



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Purestand® Selective Herbicide
EPA Reg. No.: 71368-38
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 Certain sections are superseded by federal law governed by EPA for a registered pesticide.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

For EPA FIFRA-Specific Information see Section 15

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 1
Hazardous to aquatic environment, chronic	Category 1

SIGNAL WORD:

WARNING

HAZARD STATEMENTS:

. Very toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

Avoid release to the environment.
 Collect spillage.
 Dispose of contents in accordance with local, state, and federal regulations

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Metsulfuron-methyl	74223-64-6	60.0
Other Ingredients Including: Kaolin Clay and related minerals	1332-58-7	40.0

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

4. FIRST AID MEASURES

If Swallowed: Call a poison control center or doctor for treatment advice. Have person sip a glass of water. Do not induce vomiting unless told to do so by the poison control center or doctor.

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

If in Eyes: Hold eye open and rinse with water. Remove contact lenses, if present, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. Call a poison control center or doctor for further treatment advice.

Most Important symptoms/effects, acute and delayed: May cause slight eye and skin irritation.

Indication of Immediate medical attention and special treatment if needed, if necessary: Immediate medical attention should not be required.

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: 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:

Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

SAFETY DATA SHEET

Purestand® Selective Herbicide

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	
Metsulfuron Methyl	NE	NE	NE	NE	
Kaolin Clay	15 (T) 5 (R)	NE	2.0 (R)	NE	mg/m ³

NE = Not Established

T = Total Dust

R = Respirable Fraction

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown granules
Odor:	Slight odor
Odor threshold:	No data available
pH:	6.0 – 8.5 (1% dispersion)
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:	1.398 g/ml
Solubility(ies):	Dispersible
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

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: Hazardous polymerization will not occur.

Conditions to Avoid: Excessive heat. Do not store near heat, sparks and flames.

Incompatible Materials: None reasonably foreseeable.

Hazardous Decomposition Products: May produce gases such as oxides of carbon, hydrogen, nitrogen and sulfur.

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: Minimally 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 are summarized below:

Oral: Rat LD₅₀: > 5,000 mg/kg (female rats)

Dermal: Rat LD₅₀: >2,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >2.06 mg/L (No mortalities at highest dose tested)

Eye Irritation: Rabbit: Minimally irritating (MMTS = 12.7)

Skin Irritation: Rabbit: Slightly irritating (PDII = 1.4)

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

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

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to metsulfuron-methyl may cause body weight loss. There was no evidence of carcinogenicity in animal studies using metsulfuron-methyl. Inhalation of excessive amounts of kaolin dust may produce coughing, sneezing and nasal irritation.

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

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

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

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Metsulfuron-methyl technical:

96-hour LC ₅₀ Bluegill:	>150 mg/l	Bobwhite Quail 8-day Dietary LC ₅₀ :	>5,620 ppm
96-hour EC ₅₀ Rainbow Trout:	>150 mg/l	Mallard Duck 8-day Dietary LC ₅₀ :	>5,620 ppm
48-hour EC ₅₀ Daphnia:	>150 mg/l	Mallard Duck Oral LD ₅₀ :	>2,510 mg/kg
72-hour EC ₅₀ Green Algae	0.045 mg/l	Honey Bee Contact LD ₅₀ :	>25 ug/bee

Environmental Fate:

Metsulfuron-methyl is relatively mobile in most soils, but will be retained longer in soils with higher percentages of organic matter. It is more mobile in alkaline soils than in acidic soils. Metsulfuron-methyl will degrade faster under acidic conditions, and in soils with higher moisture contents and higher temperature. Metsulfuron-methyl is stable to photolysis, but will break down in ultraviolet light. Half-life estimates in soil range from 14 to 180 days, with an average of 30 days. Metsulfuron-methyl is stable to hydrolysis at neutral and alkaline pHs. The estimated half-life in acidic water is 3 weeks.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Do not contaminate water, food, or feed by disposal. 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: Non-refillable container. Do not reuse or refill this container. Triple rinse (or equivalent). 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. **For Fiber Sacks:** Non-refillable 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 if allowed by State and local authorities. **For Fiber Durms with Liners:** Non-refillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated or cannot be reused, dispose of in the same manner. **For Bags Containing Water Soluble Packets:** Non-refillable container. Do not reuse or refill this container. Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above. **For Metal Containers (non aerosol):** Non-refillable container. Do not reuse or refill this container. Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **For Paper and Plastic Bags)** (Non-refillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then 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**DOT**

Non Regulated

IMDG

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

IATA

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

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. Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist.

U.S. FEDERAL REGULATIONS

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

SARA Hazard Notification/Reporting:

SAFETY DATA SHEET

Purestand® Selective Herbicide

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

Not Hazardous

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: 1 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.

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