

MATERIAL SAFETY DATA SHEET

Authority ® XL



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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 information contained herein is for the concentrate as packaged, unless otherwise noted.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Authority ® XL

PRODUCT CODE: 6541

ACTIVE INGREDIENT(S): Sulfentrazone*; Chlorimuron ethyl**

CHEMICAL FAMILY: *Aryl Triazolinone; **Sulfonylurea

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*;
ethyl 2-[[[(4-chloro-6-methoxypyrimidin-2-yl)amino]carbonyl]amino]-sulfonyl]benzoate**

ALTERNATE PRODUCT NAME(S): F9016

GENERAL USE: Herbicide

*Information for Sulfentrazone; **Information for Chlorimuron ethyl

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:

- Solid
- Slightly combustible. May support combustion at elevated temperatures. Finely dispersed particles can form explosive mixtures in air.
- For large exposures or fire, wear personal protective equipment.
- Highly toxic to algae.
- Slightly toxic to fish and aquatic organisms. Keep out of drains and water courses.
- May cause eye and skin irritation.

POTENTIAL HEALTH EFFECTS: Effects from overexposure result from either swallowing or coming into contact with the skin or eyes. Symptoms of overexposure include tremors, loss of motor control and greater sensitivity to sound. Contact with this product may produce skin sensations such as numbing, burning and tingling. These skin sensations are reversible and usually subside within 12 hours. May cause eye and skin irritation.

MEDICAL CONDITIONS AGGRAVATED: None presently known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Sulfentrazone	122836-35-5	62.22	None	Not classified in Annex I
Chlorimuron ethyl	90982-32-4	7.78	None	Not classified
Surfactant Blend		<20	None	Not classified

4. FIRST AID MEASURES

EYES: Flush with large quantities of water for at least 15 minutes, lifting the upper and lower eyelids intermittently. If wearing contact lenses, remove after the first five minutes and continue flushing with water. If irritation occurs and persists, get medical attention.

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

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 a poison control center or doctor. Do not give anything to an unconscious person.

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 eyes and skin. It is non-sensitizing to the skin. This product contains a granular material (clay) that may cause mechanical irritation to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam, CO₂, dry chemical or water spray. Contain all runoff.

FIRE / EXPLOSION HAZARDS: Not a fire or explosion hazard. Like most organic powders or crystals under severe dusting conditions, this material may form explosive mixtures in air.

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. Large spills should be covered to prevent dispersal. For dry material, use a wet sweeping compound or water to prevent the formation of dust. If water is used, prevent runoff or dispersion of excess liquid by diking and absorbing with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump all waste material, including absorbent, 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

ENGINEERING CONTROLS: No open flames. Prevent deposition of dust; use closed system, consider use of dust explosion-proof electrical equipment and lighting. Use local exhaust at all process locations where dust may be emitted. Ventilate all transport vehicles prior to unloading.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For dust exposure, wear chemical protective goggles or a face shield.

RESPIRATORY: For dust 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR:	Not available
APPEARANCE:	Solid
DENSITY / WEIGHT PER VOLUME:	(Bulk) 33 - 36 lbs/cu ft.
MOLECULAR WEIGHT:	387.19 (sulfentrazone) 414.82 (chlorimuron ethyl)
pH:	7.3 (1% solution)
SOLUBILITY IN WATER:	Not available

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: Slightly irritating

SKIN EFFECTS: Slightly irritating

DERMAL LD₅₀: > 5,000 mg/kg (rat)

ORAL LD₅₀: 1,750 mg/kg (rat)

INHALATION LC₅₀: > 2.07 mg/l (4 h) (rat)

SENSITIZATION: Not a sensitizer (guinea pig)

ACUTE EFFECTS FROM OVEREXPOSURE: This product has low oral, dermal and inhalation toxicity. It is slightly irritating to the eyes and skin. Signs of toxicity in laboratory animals included piloerection, spasm, convulsions, hunched posture, ataxia, stained perineum.

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. Chlorimuron ethyl was not oncogenic in a 2-year feeding study in rats; the NOEL was 250 ppm based on transient anemia. Chlorimuron ethyl was found to be non-mutagenic in a battery of tests. In a rat reproduction study, chlorimuron ethyl did not affect reproduction and lactation performance; the maternal and fetal NOELs were 250 ppm based on reduced maternal and fetal body weights. Chlorimuron ethyl was weakly teratogenic in rats and non-teratogenic in rabbits.

CARCINOGENICITY:

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

12. ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are for the active ingredients.

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. Chlorimuron ethyl is stable in soil (half-life 7.5 weeks). It has an octanol/water partition coefficient (K_{ow}) of 1.3 and, therefore, has little potential to accumulate in fish.

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). Sulfentrazone:

Algae: 120 Hour $EC_{50} = 31\mu\text{g/L}$ (Selenastrum)

Algae: 120 Hour $EC_{50} = 33\mu\text{g/L}$ (Anabaena - Bluegreen Algae)

Chlorimuron ethyl is practically non-toxic to fish with LC_{50} values ranging from > 100 mg/L (bluegill) to > 1000 mg/L (rainbow trout). It is practically non-toxic to waterfowl (dietary $LC_{50} > 5620$ ppm) and upland game birds (oral $LD_{50} > 2510$ 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: Completely empty package into application equipment. Then dispose of empty package in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PACKAGING TYPE:

Non-Bulk

PROPER SHIPPING NAME:

Not regulated as a hazardous material

OTHER INFORMATION:

HARMONIZED SYSTEM

Import to the U.S.A.: 3808.93.1500

Export from the U.S.A.: 3808.93.0000

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:
Chlorimuron ethyl

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

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

Not listed

Not listed

16. OTHER INFORMATION

NFPA

Health	2
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 June 3, 2010.

Changes in information are as follows:

Section 1 (Product and Company Identification)

Section 16 (Other Information)

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