

SAFETY DATA SHEET
Spartan® Elite Herbicide

SDS # : 7479-2-A
Revision date: 2016-05-26
Format: NA
Version 1.02



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Spartan® Elite Herbicide

Other means of identification

Product Code(s) 7479-2-A

Synonyms SULFENTRAZONE (FMC 97285):
2',4'-dichloro-5'-(4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl)
methanesulfonanilide (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)

s-METOLACHLOR: Acetamide,
2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)-,(S)

Active Ingredient(s) s-Metolachlor, Sulfentrazone

Chemical Family Chloroacetanilide herbicide; Triazolinones

Alternate Commercial Name F7583-3 Herbicide

Recommended use of the chemical and restrictions on use

Recommended Use: Herbicide

Restrictions on Use: Use as recommended by the label

Manufacturer Address

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

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION


Classification

OSHA Regulatory Status

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

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1B
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label elements, including precautionary statements**EMERGENCY OVERVIEW**

<p>Warning</p> <p>Hazard Statements H317 - May cause an allergic skin reaction H320 - Causes eye irritation H332 - Harmful if inhaled H351 - Suspected of causing cancer H373 - May cause damage to organs through prolonged or repeated exposure</p> 
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Precautionary Statements - Prevention

- P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P271 - Use only outdoors or in a well-ventilated area
P264 - Wash face, hands and any exposed skin thoroughly after handling
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves
P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

- P308 + P313 - If exposed or concerned: Get medical advice/attention
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

Precautionary Statements - Storage

- P405 - Store locked up

Precautionary Statements - Disposal

- P501 - Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Very toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Chloroacetanilide herbicide; Triazolinones.

Chemical name	CAS-No	Weight %
s-Metolachlor	87392-12-9	67.3
Sulfentrazone	122836-35-5	7.5
Naphtha (petroleum), heavy aromatic	64742-94-5	<10
2-Methylnaphthalene	91-57-6	<3
N,N-Dimethylcaprylamide	1118-92-9	1-5
Decanamide, N,N-dimethyl-	14433-76-2	1-5
1-Methylnaphthalene	90-12-0	<2
1-hexanol	111-27-3	1-5
Naphthalene	91-20-3	0.1-1

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 (within the U.S. and Canada) 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. Never give anything by mouth to an unconscious person. 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 induce vomiting or 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.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Carbon dioxide (CO ₂). Foam. Dry powder. Water spray.
Specific Hazards Arising from the Chemical	None known Not flammable
Explosion data	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and protective suit.

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.
Methods for Containment	Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Methods for cleaning up	Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. 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.
Storage	Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Store in original container.
Incompatible products	None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
2-Methylnaphthalene (91-57-6)	TWA: 0.5 ppm	-	-	-
1-Methylnaphthalene (90-12-0)	TWA: 0.5 ppm	-	-	-
Naphthalene (91-20-3)	TWA: 10 ppm	TWA: 10 ppm TWA: 50 mg/m ³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³	Mexico: TWA 10 ppm Mexico: TWA 50 mg/m ³ Mexico: STEL 15 ppm Mexico: STEL 75 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
2-Methylnaphthalene (91-57-6)	TWA: 0.5 ppm Skin	-	TWA: 0.5 ppm Skin	-
1-Methylnaphthalene (90-12-0)	TWA: 0.5 ppm Skin	-	TWA: 0.5 ppm Skin	-
Naphthalene (91-20-3)	TWA: 10 ppm STEL: 15 ppm Skin	TWA: 10 ppm TWA: 52 mg/m ³ STEL: 15 ppm STEL: 79 mg/m ³	TWA: 10 ppm STEL: 15 ppm Skin	TWA: 10 ppm TWA: 52 mg/m ³ STEL: 15 ppm STEL: 79 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.
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Individual protection measures, such as personal protective equipment

Eye/Face Protection	For dust, splash, mist or spray exposure, wear chemical protective goggles.
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Skin and Body Protection	Wear long-sleeved shirt, long pants, socks, and shoes.
Hand Protection	Protective gloves
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. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. 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	Amber Liquid
Physical State	Liquid
Color	Amber
Odor	Mild
Odor threshold	No information available
pH	4.78
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	94-98 °C
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
Density	9.24 lb/gal (1.11 g/mL) @ 23.1 degrees C
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
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	None known
Incompatible materials	None known.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	3129 mg/kg (rat)
LD50 Dermal	> 5000 mg/kg (rat)
LC50 Inhalation	> 2.02 mg/L (rat)
Serious eye damage/eye irritation	Moderately irritating.
Skin corrosion/irritation	Moderately irritating (rabbit).
Sensitization	May cause sensitization by skin contact

