

SAFETY DATA SHEET
AUTHORITY EDGE

SDS # : FO004308-A
Revision date: 2019-06-05
Format: NA
Version 1



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name AUTHORITY EDGE

Other means of identification

Product Code(s) FO004308-A

Legacy Product Code IN-VHP58-002; F9314-6

Synonyms SULFENTRAZONE (FMC 97285):
2',4'-dichloro-5'-(4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl)
methanesulfonamide (IUPAC name);
N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-
1,2,4-triazol-1-yl]phenyl] methanesulfonamide (CAS name),

, PYROXASULFONE:
3-[[[5-(difluoromethoxy)-1-methyl-3-(trifluoromethyl)-1H-pyrazol-4-yl]methyl]sulfonyl]-4,5-dihydro-5,5-dimethylisoxazole (CAS);
3-[5-(difluoromethoxy)-1-methyl-3-(trifluoromethyl)pyrazol-4-ylmethylsulfonyl]-4,5-dihydro-5,5-dimethyl-1,2-oxazole (IUPAC)

Active Ingredient(s) Sulfentrazone, Pyroxasulfone

Chemical Family Triazolinones, Imine chemicals

Recommended use of the chemical and restrictions on use

Recommended Use: Herbicide

Restrictions on Use: Use as recommended by the label.

Supplier Address

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

Emergency telephone number

Medical Emergencies :
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)

2. HAZARDS IDENTIFICATION

Classification


OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

<p>Warning</p> <p>Hazard Statements H302 - Harmful if swallowed H332 - Harmful if inhaled H373 - May cause damage to organs through prolonged or repeated exposure</p> 
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Precautionary Statements - Prevention

- P260 - Do not breathe dust/fume/gas/mist/vapors/spray
- P264 - Wash face, hands and any exposed skin thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P271 - Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

- P314 - Get medical advice/ attention if you feel unwell

- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P310 - Immediately call a POISON CENTER or doctor
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
- P330 - Rinse mouth
- P391 - Collect spillage

Precautionary Statements - Storage

- P405 - Store locked up
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

- P501 - Dispose of contents/container according to label directions

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Harmful to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Triazolinones, Imine chemicals.

Chemical name	CAS-No	Weight %
Sulfentrazone	122836-35-5	29.2
Pyroxasulfone	447399-55-5	14.9
Propylene glycol	57-55-6	5-10
Sodium diisopropylnaphthalenesulfonate	1322-93-6	1-5
Toluene	108-88-3	1-5

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin Contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
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 by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	None known.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically. Immediate medical attention is required in cases of ingestion. It may be helpful to show this safety data sheet to physician.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Small Fire	Dry chemical, Carbon dioxide (CO ₂).
Large Fire	Water spray, Foam.
Specific Hazards Arising from the Chemical	The essential breakdown products are volatile, malodorous, toxic, irritant and inflammable compounds such as hydrogen chloride, hydrogen fluoride, nitrogen oxides, sulphur dioxide, carbon monoxide, carbon dioxide and various chlorinated and fluorinated organic compounds.
Explosion data	
Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus and full protective gear. Isolate fire area. Evaluate upwind. Water mist may be used to cool closed containers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
Other	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1

"Product and Company Identification" above.

Environmental Precautions

Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains. Keep out of waterways.

Methods for Containment

Dike to prevent runoff. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up

Clean and neutralize spill area, tools and equipment by washing with water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of in accordance with all applicable national environmental laws and regulations. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling

Handle in accordance with good industrial hygiene and safety practice. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep in a dry, cool and well-ventilated place. Keep out of reach of children and animals. Keep/store only in original container.

Incompatible products

None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Toluene (108-88-3)	TWA: 20 ppm	TWA: 200 ppm Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³	Mexico: TWA 20 ppm
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Propylene glycol (57-55-6)	-	-	TWA: 10 mg/m ³ aerosol only TWA: 50 ppm aerosol and vapor TWA: 155 mg/m ³ aerosol and vapor	-
Toluene (108-88-3)	TWA: 20 ppm	TWA: 50 ppm TWA: 188 mg/m ³ Skin	TWA: 20 ppm	TWA: 50 ppm TWA: 188 mg/m ³ Skin

Appropriate engineering controls

Engineering measures

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

For dust, splash, mist or spray exposure, wear chemical protective goggles.

