# MATERIAL SAFETY DATA SHEET

**DISMISS™ TURF HERBICIDE**

**MSDS Ref. No.:** 122836-35-5-13
**Date Approved:** 11/16/2007
**Revision No.:** 2

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the EC directive, 2001/58/EC and other regulatory requirements. The information contained herein is for the concentrate as packaged, unless otherwise noted.

## 1. PRODUCT AND COMPANY IDENTIFICATION

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|---|---|
| **PRODUCT NAME:** | DISMISS™ TURF HERBICIDE |
| **PRODUCT CODE:** | 6304 |
| **ACTIVE INGREDIENT(S):** | Sulfentrazone |
| **CHEMICAL FAMILY:** | Aryl Triazolinones |
| **MOLECULAR FORMULA:** | $C_{11}H_{10}Cl_2F_2N_4O_3S$ (sulfentrazone) |
| **SYNONYMS:** | FMC 97285; F6285; CAS: N-[2,4-dichloro-5-[4-difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]methanesulfonamide; IUPAC: N-[2,4-dichloro-5-(4-difluoromethyl-3-methyl-5-oxo-4,5-dihydro-[1,2,4]triazol-1-yl)phenyl]methane sulfonamide |

### MANUFACTURER

FMC CORPORATION
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)
msdsinfo@fmc.com (Email - General Information)

### EMERGENCY TELEPHONE NUMBERS

(800) 331-3148 (Medical - U.S.A. & Canada)
(651) 632-6793 (Medical - Collect - All Other Countries)

For leak, fire, spill, or accident emergencies, call:
(800) 424-9300 (CHEMTREC - U.S.A. & Canada)
(703) 527-3887 (CHEMTREC - Collect - All Other Countries)

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

- Off-white liquid with a faint, alcoholic odor.
- Slightly combustible. May support combustion at elevated temperatures.
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Slightly toxic to fish and aquatic organisms. Keep out of drains and water courses.

**POTENTIAL HEALTH EFFECTS:** Effects from overexposure result from inhaling this product. Symptoms of overexposure include convulsions, tremors, increased sensitivity to touch and sound, labored breathing, decreased locomotion, tearing, nasal discharge and incoordination.

**MEDICAL CONDITIONS AGGRAVATED:** None presently known.

# 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS# | Wt.% | EC No. | EC Class |
|---|---|---|---|---|
| Sulfentrazone | 122836-35-5 | 40 | None | Not classified |
| Propylene Glycol | 57-55-6 | 6 | 200-338-0 | Not classified |
| Surfactant Blend | | 5 | None | Not classified |
| Toluene | 108-88-3 | <3 | 203-625-9 | R11-38-48/20-63-65-67; S2-36/37-46-62 |

# 4. FIRST AID MEASURES

**EYES:** Flush with plenty of water. Get medical attention if irritation occurs and persists.

**SKIN:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**INGESTION:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

**NOTES TO MEDICAL DOCTOR:** This product has low oral, dermal and inhalation toxicity. It is slightly irritating to the skin and non-irritating to the eyes. Contains toluene which can produce a severe pneumonitis if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

# 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Foam, $CO_2$ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

**FIRE / EXPLOSION HAZARDS:** Slightly combustible. This material may support combustion at elevated temperatures.

**FIRE FIGHTING PROCEDURES:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

# 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic or soda ash, and an appropriate alcohol (i.e., methanol, ethanol or isopropanol). Follow this by washing with a strong soap and water solution. Absorb, as above, any excess liquid and add to the drums of waste already collected. Repeat if necessary. Dispose of drummed waste according to the method outlined in Section 13, "Disposal Considerations".

# 7. HANDLING AND STORAGE

**HANDLING AND STORAGE:** Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

# 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

## EXPOSURE LIMITS

| Chemical Name | ACGIH | OSHA | Supplier |
|---|---|---|---|
| Toluene | 50 ppm (TWA) (skin) | 200 ppm (PEL)<br>300 ppm (STEL) | |

**ENGINEERING CONTROLS:** Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

**RESPIRATORY:** For splash, mist or spray exposures wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

**PROTECTIVE CLOTHING:** Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

**GLOVES:** Wear chemical protective gloves made of materials such as butyl rubber, nitrile or neoprene. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

**WORK HYGIENIC PRACTICES:** Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum, or using tobacco. Shower at the end of the workday.