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.
Mutagenicity	Sulfentrazone: Not genotoxic in laboratory studies.
Carcinogenicity	s-Metolachlor produced benign liver tumors in female rats administered high doses. Sulfentrazone: Did not show carcinogenic effects in animal experiments. There was no evidence of carcinogenic activity of naphthalene in male mice, but there was some evidence of carcinogenic activity in female mice and clear evidence of carcinogenic activity in male and female rats in 2-year inhalation studies conducted by the National Toxicology Program (NTP).
Neurological effects	Sulfentrazone: Clinical signs of neurotoxicity in laboratory animals was observed at high dose levels
Reproductive toxicity	s-Metolachlor, Sulfentrazone: No toxicity to reproduction in animal studies.
Developmental toxicity	s-Metolachlor: Not teratogenic in animal studies. 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 protoporphyrinogen oxidase inhibitors.
STOT - single exposure	Not classified.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects	s-Metolachlor: Liver. Sulfentrazone: Hematopoietic system.
Neurological effects	Sulfentrazone: Clinical signs of neurotoxicity in laboratory animals was observed at high dose levels
Aspiration hazard	No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Naphthalene 91-20-3	A3	Group 2B	Reasonably Anticipated	X

12. ECOLOGICAL INFORMATION**Ecotoxicity**

s-Metolachlor (87392-12-9)				
Active Ingredient(s)	Duration	Species	Value	Units
s-Metolachlor	96 h LC50	Rainbow trout	11.9	mg/L
	5 d EC50	Algae	0.008	mg/L
	48 h EC50	Water flea	26	mg/L
	LD50 Oral	Bobwhite quail	>2510	mg/kg

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

Persistence and degradability s-Metolachlor: Persistent. Does not readily hydrolyze. Sulfentrazone: Persistent. Does not readily hydrolyze. Not readily biodegradable.

Bioaccumulation s-Metolachlor: Low potential for bioconcentration. Sulfentrazone: The substance does not have a potential for bioconcentration.

Mobility Sulfentrazone: Immobile. Not expected to reach groundwater.

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.

Contaminated Packaging Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

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 s-Metolachlor, Sulfentrazone.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (s-Metolachlor, Sulfentrazone), 9, PGIII, 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. (s-Metolachlor, Sulfentrazone), 9, PGIII, Marine Pollutant

IMDG/IMO

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Marine Pollutant s-Metolachlor, Sulfentrazone
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (s-Metolachlor, Sulfentrazone), 9, PGIII, 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
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			Values %
Naphthalene - 91-20-3	91-20-3	0.1-1	0.1

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

Clean Water Act

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X
Naphthalene 91-20-3	100 lb	X	X	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	
Cumene 98-82-8	5000 lb 2270 kg	
Naphthalene 91-20-3	100 lb 45.4 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:

*Difference between SDS and EPA pesticide label
 CAUTION
 Harmful if swallowed. Causes moderate eye irritation
 This pesticide is toxic to fish and marine/estuarine invertebrates.*

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Prop. 65
Naphthalene - 91-20-3	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2-Methylnaphthalene 91-57-6	X		
1-Methylnaphthalene 90-12-0	X	X	X
1-hexanol 111-27-3	X		X

Naphthalene 91-20-3	X	X	X
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International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Naphtha (petroleum), heavy aromatic 64742-94-5	X	X	X	X	X	X	X	X
2-Methylnaphthalene 91-57-6	X	X	X	X	X		X	X
N,N-Dimethylcaprylamid e 1118-92-9	X	X	X	X	X			X
Decanamide, N,N-dimethyl- 14433-76-2	X	X	X	X	X	X		X
1-Methylnaphthalene 90-12-0	X	X	X	X	X		X	X
1-hexanol 111-27-3	X	X	X	X	X	X	X	X
Naphthalene 91-20-3	X	X	X	X	X	X	X	X

Mexico - Grade

Slight risk, Grade 1

Chemical name	Carcinogen Status	Mexico
Naphthalene		Mexico: TWA 10 ppm Mexico: TWA 50 mg/m ³ Mexico: STEL 15 ppm Mexico: STEL 75 mg/m ³

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
Cumene	1000 5000 kg/yr	1000 kg/yr

WHMIS Hazard ClassD2A - Very toxic materials
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.

Revision date:

2016-05-26

Reason for revision:

Initial Release

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FMC Corporation

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End of Safety Data Sheet