



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Nufarm Prosedge Selective Herbicide²

EPA Reg. No.: 228-711

Product Type: Herbicide

Company Name: Nufarm Americas Inc
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:

Not hazardous

HEALTH HAZARDS:

Acute toxicity / Oral

Category 4

Eye damage/irritation

Category 2B

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute

Category 1

Hazardous to aquatic environment, chronic

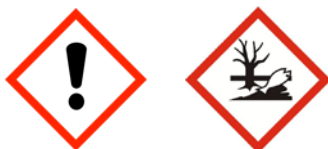
Category 1

SIGNAL WORD:

WARNING

HAZARD STATEMENTS:

Harmful if swallowed. Causes eye irritation. Very toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

IF SWALLOWED: Call a poison control center/doctor if you feel unwell. Rinse mouth.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Collect spilled material.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Halosulfuron-methyl	74223-64-6	73 – 77
Kaolin	1332-58-7	8 – 13
Silica, amorphous precipitated	112926-00-8	< 3.0
Other Ingredients	Trade Secret	Trade Secret

Synonyms: Mixture containing Halosulfuron methyl (Methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl)-1-methylpyrazole-4-carboxylate)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Get medical attention if irritation occurs and persists.

If Swallowed: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. If symptoms develop, get medical advice.

If on Skin or Clothing: Take off contaminated clothing. Wash with soap and water. Get medical attention if irritation develops and persists.

If Inhaled: Move person to fresh air. If symptoms develop, get medical advice.

Most important symptoms/effects, acute and delayed: May cause mild eye irritation. Prolonged or repeated inhalation may cause lung damage or cancer.

Indication of immediate medical attention and special treatment if needed: For ingestion there is no specific antidote available. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later. Decontaminate tools and equipment following cleanup.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon, hydrogen, nitrogen and sulfur.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Avoid creation of dusty conditions. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING:

Avoid contact with eyes or clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and

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water. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE:

Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long-sleeved shirt and long pants, shoes, socks, and chemical-resistant gloves. Washing facilities should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Halosulfuron-methyl	NE	NE	NE	NE	
Kaolin	15 (T) 5 (R)	NE	2.0 (R)	NE	mg/m ³
Silica, amorphous precipitated	80 mg/m ³ %SiO ₂	NE	NE	NE	
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

T= Total Dust

R= Respirable Fraction

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige colored granules
Odor:	Scorched vanilla odor
Odor threshold:	No data available
pH:	6.6 (1% w/w dispersion in DIW)
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	Not applicable
Relative density:	0.65 g/cc
Solubility(ies):	No data available
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	Not applicable due to product form (solid)

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Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Will not occur.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon, hydrogen, nitrogen and sulfur.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye contact, Skin contact

Symptoms of Exposure:

Eye Contact: Moderately irritating based on toxicity studies.

Skin Contact: Mildly toxic and non-irritating based on toxicity studies.

Ingestion: Slightly toxic based on toxicity studies.

Inhalation: Low inhalation toxicity.

Delayed, immediate and chronic effects of exposure: None expected.

Toxicological Data:

Data from laboratory studies on a substantially similar but not identical product are summarized below:

Oral: Rat LD₅₀: >1,287 mg/kg

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >5.7 mg/L

Eye Irritation: Rabbit: Moderately irritating

Skin Irritation: Rabbit: Slightly irritating

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to halosulfuron-methyl may cause decreased body weight gain and decreased liver weights.

Carcinogenicity / Chronic Health Effects: There was no evidence of carcinogenicity in animal studies using halosulfuron-methyl.

Reproductive Toxicity: Animal tests with halosulfuron-methyl have not demonstrated reproductive effects.

Developmental Toxicity: Animal tests with halosulfuron-methyl have not demonstrated developmental effects.

Genotoxicity: There have been some positive and negative studies, but the weight of evidence is that halosulfuron-methyl is not mutagenic.

Assessment Carcinogenicity:

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
Halosulfuron Methyl	No	No	No	No
Kaolin	A4	No	No	No
Silica, amorphous precipitated	No	No	No	No
Other Ingredients	No	No	No	No

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Halosulfuron-methyl:

Bluegill 96-hour LC₅₀: >118 mg/l

Rainbow Trout 96-hour EC₅₀: >131 mg/l

Daphnia 48-hour EC₅₀: >107 mg/l

Green Algae 5-day EC₅₀: 0.0041 mg/l

Environmental Fate:

Degradation half-lives of Halosulfuron is temperature and pH dependent. Halosulfuron can persist in soil under cooler, milder climate conditions and acidic soil conditions. Soils with low organic matter content, heavy rainfall

events could cause Halosulfuron to move to ground water in shallow aquifers. Halosulfuron could contaminate surface water by dissolved runoff following a heavy rainfall event. Aerobic soil metabolism and hydrolysis studies indicate that Halosulfuron degrades rapidly in soil and water. Halosulfuron hydrolyzes with a half-life of < 28 days at pH 5-9. Aerobic soil metabolism results in the formation of 2 major degradates (aminopyrimidine and 3-chlorosulfonamide ester).

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Handling and Disposal:

COMMERCIAL:

Plastic Bottle Packaging: Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once triple rinsed, recycle if available. Some agricultural pesticide containers can be taken to a container collection site or pick up for recycling. To find the nearest site, contact your chemical dealer or manufacturer. If recycling is not available, dispose of in a sanitary landfill or by incineration if allowed by state and local ordinances.

Water Soluble Packaging: Nonrefillable container. Do not reuse or refill this container. Completely use water soluble bags in application equipment. Then offer for recycling if available, or dispose of empty foil pouch and cardboard box in a sanitary landfill, or by incineration, or by burning, if allowed by state and local authorities. If burned, stay out of smoke.

RESIDENTIAL:

Plastic Bottle Packaging: Nonrefillable container. Do not reuse or refill this container. **If empty:** Place in trash or offer for recycling if available. **If partly filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor (including toilet) or outdoor (including sewer) drain.

Water Soluble Packaging: Nonrefillable container. Do not reuse or refill this container. Completely use water soluble bags in application equipment. Then offer for recycling if available, or dispose of empty foil pouch and cardboard box in a sanitary landfill, or by incineration, or by burning, if allowed by state and local authorities. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT

Non Regulated

IMDG

UN 3077, Environmentally hazardous substance, solid, nos, (Halosulfuron-methyl), 9, III, Marine Pollutant

IATA

UN 3077, Environmentally hazardous substance, solid, nos, (Halosulfuron-methyl), 9, III,

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of

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non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

COMMERCIAL:

CAUTION. Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

RESIDENTIAL:

Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. Applicators and all other handlers must wear long-sleeved shirt, long pants, shoes, plus socks. User should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. User should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Acute Health, Chronic Health

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 Flammability: 0 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

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Supersedes:

New