

**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><b>Warning</b></p> <p><b>Hazard Statements</b>  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

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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.
<b>Inhalation</b>	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.
<b>Ingestion</b>	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.
<b>Most important symptoms and effects, both acute and delayed</b>	None known.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

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

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	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.
<b>Other</b>	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1

"Product and Company Identification" above.

<b>Environmental Precautions</b>	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
<b>Methods for Containment</b>	Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
<b>Methods for cleaning up</b>	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

<b>Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
<b>Storage</b>	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.
<b>Incompatible products</b>	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 <sup>3</sup>	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m <sup>3</sup> STEL: 15 ppm STEL: 75 mg/m <sup>3</sup>	Mexico: TWA 10 ppm Mexico: TWA 50 mg/m <sup>3</sup> Mexico: STEL 15 ppm Mexico: STEL 75 mg/m <sup>3</sup>
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 <sup>3</sup> STEL: 15 ppm STEL: 79 mg/m <sup>3</sup>	TWA: 10 ppm  STEL: 15 ppm Skin	TWA: 10 ppm TWA: 52 mg/m <sup>3</sup> STEL: 15 ppm STEL: 79 mg/m <sup>3</sup> Skin

### Appropriate engineering controls

<b>Engineering measures</b>	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

<b>Eye/Face Protection</b>	For dust, splash, mist or spray exposure, wear chemical protective goggles.
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<b>Skin and Body Protection</b>	Wear long-sleeved shirt, long pants, socks, and shoes.
<b>Hand Protection</b>	Protective gloves
<b>Respiratory Protection</b>	For dust, splash, mist or spray exposures wear a filtering mask.
<b>Hygiene measures</b>	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.
<b>General information</b>	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

<b>Appearance</b>	Amber Liquid
<b>Physical State</b>	Liquid
<b>Color</b>	Amber
<b>Odor</b>	Mild
<b>Odor threshold</b>	No information available
<b>pH</b>	4.78
<b>Melting point/freezing point</b>	Not applicable
<b>Boiling Point/Range</b>	No information available
<b>Flash point</b>	94-98 °C
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	
<b>Upper flammability limit:</b>	No information available
<b>Lower flammability limit:</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Density</b>	9.24 lb/gal (1.11 g/mL) @ 23.1 degrees C
<b>Specific gravity</b>	No information available
<b>Water solubility</b>	No information available
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Viscosity, kinematic</b>	No information available
<b>Viscosity, dynamic</b>	No information available
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular weight</b>	No information available
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Not applicable
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	None known
<b>Incompatible materials</b>	None known.
<b>Hazardous Decomposition Products</b>	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**

<b>Chronic toxicity</b>	Sulfentrazone: Prolonged exposure cause decreased hemoglobin content and hematocrit, and increased spleen weight and splenic extramedullary hematopoiesis at high doses in animal studies.
<b>Mutagenicity</b>	Sulfentrazone: Not genotoxic in laboratory studies.
<b>Carcinogenicity</b>	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).
<b>Neurological effects</b>	Sulfentrazone: Clinical signs of neurotoxicity in laboratory animals was observed at high dose levels
<b>Reproductive toxicity</b>	s-Metolachlor, Sulfentrazone: No toxicity to reproduction in animal studies.
<b>Developmental toxicity</b>	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.
<b>STOT - single exposure</b>	Not classified.
<b>STOT - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure. See listed target organs below.
<b>Target organ effects</b>	s-Metolachlor: Liver. Sulfentrazone: Hematopoietic system.
<b>Neurological effects</b>	Sulfentrazone: Clinical signs of neurotoxicity in laboratory animals was observed at high dose levels
<b>Aspiration hazard</b>	No information available.

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

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

<b>s-Metolachlor (87392-12-9)</b>				
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

<b>Sulfentrazone (122836-35-5)</b>				
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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**Spartan® Elite Herbicide**

SDS # : 7479-2-A  
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Naphthalene - 91-20-3	91-20-3	0.1-1	Values % 0.1
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**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 <sup>3</sup> Mexico: STEL 15 ppm Mexico: STEL 75 mg/m <sup>3</sup>

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 Class**D2A - 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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**End of Safety Data Sheet**