### COMMENTS:

Personal protective recommendations for mixing or applying this product are prescribed on the product label. Information stated above provides useful, additional guidance for individuals whose use or handling of this product is not guided by the product label.

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# 9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|---|
| **ODOR:** | Faint, alcoholic |
| **APPEARANCE:** | Off-white liquid |
| **DENSITY / WEIGHT PER VOLUME:** | 10.06 lb/gal (1206 g/L) |
| **FLASH POINT:** | > 93 °C (> 199 °F) (TCC) |
| **MOLECULAR WEIGHT:** | 387.19 (sulfentrazone) |
| **pH:** | 5.3 - 6.0 @ 20°C |
| **SOLUBILITY IN WATER:** | Disperses |
| **SPECIFIC GRAVITY:** | 1.206 @ 20°C (water = 1) |

# 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **CONDITIONS TO AVOID:** | Excessive heat and fire. |
| **STABILITY:** | Stable |
| **POLYMERIZATION:** | Will not occur |
| **HAZARDOUS DECOMPOSITION PRODUCTS:** | Carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, hydrogen chloride, hydrogen fluoride. |

# 11. TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** Non-irritating

**SKIN EFFECTS:** Slightly irritating

**DERMAL $LD_{50}$:** > 2,000 mg/kg (rat)

**ORAL $LD_{50}$:** 2,084 mg/kg (rat)

**INHALATION $LC_{50}$:** > 2.72 mg/l (4 h) (rat) Maximum attainable concentration - zero mortality

**ACUTE EFFECTS FROM OVEREXPOSURE:** This product has low oral, dermal and inhalation toxicity. It is slightly irritating to the skin and non-irritating to the eyes. Signs of toxicity in laboratory animals included clonic convulsions, tremors, recumbency, splayed limbs and decreased locomotion. In humans, ingestion of large amounts of propylene glycol has resulted in symptoms of reversible central nervous system depression including stupor, rapid breathing and heartbeat, profuse sweating and seizures. Effects observed in laboratory animals after acute inhalation of toluene included mucous membrane irritation, motor incoordination, prostration, changes in respiratory rate, changes in serum and blood enzyme activities, elevated blood glucose and packed cell volume, decreased body weight and death. Vomiting after ingestion of this product may cause aspiration of toluene into the lungs, which may result in fatal pulmonary edema.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** No data available for the formulation. Sulfentrazone was not carcinogenic in lifetime feeding studies with laboratory animals, nor was it found to be mutagenic in a battery of tests. In a reproduction study, sulfentrazone produced adverse effects on the growth and survival of the offspring, decreased male fertility and oligospermia at 25 mg/kg/day, and 35 mg/kg/day. Sulfentrazone was found to be fetotoxic in oral and dermal developmental toxicity studies; the fetal NOELS were 10 mg/kg/day and 100 mg/kg/day, respectively. At labeled use rates and practices of mixing and applying, expected exposure to farm workers is at least one hundred times lower than the doses that produced effects in laboratory animals. At labeled use rates and practices of mixing and applying, expected exposure to farm workers is at least one hundred times lower than the doses that produced effects in laboratory animals. Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal kidney damage. Chronic exposure to toluene may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage. Inhalation of toluene vapors at high doses have also resulted in an increased incidence of malformations and decreased fetal weight in laboratory animals.

### CARCINOGENICITY:

| | |
|---|---|
| **NTP:** | Not listed |
| **IARC:** | Not listed |
| **OSHA:** | Not listed |
| **OTHER:** | Not Listed (ACGIH) |

# 12. ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are based on the active ingredient.

**ENVIRONMENTAL DATA:** Sulfentrazone is stable in soil (half-life = 18 months). In water, sulfentrazone is stable to hydrolysis over the pH range of 5 to 9, however, it will readily undergo photolysis (half-life < 0.5 day). Sulfentrazone has a low affinity for organic matter (Koc = 43), but is mobile only in soils with high sand content. The potential for sulfentrazone to bioaccumulate is very low, having a Log Pow of 1.48, and a bioconcentration factor of 1.1 - 2.0.

