

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: RAPPORT® Tank Mix Herbicide
EPA Reg. No.: 71368-80
Synonyms: Mixture of Thifensulfuron-methyl and Tribenuron-methyl
Product Type: Herbicide

Company Name: Nufarm, Inc.
 150 Harvester Drive, Suite 200
 Burr Ridge, IL 60527

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

Date of Issue: July 24, 2012 **Supersedes:** January 29, 2009
Sections Revised: 13

2. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance and Odor: Tan colored granules with a very slight odor.
Warning Statements: Keep out of reach of children. CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing.

Potential Health Effects:
Likely Routes of Exposure: Inhalation, eye and skin contact.
Eye Contact: Mildly irritating based on toxicity studies.
Skin Contact: Slightly toxic and slightly irritating based on toxicity studies.
Ingestion: Slightly toxic based on toxicity studies.
Inhalation: Low inhalation toxicity.
Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

Potential Environmental Effects:
 Thifensulfuron-methyl is practically non-toxic to fish, aquatic invertebrates and terrestrial organisms, and toxic to aquatic and terrestrial plants. Tribenuron-methyl is practically non-toxic to mammals, fish and aquatic invertebrates, and toxic to aquatic and terrestrial plants.

See Section 12: ECOLOGICAL INFORMATION for more information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Thifensulfuron-methyl	79277-27-3	40.0
Tribenuron-methyl	101200-48-0	10.0
Other Ingredients Including:		50.0
Crystalline silica as quartz	14808-60-7	
Titanium Dioxide	13463-67-7	



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 on Skin: 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.

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. 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. Do not give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable

Autoignition Temperature: Not applicable **Flammability Limits:** Not applicable

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 oxides of carbon and nitrogen.

National Fire Protection Association (NFPA) Hazard Rating:

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

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

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: 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 immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after

handling this product. Wash 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.

Personal Protective Equipment:

Eye/Face Protection: 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, shoes, socks and chemical-resistant gloves made of any waterproof material. 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	
Thifensulfuron-methyl	NE	NE	NE	NE	
Tribenuron-methyl	NE	NE	NE	NE	
Crystalline silica as quartz	10 (R)	NE	0.025 (R)	NE	mg/m ³
Titanium Dioxide	15	NE	10	NE	mg/m ³

R = Respirable Fraction

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Tan colored granules with a very slight odor.

Boiling Point: Not applicable
Density: 40.0 pounds/cubic foot
Evaporation Rate: Not applicable
Freezing Point: Not applicable
pH: 5.16 (1% solution)

Solubility in Water: Soluble
Specific Gravity: Not applicable
Vapor Density: Not applicable
Vapor Pressure: Not applicable
Viscosity: Not applicable

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

Conditions to Avoid: Not known.

Incompatible Materials: Not known.

Hazardous Decomposition Products: Under fire conditions may produce oxides of carbon and nitrogen.

Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Data from laboratory studies on this product are summarized below:

Oral: Rat LD₅₀: >5,000 mg/kg (female)

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >2.10 mg/L

Eye Irritation: Rabbit: Mildly irritating

Skin Irritation: Rabbit: Slightly irritating

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

Subchronic (Target Organ) Effects: Repeated ingestion exposures to thifensulfuron-methyl caused decreased body and organ weights, and some blood chemistry changes, including increased blood urea nitrogen and decreased protein and globulins. Repeated ingestion exposure to tribenuron-methyl may cause body weight loss and effect liver and thyroid.

Carcinogenicity / Chronic Health Effects: Repeated overexposure to thifensulfuron-methyl may cause effects to liver, gall bladder, and blood chemistry. Repeated overexposure to tribenuron methyl may cause effects to body weight loss, alteration in clinical chemical parameters and testicular atrophy (considered to be biologically insignificant). No carcinogenic effects were observed in animal tests with thifensulfuron-methyl. Tribenuron methyl produced an increased incidence of mammary tumors in female rats at dose levels also producing other significant effects. This product contains a clay. Crystalline silica (e.g. quartz) and titanium dioxide are a naturally occurring components of clay. Inhalation of crystalline silica may cause pulmonary fibrosis (silicosis). Crystalline silica has been classified by IARC as carcinogenic to humans (Group 1), by the U.S. National Toxicology Program as a known human carcinogen and by ACGIH as a suspected human carcinogen (A2). Inhalation of titanium dioxide may cause irritation to the respiratory system. IARC lists exposure to titanium dioxide as a class 2B carcinogen, the category for limited evidence for carcinogenicity in humans.