Skin and Body Protection	Wear long-sleeved shirt, long pants, socks, and shoes.
Hand Protection	Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.
Respiratory Protection	For dust, splash, mist or spray exposures, wear a filtering mask.
Hygiene measures	Clean water should be available for washing in case of eye or skin contamination. Remove and wash contaminated clothing before re-use. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Launder work clothing separately from regular household laundry.
General information	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid
Physical State	Liquid
Color	Creamy white
Odor	Neutral
Odor threshold	No information available
pH	5.29 at 24.9°C, determined as a 1.28% w/w solution in water
Melting point/freezing point	No information available
Boiling Point/Range	No information available
Flash point	77-79 °C / 170.6-174.2 °F
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Relative density	10.2285 lb/gal (1.2256 g/mL) at an average temperature of 20.1°C
Specific gravity	No information available
Water solubility	Miscible with water Dispersible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	Avg. 45.9 centistokes at 25.2°C & avg. 42.1 centistokes at 45.3°C
Viscosity, dynamic	No information available
Explosive properties	Not explosive
Oxidizing properties	Based on known chemistry, neither the active ingredients nor the inert ingredients are considered to be either strong oxidizing or reducing agents
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	To our knowledge, the product has no special reactivities.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heating of the product will produce harmful and irritant vapors.
Incompatible materials	None known.
Hazardous Decomposition Products	See Section 5 for more information.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral 1098 mg/kg (rat)

LD50 Dermal The EPA Office of Pesticide Programs (OPP) recently issued a Guidance for waiving acute dermal toxicity tests for pesticide formulations. This Guidance is based on a retrospective analysis showing that for 95% of the formulations in the analysis, the dermal toxicity study was similar or less sensitive than the oral study and concluded that “the dermal acute toxicity study for formulations provides little to no added value in regulatory decision making”. On this basis, FMC was granted a waiver for an acute dermal toxicity study for this formulation.

LC50 Inhalation > 1.15 mg/L 4 hr (rat)

Serious eye damage/eye irritation Mildly irritating (rabbit).
Skin corrosion/irritation Moderately irritating (rabbit).
Sensitization Non-sensitizing (mice-LLNA).

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Propylene glycol (57-55-6)	20000 mg/kg (Rat)	20800 mg/kg (Rabbit)	
Sodium diisopropyl naphthalenesulfonate (1322-93-6)	= 1350 mg/kg (Rat)	= 4200 mg/kg (Rabbit)	
Toluene (108-88-3)	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity Sulfentrazone Prolonged exposure cause decreased hemoglobin content and hematocrit, and increased spleen weight and splenic extramedullary hematopoiesis at high doses in animal studies
 Pyroxasulfone: Effects are expected to be similar to those that are seen with acute toxicity.

Mutagenicity Sulfentrazone, Pyroxasulfone
 Not genotoxic in animal studies

Carcinogenicity Sulfentrazone No evidence of carcinogenicity from animal studies
 Pyroxasulfone: Increased incidence of urinary bladder transitional papillomas was reported in male rat in two-year carcinogenicity study. Limited evidence of carcinogenic effects.

Neurological effects Sulfentrazone: Clinical signs of neurotoxicity in laboratory animals was observed at high dose levels
 Pyroxasulfone Not neurotoxic.

Reproductive toxicity Sulfentrazone. No toxicity to reproduction in animal studies.
 Pyroxasulfone: Any signs of effect to fertility or embryo were not observed in rat one-generation and two generation reproductive studies at the dosage of which general toxicity to parental animals was observed. However, developmental toxicity was observed in offspring in a rat. May cause harm to the unborn child.

Developmental toxicity Sulfentrazone: Fetal weight decreased; delayed skeletal ossification observed at maternally

non-toxic doses are reversible effects and a dose-response is established; malformations observed in fetuses at maternally toxic doses and consistent with the mode of action for protoporphyrongen oxidase inhibitors.

