



# RECOIL HERBICIDE

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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PRODUCT NAME: RECOIL DATE: 4/01/2003  
MSDS NUMBER: 71368-35.20030104 EPA Reg. No.: 71368-31

Nufarm Americas Inc., 1333 Burr Ridge Parkway Suite 125A Burr Ridge, IL 60521-0866 ☐

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT

Emergency Phone (Chemtrec): (800) 424-9300

Medical Emergencies: (877) 325-1840

For Product Use Information: (800) 852-5234

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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

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| <u>COMPONENT</u>                | <u>CAS NO.</u> | <u>% BY WEIGHT</u> |
|---------------------------------|----------------|--------------------|
| Active Ingredients:             |                |                    |
| Glyphosate, isopropylamine salt | 38641-94-0     | 23.03              |
| 2,4-D, Acid*                    |                |                    |
| OTHER INGREDIENTS:              |                | 65.59              |

\*-- Hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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## 3. HAZARDS IDENTIFICATION

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### EMERGENCY OVERVIEW

APPEARANCE AND ODOR: Yellow-brown colored liquid

Keep out of reach of children.

DANGER!

CAUSES EYE BURNS

HARMFUL IF SWALLOWED

MAY CAUSE ALLERGIC SKIN REACTION

REFORMULATION OR REPACKAGING IS PROHIBITED.

### POTENTIAL HEALTH EFFECTS

LIKELY ROUTES OF EXPOSURE: Skin contact and inhalation

EYE CONTACT: Causes pain, redness and tearing based on toxicity studies.

SKIN CONTACT: No more than slightly toxic or slightly irritating based on toxicity studies. May cause allergic skin reaction based on toxicity studies.

INHALATION: No more than slightly toxic if inhaled based on toxicity studies.

INGESTION: No more than slightly toxic based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. Ingestion of a related formulation containing the same surfactant found in RECOIL Herbicide has been reported to produce gastrointestinal discomfort with irritation of the mouth, nausea, vomiting and diarrhea

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#### 4. FIRST AID MEASURES

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IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

IF ON SKIN: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. As soon as soap is available, wash thoroughly with soap and water. Wash clothing before reuse. Sensitized persons should avoid further contact and reuse of contaminated clothing. Get medical attention.

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 a poison control center or doctor. Do not give anything by mouth to an unconscious

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#### 5. FIRE FIGHTING MEASURES

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Flash Point: none

Method: Tag Closed Cup

Extinguishing Media: Water spray, foam, dry chemical, CO<sub>2</sub>, or other class B extinguishing agent.

Special Fire Fighting Procedures: Firefighters and others that may be exposed to vapors, mists, dusts, or products of combustion should wear full protective clothing and self-contained breathing apparatus. Equipment should be thoroughly cleaned after use.

Unusual Fire or Explosion Hazards: None

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#### 6. ACCIDENTAL RELEASE MEASURES

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Observe all protection and safety precautions when cleaning up spills - See Exposure Controls/Personal Protection, Section 8.

Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgate, bentonite or other absorbent clays. Collect contaminated absorbent, place in plastic-lined metal drum and dispose of in accordance with instructions provided under DISPOSAL. Thoroughly scrub floor or other impervious surfaces with a strong industrial type detergent solution and rinse with water. Liquid spills that soak into the ground should be dug up, placed in plastic-lined metal drums and disposed of in accordance with instructions provided under

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#### DISPOSAL.

Leaking containers should be separated from non-leakers and either the container or its contents transferred to a drum or other non-leaking container and disposed of in accordance with instructions provided under DISPOSAL. Any recovered spilled liquid should be similarly collected and disposed of.

Do not contaminate water, foodstuffs, seed or feed by storage or disposal. Do not store near fertilizers, seeds, insecticides or fungicides.

