIENTS		50 WT%

* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

HAZARDS IDENTIFICATION

Emergency Overview

Caution! Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling.

For medical emergencies involving this product, call toll-free 1-800-441-3637.

Potential Health Effects

Based on animal data, skin contact may cause skin irritation with discomfort or rash and skin sensitization with allergic rashes.

Based on animal data, eye contact may cause eye irritation with discomfort, tearing, or blurring of vision.

Based on animal data, inhalation may cause irritation of the upper respiratory tract, with coughing and discomfort.

Carcinogenicity Information

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

FIRST AID MEASURES

IF ON SKIN OR CLOTHING: 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.

IF IN EYES: No specific intervention is indicated, as the product is not likely to be hazardous to the eyes. Consult physician if necessary.

IF INHALED: No specific intervention is indicated, as the product is not likely to be hazardous by inhalation. Consult a physician if necessary.

IF SWALLOWED: No specific intervention is indicated, as the product is not likely to be hazardous by ingestion. Consult a physician if necessary.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical

(FIRST AID MEASURES - Continued)

treatment information.

FIRE FIGHTING MEASURES

Flammable Properties

Not a fire or explosion hazard.

LEL is 0.1 - 0.25 g/L

Minimum ignition energy is >1 joules

Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air.

Extinguishing Media

Water Spray, Foam, Dry Chemical, CO2.

Fire Fighting Instructions

Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Runoff from fire control may be a pollution hazard.

If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the contamination hazard.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

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

Spill Clean Up

Shovel or sweep up.

HANDLING AND STORAGE

Handling (Personnel)

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing 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.

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(HANDLING AND STORAGE - Continued)

Handling (Physical Aspects)

Avoid dust generation.

Storage

Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

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 above 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

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Chemical-Resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Shoes plus socks.

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

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:

(EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

Coveralls.
Chemical-Resistant gloves made of any waterproof
material.
Shoes plus socks.

Exposure Guidelines

Applicable Exposure Limits

THIFENSULFURON METHYL

PEL (OSHA) : None Established
TLV (ACGIH) : None Established
AEL * (DuPont) : 5 mg/m³, 8 & 12 Hr. TWA

TRIBENURON METHYL

PEL (OSHA) : None Established
TLV (ACGIH) : None Established
AEL * (DuPont) : 1 mg/m³, 8 Hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

pH : 8.2 - 9.5 (1% aqueous solution)
Odor : Slight
Form : Granule
Color : Tan

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Incompatibility with Other Materials

None reasonably foreseeable.

Decomposition

Decomposition will not occur.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Thifensulfuron Methyl 50SG

Oral LD50: > 5000 mg/kg in rats
Dermal LD50: > 5000 mg/kg in rats
4-Hour Inhalation LC50: > 7.9 mg/L in rats
(technical material)

Thifensulfuron Methyl 50SG is not a skin or eye irritant nor a skin sensitizer in animals.

Tribenuron Methyl 50SG

Oral LD50: > 5000 mg/kg in rats
Dermal LD50: > 5000 mg/kg in rats
4-Hour Inhalation LC50: > 6.0 mg/L in rats
(technical material)

Tribenuron Methyl 50SG is not a skin or eye irritant in animals, but is a skin sensitizer in animals.

The effects in animals from a single ingestion exposure include hyperreactivity and tremors.

THIFENSULFURON METHYL

The effects in animals from short inhalation exposure to Thifensulfuron Methyl include nonspecific effects such as weight loss, and irritation when compared to the control group.

Repeated ingestion exposures to Thifensulfuron Methyl caused decreased body and organ weights, and some blood chemistry changes, including increased blood urea nitrogen and decreased protein and globulins. Long-term exposures caused an increase in liver and gall bladder weights, decreased body weight gain, and a decreased level of sodium in the blood when compared to the control group.

No carcinogenic effects were observed in animal tests with Thifensulfuron Methyl. Animal data show developmental effects only at exposure levels producing toxic effects in the adult animal. Tests in animals demonstrate no reproductive toxicity. Thifensulfuron Methyl does not produce genetic damage in bacterial or mammalian cell cultures or animals.

TRIBENURON METHYL

The effects in animals from a single ingestion exposure to Tribenuron Methyl include severe weight loss and decreased food consumption. Repeated ingestion of high doses of Tribenuron Methyl caused body weight loss, increased liver and

(TOXICOLOGICAL INFORMATION - Continued)

thyroid/parathyroid weights, altered clinical chemical parameters, but no significant gross or microscopic treatment related effects were noted. Long-term dosing caused body weight loss, alteration in clinical chemical parameters, and testicular atrophy (considered to be biologically insignificant).

Tribenuron Methyl produced an increased incidence of mammary tumors in female rats at dose levels also producing other significant effects. Developmental effects occurred in the rat, but only at a dose also toxic to the dam. No reproductive effects were observed in rats. Tribenuron Methyl did not produce genetic damage in bacterial or mammalian cell cultures or in animals.

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:

THIFENSULFURON METHYL

96 hour LC50 - Rainbow trout: > 100 mg/L.

96 hour LC50 - Bluegill sunfish: > 100 mg/L.

96 hour EC50 - Freshwater algae: 0.840 - 1.03 mg/L.

AVIAN TOXICITY:

Acute Oral LD50 - Mallard Duck: > 2510 mg/kg.

Acute Dietary LC50 - Mallard Duck: > 5620 mg/kg.

Acute Dietary LC50 - Bobwhite Quail: > 5620 mg/kg.

AQUATIC TOXICITY:

TRIBENURON METHYL

96 hour LC50 - Rainbow trout: > 1000 mg/L.

120 hour, EC50, Freshwater algae: 2.6 - 13.1 mg/L.

AVIAN TOXICITY:

Acute Oral LD50 - Bobwhite Quail: > 2250 mg/kg.

Acute Dietary LC50 - Bobwhite Quail: > 5620 ppm.

Acute Dietary LC50 - Mallard Duck: > 5620 ppm

DISPOSAL CONSIDERATIONS

Waste Disposal

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

(DISPOSAL CONSIDERATIONS - Continued)

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. Do not apply where/when conditions favor runoff.

Container Disposal

For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

For Fiber Sacks: Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities.

For Fiber Drums with Liners: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.

For Bags Containing Water-Soluble Packets: Do not reuse the outer box or the re-sealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above.

For Metal Containers (non aerosol): Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

For Paper and Plastic Bags: Completely empty bag into

application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

TRANSPORTATION INFORMATION

Shipping Information

DOT

Proper Shipping Name : NOT REGULATED BY D.O.T.

DOT/IMO

Proper Shipping Name : NOT REGULATED

Shipping Information -- Canada

This material is Not Regulated.

REGULATORY INFORMATION

U.S. Federal Regulations

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes

Chronic : No

Fire : No

Reactivity : No

Pressure : No

EPA Reg. No. 352-641

Canadian Regulations

Regulated under the Pest Control Products Act--WHMIS Exempt

Registration No. **28285** Pest Control Products Act

OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating

Health : 1

Flammability : 1

Reactivity : 0

(Continued)

NPCA-HMIS Rating

Health	: 1
Flammability	: 1
Reactivity	: 0

Personal Protection rating to be supplied by user depending on use conditions.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS

Crop Protection
E.I. du Pont Canada Company
Box 2200, Streetsville
Mississauga, Ontario L5M 2H3
(905) 821-3300.

End of MSDS