Pyroxasulfone. Developmental toxicity was observed in rat offspring. May cause harm to unborn child. Not teratogenic in animal studies.

STOT - single exposure
STOT - repeated exposure
Target organ effects

Not classified.
 Not classified.
 Pyroxasulfone: Liver, kidney, bladder, cardiovascular system
 Sulfentrazone Hematopoietic system

Neurological effects

Sulfentrazone: Clinical signs of neurotoxicity in laboratory animals was observed at high dose levels

Pyroxasulfone Not neurotoxic.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Sulfentrazone (122836-35-5)				
Active Ingredient(s)	Duration	Species	Value	Units
Sulfentrazone	72 h EC50	Algae	32.8	mg/L
	48 h EC50	Crustacea	60.4	mg/L
	96 h LC50	Fish	94	mg/L
	21 d NOEC	Fish	5.9	mg/L
	21 d NOEC	Crustacea	0.51	mg/L

Pyroxasulfone (447399-55-5)				
Active Ingredient(s)	Duration	Species	Value	Units
Pyroxasulfone	96 h LC50	Rainbow trout	>2.2	mg/L
	96 h LC50	Bluegill sunfish	>2.8	mg/L
	48 h EC50	Daphnia magna	>4.4	mg/L
	96 h LC50	Algae	0.00079	mg/L

Persistence and degradability

Sulfentrazone: Persistent, Does not readily hydrolyze, Not readily biodegradable.
 Pyroxasulfone: Moderately persistent.

Bioaccumulation

Sulfentrazone, Pyroxasulfone: The substance has a low potential to bioaccumulate in the environment.

Mobility

Sulfentrazone, Pyroxasulfone: Mobile, Has potential to reach ground water.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

Contaminated containers and packages

Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions. Do not reuse or refill this container.

14. TRANSPORT INFORMATION

DOT This material is not a hazardous material as defined by U.S. Department of Transportation 49 CFR Parts 100 through 185, unless shipped in bulk packaging. The classification below pertains to the shipment in bulk packaging (>119 gal/882 lb).

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Marine Pollutant Sulfentrazone, Pyroxasulfone.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (sulfentrazone, pyroxasulfone), 9, III, Marine Pollutant

TDG Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Marine Pollutant Sulfentrazone, Pyroxasulfone.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (sulfentrazone, pyroxasulfone), 9, III, Marine Pollutant

ICAO/IATA

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (sulfentrazone, pyroxasulfone), 9, III, Marine Pollutant

IMDG/IMO

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (sulfentrazone, pyroxasulfone), 9, III, Marine Pollutant

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Toluene - 108-88-3	108-88-3	1-5	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic health hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

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Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X
Ammonium hydroxide 1336-21-6	1000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Toluene 108-88-3	1000 lb 454 kg	
Ammonium hydroxide 1336-21-6	1000 lb 454 kg	

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Harmful if swallowed, inhaled or absorbed through skin.

This product is toxic to aquatic invertebrates. This product is highly toxic to algae and toxic to fish and aquatic organisms.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Prop. 65
Toluene - 108-88-3	Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Propylene glycol 57-55-6	X		X
Toluene 108-88-3	X	X	X

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Propylene glycol 57-55-6	X	X	X	X	X	X	X	X
Sodium diisopropyl naphthalenesulfonate 1322-93-6	X	X	X	X	X	X	X	X

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Toluene 108-88-3	X	X	X	X	X	X	X	X
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Mexico - Grade Serious risk, Grade 3

Chemical name	Carcinogen Status	Mexico
Toluene		Mexico: TWA 20 ppm

Chemical name	Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use -Threshold Quantities	Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities
Toluene	1000 5000 kg/yr	1000 kg/yr

CANADA

WHMIS Statement

This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

WHMIS Hazard Class D2B - Toxic materials



16. OTHER INFORMATION

NFPA	Health Hazards 2	Flammability 1	Instability 0	Special Hazards -
HMIS	Health Hazards 2*	Flammability 1	Physical hazard 0	Personal Protection X

*Indicates a chronic health hazard.

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2019-06-05
Reason for revision: Initial Release

Disclaimer

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Prepared By:

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End of Safety Data Sheet