

MATERIAL SAFETY DATA SHEET

SULFENTRAZONE SODIUM SALT IN WATER



MSDS Ref. No.: F18-17-7
Date Approved: 11/24/2004
Revision No.: 3

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

PRODUCT NAME: SULFENTRAZONE SODIUM SALT IN WATER
PRODUCT CODE: Not applicable
ACTIVE INGREDIENT(S): Sulfentrazone, sodium salt
CHEMICAL FAMILY: Aryl Triazolinones
MOLECULAR FORMULA: $C_{11}H_9Cl_2F_2N_4O_3SNa$
SYNONYMS: F7580; Methanesulfonamide, N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]-, sodium salt; IUPAC: N-[2,4-dichloro-5)4-difluoromethyl-3-methyl-5-oxo-4,5-dihydro-[1,2,4]triazol-1-yl)phenyl]methane sulfonamide, sodium salt

ALTERNATE PRODUCT NAME(S): Step 7 Sodium Salt

MANUFACTURER

FMC CORPORATION
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103
(215) 299 6000 (General Information)

EMERGENCY TELEPHONE NUMBERS

(800) 424-9300 (CHEMTREC - U.S.A. & Canada)
(703) 527-3887 (CHEMTREC - All Other Countries)
(800) 331-3148 (FMC - U.S.A. & Canada)
(716) 735-3765 (FMC - Reverse charges)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- Light-tan aqueous mixture with a slight musty 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 coming into contact with the skin and eyes. Symptoms of overexposure include convulsions, decreased locomotion, tearing, increased sensitivity to touch, bloody discharge from the nose and incoordination.

MEDICAL CONDITIONS AGGRAVATED: None presently known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt. %	EC No.	EC Class
Sulfentrazone, sodium salt	263910-51-6	10 - 30	None	None

4. FIRST AID MEASURES

EYES: Flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.

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

INGESTION: Drink plenty of water. Never give anything by mouth to an unconscious person. If any discomfort persists, obtain medical attention.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

NOTES TO MEDICAL DOCTOR: This product is expected to have low oral, dermal and inhalation toxicity, and to be mildly irritating to the skin and eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam, CO₂ 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: This solution, in contact with an acidic material, will cause sulfentrazone technical to precipitate out.

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. 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. Do not contaminate other materials, or allow this material to be contaminated, by improper storage or handling.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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, spray or mist exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator with dust/mist/fume cartridges (approved by 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 or laminate 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 such as Silvershield® brand 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 or using tobacco. Shower at the end of the workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR:	Slightly musty
APPEARANCE:	Light-tan aqueous mixture
BOILING POINT:	100°C (212°F) (water)
DENSITY / WEIGHT PER VOLUME:	8.5 lb/gal.
FLASH POINT:	> 100 °C (> 212 °F)
MOLECULAR WEIGHT:	409
pH:	7 - 9

COMMENTS:

CRYSTALLIZATION POINT: 60°C for 25% concentration; 50°C for 20% concentration

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: Expected to be mildly irritating. No data available for the salt. sulfentrazone: Mildly irritating (rabbit)

SKIN EFFECTS: Expected to be non-irritating No data available for the salt.
sulfentrazone: Non-irritating (rabbit)

DERMAL LD₅₀: sulfentrazone: > 2,000 mg/kg (rabbit)

ORAL LD₅₀: sulfentrazone: 2,689 mg/kg (rat)

INHALATION LC₅₀: sulfentrazone: > 4.13 mg/l (4 h) Maximum attainable concentration - zero mortality

SENSITIZATION: No data available for the salt.
sulfentrazone: Non-sensitizing (guinea pig) Skin

ACUTE EFFECTS FROM OVEREXPOSURE: This product is expected to have low oral, dermal and inhalation toxicity, and to be mildly irritating to the eyes and non-irritating to the skin. Signs of toxicity in laboratory animals included clonic convulsions, ataxia, hypersensitivity to touch, chromorhinorrhea, abdominogenital staining, decreased locomotion, lacrimation, nasal discharge and squinting eyes.

CHRONIC EFFECTS FROM OVEREXPOSURE: This product was not mutagenic in the Ames mutagenicity assay. 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.

CARCINOGENICITY:

NTP:	Not listed
IARC:	Not listed
OSHA:	Not listed
OTHER:	Not Listed (ACGIH)

12. ECOLOGICAL INFORMATION

No data available for the formulation. Data presented below are based on sulfentrazone technical.

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 (K_{oc} = 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 LC₅₀ values ranging from 60.4 mg/L to > 130 mg/L. Sulfentrazone has a very low order of toxicity to upland game birds (oral LD₅₀ > 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 recovered and reused, an acceptable method of disposal is to incinerate in accordance with local, state and national laws 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: 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
ADDITIONAL INFORMATION:	This material is not a hazardous material as defined by US Department of Transportation at 49 CFR Parts 100 through 185.

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 material is not a dangerous good as defined by ADR.

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 Dangerous Goods Regulations.

OTHER INFORMATION:

BULK FREIGHT CLASS: Herbicide Intermediate.

Material is not regulated - it is not subject to the Hazardous Materials Regulations.

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):

There are no ingredients in this product, which are subject to Section 313 reporting requirements.

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

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

Not listed

FEDERAL INSECTICIDE FUNGICIDE RODENTICIDE ACT

U.S. EPA Signal Word: CAUTION

INTERNATIONAL LISTINGS

Australian Hazard Code: 3XE

16. OTHER INFORMATION

REVISION SUMMARY:

This MSDS replaces Revision #2, dated August 08, 2000.

Changes in information are as follows:

New Format, as well as:

Section 11 (Toxicological Information)

Section 14 (Transport Information)

Section 16 (Other Information)

FMC Logo - FMC Corporation Trademark

Silvershield - North Hand Protection Trademark;

© 2004 FMC Corporation. All Rights Reserved.

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable where such product is used in combination with any other materials or in any process. It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.