

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Name: Grapple™ Herbicide
EPA Reg. No.: 71368-121
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 Certain sections are superseded by federal law governed by EPA for a registered pesticide.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:**

None

HEALTH HAZARDS:

Eye irritation	Category 2B
Skin irritation	Category 3
Carcinogen	Category 1

ENVIRONMENTAL HAZARDS:

None

SIGNAL WORD:

DANGER

HAZARD STATEMENTS:

Causes eye irritation. May cause skin irritation. May cause cancer.

**PRECAUTIONARY STATEMENTS**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves / protective clothing / eye protection / face protection.

IF EXPOSED OR CONCERNED: Get medical advice / attention.

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.

IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse. Store locked up. Dispose of contents / container in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Rimsulfuron	122931-48-0	24 - 26
Crystalline silica (quartz)	14808-60-7	1 – 2
Kaolin clay	1332-58-7	35 - 37
Other ingredients	Proprietary	35 - 40

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 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 treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

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/MSHA 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: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

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

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. Scrape up and place in appropriate closed container. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. 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: Do not get in eyes or on clothing or skin. 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. Remove Personal

Protective Equipment (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: 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.

Eye/Face Protection: Not normally required. To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower or water supply 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	
Rimsulfuron	NE	NE	NE	NE	
Crystalline silica (quartz)	50 (R) %SiO ₂ +2	NE	25 (R)	NE	µg/m ³
Kaolin clay	15	NE	NE	NE	mg/m ³
Other ingredients	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid, off-white, tan granule
Odor:	Pungent
Odor threshold:	No data available
pH:	7.9 (1% w/w dispersion in water)
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:	No data available
Relative density:	Tap= 0.599 g/ml (37.4 lbs / ft ³)
Solubility(ies):	Disperses in water (Rimsulfuron = 135 ppm water)
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	N/A - solid

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

Chemical Stability: Stable under normal temperature and pressures.

Conditions to Avoid: No data available

Incompatible Materials: Oxidizing agents. Do not mix or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur.

Hazardous Decomposition Products: None known

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Dermal, inhalation

Symptoms of Exposure:

Eye Contact: Mildly irritating based on toxicity studies.

Skin Contact: Minimally toxic and slightly irritating based on toxicity studies.

Ingestion: Slightly toxic if ingested based on toxicity studies.

Inhalation: Low inhalation toxicity based on toxicity studies.

Delayed, immediate and chronic effects of exposure:

Toxicological Data:

Data from laboratory studies conducted on a substantially similar product are summarized below.

Oral: Rat LD₅₀: > 2,000 mg/kg

Dermal: Rat LD₅₀: >2,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: > 4.62 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.

Other Information: Rimsulfuron: Based on animal data, prolonged overexposures by ingestion or inhalation may cause abnormal liver function as detected by laboratory tests. Based on animal data, significant skin permeation and systemic toxicity after contact appears unlikely. There are no reports of human skin sensitization. Repeated and long-term ingestion exposures resulted in decreased body weights, increased liver, kidney, and spleen weights, mild hematological changes, and serum chemistry changes linked to liver effects. A repeated-dose teratogenicity study in rabbits resulted in maternal deaths at excessive doses. There were no effects observed in offspring. A one-year feeding study in dogs resulted in mild tracheal effects. Rimsulfuron did not demonstrate carcinogenic effects in long term feeding studies in rats or mice. Rimsulfuron did not cause developmental or reproductive effects in animals. Rimsulfuron did not produce genetic damage in bacterial or mammalian cell culture or in animals.

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
Rimsulfuron	NO	NO	NO	NO
Crystalline silica (quartz)	A2	1	Known	NO
Kaolin clay	NO	NO	NO	NO
Other Ingredients	NO	NO	NO	NO

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Rimsulfuron Technical:

96-hour LC ₅₀ Bluegill Sunfish	> 390 mg/L	Bobwhite Quail 5-day Dietary LD ₅₀ :	> 2,250 mg/kg
96-hour LC ₅₀ Rainbow Trout:	> 390 mg/L	Mallard Duck 5-day Dietary LC ₅₀ :	> 5,620 mg/kg
48-hour EC ₅₀ Daphnia:	> 360 mg/L	Honey Bee Oral LD ₅₀	> 1000 µg/bee

Environmental Fate: Rimsulfuron breaks down rapidly in soil with a half-life of 5-18 days. Rimsulfuron is highly soluble in water, and has a very low n-octanol water partition coefficient (KOW), indicating that it

is likely to be very mobile in soil and not bind strongly to organic carbon in the soil, and is not likely to bioaccumulate in fish or other aquatic organisms.

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. Improper disposal of excess pesticide is a violation of Federal law.

Container Handling and Disposal: Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for **Plastic Containers**, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For **Metal Containers**, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

14. TRANSPORTATION INFORMATION

DOT:

Not regulated

IMDG:

UN3077, Environmentally hazardous substance, solid n.o.s. (Rimsulfuron), 9, III, Marine Pollutant

IATA:

Not regulated

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 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.

CAUTION. Harmful if swallowed and if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or 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, Chronic

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:  **ATTENTION.** This product can expose you to chemicals including silica, crystalline, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

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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