Reproductive Toxicity: Animal tests with thifensulfuron-methyl have not demonstrated reproductive effects. For tribenuron methyl no reproductive effects were observed in rats.

Developmental Toxicity: Thifensulfuron-methyl studies in laboratory animals show effects only at exposure levels producing toxic effects in the adult animal. Development effects with tribenuron methyl occurred in the rat, but only at a dose level also toxic to the mother.

Genotoxicity: Neither *in vitro* nor *in vivo* tests on Thifensulfuron-methyl demonstrated mutagenic effects. Tribenuron-methyl did not produce genetic damage in bacterial or mammalian cell cultures 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
Crystalline Silica, Quartz	A2	1	Known	No
Titanium Dioxide	No	2B	No	No

See Section 2: HAZARDS IDENTIFICATION for more information.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Thifensulfuron-Methyl:

96-hour LC₅₀ Bluegill: >100 mg/l Bobwhite Quail Dietary LC₅₀: >5,620 ppm

MATERIAL SAFETY DATA SHEET

RAPPORT® Tank Mix Herbicide

96-hour EC ₅₀ Rainbow Trout:	>100 mg/l	Mallard Duck Oral LD ₅₀ :	>2,510 mg/kg
48-hour EC ₅₀ Daphnia:	470 mg/l	Mallard Duck Dietary LC ₅₀ :	>5,620 ppm
72-hour EC ₅₀ Green Algae	0.0159 mg/l		

Data on Tribenuron-Methyl:

96-hour LC ₅₀ Bluegill:	>1,000 mg/l	Bobwhite Quail 8-day Dietary LC ₅₀ :	>5,620 ppm
96-hour EC ₅₀ Rainbow Trout:	>1,000 mg/l	Bobwhite Quail Oral LD ₅₀ :	>2,250 mg/kg
48-hour EC ₅₀ Daphnia:	720 mg/l	Mallard Duck 8-day Dietary LC ₅₀ :	>5,620 ppm
72-hour EC ₅₀ Green Algae	0.011 mg/l	Honey Bee Contact LD ₅₀ :	>100 µg/bee

Environmental Fate:

The potential for mobility of Thifensulfuron-methyl in soil is very high with Koc values ranging from 13 – 55. Thifensulfuron-methyl has an average hydrolysis half-life of less than 7 days. The average field half-life is 12 days. Data suggests that tribenuron-methyl is weakly adsorbed in soil and that the adsorption is pH dependent, increasing in acidic soils. The average soil half-life for tribenuron methyl is 10 days. Hydrolysis of tribenuron-methyl is also strongly pH dependent. The solubility and stability of tribenuron-methyl increases with increasing pH. Photodegradation in water and on soil is not an important degradation mechanism.

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.

Container Handling and Disposal:

Plastic Containers: 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 flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. **Fiber Sacks:** Nonrefillable container. Do not reuse or refill this container. Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Paper and Plastic Bags: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

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

DOT

< 882 pounds per complete package

Non Regulated – See 49 CFR 173.132(b)(3) & 171.4(c)

≥ 882 pounds per complete package

UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, NOS, (THIFENSULFURON-METHYL, TRIBENURON-METHYL), 9, III, MARINE POLLUTANT

IMDG

UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, NOS, (THIFENSULFURON-METHYL, TRIBENURON-METHYL), 9, III, MARINE POLLUTANT

IATA

Non Regulated - See IATA 3.6.1.5.3

15. REGULATORY INFORMATION**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):

Immediate and Delayed

Section 313 Toxic Chemical(s): None

Reportable Quantity (RQ) under U.S. CERCLA: None

RCRA Waste Code: None

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: WARNING. This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

16. OTHER INFORMATION

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS 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.

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