**ECOTOXICOLOGICAL INFORMATION:** Sulfentrazone is slightly toxic to fish and aquatic arthropods, with $LC_{50}$ values ranging from 60.4 mg/L to > 130 mg/L. Sulfentrazone has a very low order of toxicity to waterfowl (dietary $LC_{50}$ > 5620 ppm) and upland game birds (oral $LD_{50}$ > 2,250 mg/kg).

# 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

**EMPTY CONTAINER:** Non-returnable containers that held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

# 14. TRANSPORT INFORMATION

### U.S. DEPARTMENT OF TRANSPORTATION (DOT)

**PACKAGING TYPE:** Non-Bulk

| | |
|---|---|
| **ADDITIONAL INFORMATION:** | This material is not a hazardous material as defined by US Department of Transportation at 49 CFR Parts 100 through 185. |
| **PACKAGING TYPE:** | Bulk |
| **PROPER SHIPPING NAME:** | Environmentally hazardous substance, liquid, n.o.s. |
| **TECHNICAL NAME(S):** | Toluene |
| **PRIMARY HAZARD CLASS / DIVISION:** | 9 |
| **UN/NA NUMBER:** | UN 3082 |
| **PACKING GROUP:** | III |
| **LABEL(S):** | 9 |
| **PLACARD(S):** | 9 |
| **MARKING(S):** | UN 3082 |
| **REPORTABLE QUANTITY (RQ):** | Toluene |
| **ADDITIONAL INFORMATION:** | Toluene is in an "RQ" quantity when this material meets or exceeds 33,333 pounds (3313 gallons) per bulk package. |

## INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

| | |
|---|---|
| **PACKAGING TYPE:** | Non-Bulk |
| **ADDITIONAL INFORMATION:** | This material is not a dangerous good as defined by the International Maritime Dangerous Goods Code. |

## ADR - EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD

| | |
|---|---|
| **PACKAGING TYPE:** | Non-Bulk |
| **ADDITIONAL INFORMATION:** | This product meets none of the criteria for a dangerous good and is, therefore, not a dangerous good. |

## INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

**PACKAGING TYPE:** Non-Bulk

**ADDITIONAL INFORMATION:** This material is not a dangerous good as defined in ICAO and the International Air Transport Association (IATA) Dangerous Goods Regulations.

## OTHER INFORMATION:

HARMONIZED SYSTEM
Import to the U.S.A.: 3808.93.1500
Export from the U.S.A.: 3808.30.000

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# 15. REGULATORY INFORMATION

## UNITED STATES

### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):**
Not listed

**SECTION 311 HAZARD CATEGORIES (40 CFR 370):**
Immediate, Delayed

**SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):**
The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:
None

**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):**
This product contains the following ingredients subject to Section 313 reporting requirements:
Toluene

### CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

**CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):**
Listed

| Chemical Name | RQ |
|---|---|
| Toluene | 1,000 lb |

## INTERNATIONAL LISTINGS

Australian Hazard Code: 3Z

## HAZARD, RISK AND SAFETY PHRASE DESCRIPTIONS:

Toluene, (Index #601-021-00-3):

| | | |
|---|---|---|
| EC Symbols: | F | (Highly Flammable) |
| | Xi | (Irritant) |
| | Xn | (Harmful) |
| EC Risk Phrases: | R11 | (Highly flammable) |
| | R38 | (Irritating to skin) |
| | R48/20 | (Harmful: danger of serious damage to health by prolonged exposure through inhalation) |
| | R63 | (Possible risk of harm to the unborn child) |
| | R65 | (Harmful: may cause lung damage if swallowed.) |
| | R67 | (Vapors may cause drowsiness and dizziness.) |
| EC Safety Phrases: | S2 | (Keep out of the reach of children.) |
| | S36/37 | (Wear suitable protective clothing and gloves.) |
| | S46 | (If swallowed, seek medical advice immediately and show this container or label.) |
| | S62 | (If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.) |

# 16. OTHER INFORMATION

**NFPA**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Reactivity | 0 |
| Special | None |

No special requirements

NFPA = National Fire Protection Association

Degree of Hazard Code:
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

**REVISION SUMMARY:**
This MSDS replaces Revision #1, dated January 20, 2005.

Changes in information are as follows:
Section 1 (Product and Company Identification)
Section 8 (Exposure Controls / Personal Protection)
Section 14 (Transport Information)
Section 15 (Regulatory Information)
Section 16 (Other Information)

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