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### 7. HANDLING AND STORAGE

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**HANDLING:** Do not get in eyes, on skin or on clothing. When mixing, loading, or applying this product or repairing or cleaning equipment used with this product, wear eye protection (face shield or safety glasses), chemical-resistant gloves, long-sleeved shirt, long pants, socks and shoes. For applicators applying this product from a tractor that has a completely enclosed cab, eye protection is not required. Wash hands, face and arms with soap and water as soon as possible after mixing, loading, or applying this product. Wash hands, face and arms with soap and water before eating, smoking, or drinking. Wash hands and arms before using toilet. After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during the previous day's mixing and loading or application of this product without cleaning first. Clothing must be kept and washed separately from other household laundry. Remove saturated clothing as soon as possible and shower. Persons engaged in open pouring of this product must also wear coveralls or a chemical resistant apron.

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the possibility of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

**STORAGE:** STORE ABOVE 40°F to keep product in solution. If crystals form, place in a warm room (72° F) allow the product to reach room temperature, roll or shake periodically until crystals have redissolved. Keep container closed to prevent spills and contamination. Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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**Eye Protection:** Wear chemical safety goggles to prevent eye contact during operations such as mixing or transfer or other activities when there is potential for eye contact. Have eye flushing equipment immediately available with enough fresh water to flush the eyes for at least 15 minutes.

**Skin Protection:** Wear appropriate protective gloves that provide a barrier and protective clothing to prevent skin contact. Consult glove manufacturer to determine appropriate type glove for given application. Wear a face shield when splashing is likely. Wash contaminated skin promptly. Launder contaminated clothing and clean protective equipment before reuse. Wash thoroughly after handling. Attention! Repeated or prolonged contact may cause allergic skin reaction in some people.

*Attention! Repeated or prolonged contact may cause allergic skin reaction in some people.*

**Respiratory Protection:** *For Handling of the Undiluted Product:* Undiluted RECOIL Herbicide is not likely to present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material during manufacture or handling which produces a heavy vapor or mist, workers should use NIOSH approved

equipment. In work situations where an air purifying respirator is appropriate to be used, use of a full face respirator equipped with purifying elements for protection against organic vapor and dust/mist approved for pesticides is recommended. Full facepiece replaces the need for chemical goggles. Observe respirator use limitations specified by the manufacturers. Respiratory protection programs must comply with 29 CFR §1910.134.

*For Application of Product Diluted in accordance with label instructions:* Respirators are not required for applications of use - dilutions of RECOIL Herbicide.

Ventilation: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

| <u>Exposure Limits</u>                   | <u>OSHA PEL</u>      | <u>ACGIH TLV</u>     |
|--|----------------------|----------------------|
| Isopropylamine Salt of Glyphosate        | None established     | None established     |
| 2,4-Dichlorophenoxyacetic acid (2,4-D)** | 10 mg/m <sup>3</sup> | 10 mg/m <sup>3</sup> |

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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|                   |                             |
|-------------------|-----------------------------|
| Appearance:       | Yellow-brown colored liquid |
| Specific Gravity: | 1.105 @ 24.5°C              |
| Viscosity:        | 111.7 Centipoise @ 24.3°C   |
| Freezing Point:   |                             |
| Solubility:       | Very soluble in water       |

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

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## 10. STABILITY AND REACTIVITY

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Chemical Stability: Stable under normal conditions of warehouse storage. Heated facilities are not required.

Conditions to Avoid: STORE ABOVE 40°F to keep product in solution. See Section 7 for more information.

Incompatibility with Other Materials: Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fiberglass, plastic and plastic-lined steel containers.  
DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Hazardous Decomposition Products: None

Hazardous Polymerization: Does not occur

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## 11. TOXICOLOGICAL INFORMATION

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RECOIL Herbicide (acute) studies indicate:

Oral - (Rat LD<sub>50</sub> - >2,000 mg/kg);  
Dermal - (Rabbit LD<sub>50</sub> - >2,000 mg/kg)  
Inhalation - (Rat 4-hr LC<sub>50</sub> - >2.09 mg/L)

Eye Irritation - Severely irritating, (Rabbit, 24-hr);  
Skin Irritation - Moderately irritating (Rabbit, 4-hr);

