

SAFETY DATA SHEET
SOLSTICE HERBICIDE

SDS # : 7453-A
Revision date: 2015-04-28
Format: NA
Version 1.01



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name SOLSTICE HERBICIDE

Other means of identification

Product Code(s) 7453-A

Synonyms 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione; IUPAC name: methyl [2-chloro-4-fluoro-5-(5,6,7,8-tetrahydro-3-oxo-1H,3H-[1,3,4]thiadiazolo[3,4-a]pyridazin-1-ylideneamino)phenylthio]acetate; CAS name: methyl [[2-chloro-4-fluoro-5-[(tetrahydro-3-oxo-1H,3H-[1,3,4]thiadiazolo[3,4-a]pyridazin-1-ylidene)amino]phenyl]thio]acetate

Active Ingredient(s) Mesotrione, Fluthiacet-methyl

Chemical Family Benzoylcyclohexanedione, Thiadiazoles

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
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

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

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
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Danger

Hazard Statements

H332 - Harmful if inhaled

H351 - Suspected of causing cancer

H373 - May cause damage to organs through prolonged or repeated exposure



Precautionary Statements - Prevention

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P281 - Use personal protective equipment as required

P271 - Use only outdoors or in a well-ventilated area

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

P308 + P313 - IF exposed or concerned: Get medical advice/ attention

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. May be harmful in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Benzoylcyclohexanedione, Thiadiazoles.

Chemical name	CAS-No	Weight %
Fluthiacet-methyl	117337-19-6	2.2
Mesotrione	104206-82-8	38.52
Propylene glycol	57-55-6	1-10

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 person to fresh air. If person is not breathing, contact emergency medical services, 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.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Foam. Carbon dioxide (CO ₂). Dry chemical. Water spray or fog.
Specific Hazards Arising from the Chemical	Thermal decomposition can lead to release of irritating and toxic gases and vapors
<u>Explosion data</u> Sensitivity to Mechanical Impact Sensitivity to Static Discharge	Not sensitive. Not applicable.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus and full protective gear. Isolate fire area. Evacuate downwind.

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	Avoid breathing vapors or mists. 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. Keep/store only in original container.
Incompatible products	None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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)	-

Appropriate engineering controls

Engineering measures Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. 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, shoes, chemical-resistant gloves and headgear.

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. These recommendations apply to the product as supplied.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Off-white to beige, Liquid suspension
Physical State	Liquid
Color	Off-white to beige
Odor	Mild Organic
Odor threshold	No information available
pH	3.48 @ 23.5 °C
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	> 100 °C / > 212 °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
Density	1.19 g/mL @ 22.8 °C
Specific gravity	No information available
Water solubility	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	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	9.9 lb/gal @ 22.8 °C

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
Chemical Stability	Stable under normal conditions with greater than 10% water content. Upon storage low levels of hydrogen cyanide gas may develop in container headspace.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Do not allow evaporation to dryness. Heat, flames and sparks. Temperatures above 55°C.
Incompatible materials	None known.
Hazardous Decomposition Products	Carbon oxides (COx). Hydrogen cyanide.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	> 5000 mg/kg (rat)
LD50 Dermal	> 2000 mg/kg (rat)
LC50 Inhalation	> 2.09 mg/L (rat)

Serious eye damage/eye irritation	Non-irritating.
Skin corrosion/irritation	Non-irritating.
Sensitization	Non-sensitizing

Information on toxicological effects

Symptoms	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity	Effects are expected to be similar to those that are seen with acute toxicity. Prolonged exposure may cause chronic effects. Possible risks of irreversible effects.
Mutagenicity	Mesotrione, Fluthiacet-methyl: Not genotoxic in laboratory studies.
Carcinogenicity	Mesotrione: No evidence of carcinogenicity from animal studies. Fluthiacet-methyl caused increases in benign pancreatic tumors in male rats at the highest dose, along with pancreatic and liver toxicity. There was an increase in liver tumors at two highest doses in male mice, along with hepatotoxicity, that could both be secondary to liver toxicity. New data indicates that there is no human risk.
Neurological effects	Mesotrione, Fluthiacet-methyl: Not neurotoxic.
Reproductive toxicity	Mesotrione, Fluthiacet-methyl: No toxicity to reproduction in animal studies.
Developmental toxicity	Mesotrione: Not teratogenic in animal studies. Fluthiacet-methyl: A slight delay in fetal development in the rat, with no effects in the rabbit.
STOT - single exposure	No information available.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects	Liver, bone marrow, spleen, pancreas, lymphatic system, hematopoietic system, uterus and blood, Eyes.
Neurological effects	Mesotrione, Fluthiacet-methyl: Not neurotoxic.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Fluthiacet-methyl (117337-19-6)				
Active Ingredient(s)	Duration	Species	Value	Units
Fluthiacet-methyl	72 h LC50	Algae	0.00251	mg/L
	96 h LC50	Fish	0.043	mg/L
	48 h EC50	Crustacea	2.3	mg/L
	21 d NOEC	Fish	0.0027	mg/L
	21 d NOEC	Crustacea	0.035	mg/L

Mesotrione (104206-82-8)				
Active Ingredient(s)	Duration	Species	Value	Units
Mesotrione	96 h LC50	Rainbow trout	>114	ppm
	5 d EC50	Algae	1.9	ppm
	48 h EC50	Daphnia magna	840	ppm
	14 d LD50	Bobwhite quail	>2000	mg/kg

Persistence and degradability	Mesotrione, Fluthiacet-methyl: Non-persistent. Does not readily hydrolyze.
Bioaccumulation	Fluthiacet-methyl: The substance does not have a potential for bioconcentration.
Mobility	Mesotrione: Mobile; Has potential to reach ground water. Fluthiacet-methyl: Slightly mobile; 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	Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

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	Mesotrione, Fluthiacet-methyl.
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Mesotrione, Fluthiacet-methyl), 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. (Mesotrione, Fluthiacet-methyl), 9, PGIII, Marine Pollutant

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IMDG/IMO

UN/ID no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
EmS No.	F-A, S-F
Marine Pollutant	Mesotrione, Fluthiacet-methyl
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Mesotrione, Fluthiacet-methyl), 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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

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

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

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 absorbed through skin. Causes moderate eye irritation.
SOLSTICE HERBICIDE is very toxic to algae and moderately toxic to fish.*

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:.

Chemical name	California Prop. 65
Titanium dioxide - 13463-67-7	Carcinogen
crystalline silica, quartz - 14808-60-7	Carcinogen
Formaldehyde - 50-00-0	Carcinogen
Naphthalene - 91-20-3	Carcinogen

U.S. State Right-to-Know Regulations