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### COMPONENTS

Data from laboratory studies and from the available literature on the components of RECOIL Herbicide:

#### *Isopropylamine Salt of 2,4-Dichlorophenoxyacetic Acid (2,4-D Isopropylamine Salt)*

The 2,4-D isopropylamine salt is moderately irritating to the eyes and prolonged skin contact may cause skin irritation. Rare, unsubstantiated cases of peripheral nerve damage resulting from exposure to 2,4-D formulations, characterized by tingling, numbness and weakness, have been reported. Extensive animal studies have not shown 2,4-D causes peripheral nerve damage. Administration of 2,4-D and derivatives to laboratory animals has produced gastrointestinal, liver, kidney and muscular effects. Brain tumors were observed after long-term dosing with 2,4-D in male rats though it is not certain if these were due to treatment; no increase in tumors occurred in long-term studies with female rats or mice. No birth defects were reported in studies with rats. Toxic effects were observed in animals at levels which produced adverse effects on the mother. Weight changes and death in some animals were reported in rats fed 2,4-D in reproduction test. 2,4-D has produced mixed responses in standard tests for genetic changes. For further information on 2,4-D isopropylamine salt, please contact Nufarm for reference to the manufacturer's material safety data sheet.

#### *Isopropylamine Salt of Glyphosate*

Additional toxicity information is available on glyphosate, the active herbicidal ingredient of RECOIL, which has been tested in mutagenicity, teratogenicity, reproductive, acute, subchronic and chronic toxicity studies.

### *Surfactant*

The surfactant components of RECOIL Herbicide are reported to cause irritation to the eyes, skin and respiratory tract and may contribute to the irritation potential reported for this herbicide. Prolonged skin contact may cause more severe irritation and discomfort, with related local redness (erythema) and possible swelling (edema). Ingestion may produce gastrointestinal irritation, nausea, vomiting and diarrhea.

Single-dose (acute) toxicity studies indicate that this material is moderately toxic orally (rats) and after skin application (rabbits). It is slightly irritating to rabbit skin and moderately irritating to rabbit eyes.

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## 12. ECOLOGICAL INFORMATION

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Nufarm has not conducted ecological toxicity tests with this product. Toxicity data for components of this material suggest that this product would be slightly toxic to aquatic invertebrates, slightly to moderately toxic to fish, and moderately toxic to algae.

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## 13. DISPOSAL CONSIDERATIONS

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Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of according to label use instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Product which has been contaminated or is not wanted and will be discarded is classified as hazardous under the Federal Resource Conservation and Recovery Act (RCRA) and related state laws. Specific State and Federal requirements for handling and disposal will apply unless quantities are small and exemptions apply. State regulations may vary and State authorities should be consulted.

Soil, water and other debris contaminated with this product may have to be treated as hazardous under RCRA depending on quantity and whether or not the waste meets the 2,4-D content criteria for hazardous waste. RCRA hazardous waste identification criteria are found in 40 CFR 261. State or Federal authorities should be contacted for appropriate handling and disposal methods.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. (See the individual container label for disposal information.)

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#### 14. TRANSPORTATION

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The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT basic description and technical name: Environmentally hazardous substances, liquid, n.o.s. (2,4-D), 9, UN3082, III  
DOT Label: Class 9  
SPECIAL PROVISIONS: This material meets the definition of a marine pollutant  
IMDG code: See US DOT  
IATA/ICAO: Use the shipping description for Aviation regulated liquid, n.o.s.

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#### 15. REGULATORY INFORMATION

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SARA Hazard Notification:

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

*Section 313 Toxic Chemical(s):*

Hazardous Chemicals Under OSHA Hazardous Communication Standard (29 CFR §1910.1200):

Isopropylamine Salt of 2,4-D;

TSCA Inventory: All components are on the US EPA's TSCA Inventory List

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#### 16. OTHER INFORMATION

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REASON FOR REVISION: New Product

Supersedes MSDS dated :

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE 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.

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