

MATERIAL SAFETY DATA SHEET

Hi-Yield® Turflon Ester Specialty Herbicide

DATED: June 11, 2003

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Name: Voluntary Purchasing Groups, Inc., P. O. Box 460, Bonham, Texas 75418

Emergency Telephone: (903) 583-5501 or (800) 424-9300 (Chemtrec)

For Additional Information Contact: Product Manager or Chemtrec

Common Name (Used on Label): Hi-Yield Turflon Ester Specialty Herbicide
EPA# 62719-25-7401

SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENTS:	CAS. Reg. #	
Triclopyr ((3,5,6-trichloro-2-pyridinyl)oxy) Acetic acid, butoxy ethyl ester	064700-56-7	61.6%
Other ingredients, total, including: Kerosene	008008-20-6	38.4%
Proprietary surfactants		

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Hazardous Chemical. Amber liquid. Combustible. Kerosene-like odor. Toxic, irritating vapors may be produced if involved in fire. Slight transient eye irritant. Prolonged or repeated exposure may cause skin irritation. Toxic to fish and aquatic invertebrates on acute basis. **EMERGENCY PHONE NUMBER:** 800-424-9300.

POTENTIAL HEALTH EFFECTS:

This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE:

May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.

SKIN:

Prolonged or repeated exposure may cause skin irritation. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. With the dilute mix, no allergic skin reaction is expected. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD₅₀ for skin absorption in rabbits is >2000 mg/kg. Repeated skin exposure may result in absorption of harmful amounts.

INGESTION:

Single dose oral toxicity is low. The oral LD₅₀ for rats is 1581 mg/kg (males) and 1338 mg/kg (females). Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. If aspirated (liquid enters the lung), may cause lung damage or even death due to chemical pneumonia.

INHALATION:

Excessive exposure may cause irritation to upper respiratory tract (nose and throat). For kerosene: signs and symptoms of excessive exposure may be central nervous system effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

Triclopyr, in animals, effects have been reported on the following organs: blood, kidney, and liver.

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CANCER INFORMATION:	Triclopyr did not cause cancer in laboratory animals. In a lifetime animal dermal carcinogenicity study, an increased incidence of skin tumors was observed when kerosene was applied at doses that also produced skin irritation. This response was similar to that produced in skin by other types of chronic chemical/physical irritation. No increase in tumors was observed when non-irritating dilutions of kerosene were applied at equivalent doses, indicating that kerosene is unlikely to cause skin cancer in the absence of long-term continued skin irritation.
TERATOLOGY (BIRTH DEFECTS):	For triclopyr, birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother.
REPRODUCTIVE EFFECTS:	Triclopyr, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

SECTION 4 - FIRST AID

EYES:	Flush eyes with plenty of water.
SKIN:	Wash off in flowing water or shower.
INGESTION:	Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.
INHALATION:	Remove to fresh air if effects occur. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility. Remove to fresh air if effects occur. Consult a physician.
NOTE TO PHYSICIAN:	The decision of whether to induce vomiting or not should be made by an attending physician. If lavage is performed, endotracheal and/or esophageal control is suggested. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT:	147°F (64°C)
METHOD USED:	TCC
FLAMMABLE LIMITS:	LFL: Not determined. UFL: Not determined.
EXTINGUISHING MEDIA:	Water fog, foam, CO ₂ , and dry chemical.
FIRE AND EXPLOSION HAZARDS:	Combustible. Toxic, irritating vapors may be produced if product is involved in fire.
FIRE FIGHTING EQUIPMENT:	Use positive pressure self-contained breathing apparatus and full protective clothing.

SECTION 6 - ACCIDENTIAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS:	Keep out of streams and domestic water supplies. Absorb small spills in inert material such as sand. For large spills, dike the area and contact Dow AgroSciences at 800-992-5994.
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SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Keep out of reach of children. Do not use near heat or open flame. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin and clothing. Avoid breathing mists and vapors. Avoid contamination of food. Store above 28°F or agitate before use. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. For handling relative to end-use of this product, read the product label for further information concerning the use of Personal Protective Equipment (PPE) under the Worker Protection Standard of 1993.

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SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

The precautions are suggested for conditions where a potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES: 3,5,6-Trichloro-2-pyridinyloxyacetic acid, butoxyethyl ester: Dow AgroSciences Industrial Hygiene Guide is 2 mg/M³ as acid equivalent, Skin.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guidelines. When respiratory protection is required for certain operations, use a NIOSH approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

EYE AND FACE PROTECTION: Use safety glasses.

APPLICATORS AND ALL OTHER HANDLERS: Please refer to the product label for personal protective clothing and equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: >302°F (150°C) initial
VAPOR PRESSURE: 0.1mm @ 37.8°C (kerosene)
VAPOR DENSITY: >1
SOLUBILITY IN WATER: Emulsifies.
SPECIFIC GRAVITY: 1.08
APPEARANCE: Amber liquid.
ODOR: Kerosene-like.

SECTION 10 - STABILITY AND REACTIVITY

STABLE: (CONDITIONS TO AVOID) Combustible. Avoid sources of ignition if temperature is near or above flash point.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Acid, base, and oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides, hydrogen chloride, and phosgene may result under fire conditions.

HAZARDOUS POLYMERIZATION: Not known to occur.

SECTION 11 - ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

MOVEMENT AND PARTITIONING: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Log octanol/water partition coefficient (log Pow) is 4.09. Log air/water partition coefficient (log Kaw) is -4.0.

DEGRADATION AND PERSISTENCE: Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%).

ECOTOXICOLOGY: Acute LC₅₀ for fathead minnow (*Pimephales promelas*) is 2.2-6.3mg/L. Material is moderately toxic to fish on an acute basis (LC₅₀ between 1 and 10 mg/L). Acute LC₅₀ for water flea (*Daphnia magna*) is 2.2 mg/L. Material is moderately toxic to aquatic invertebrates on an acute basis (LC₅₀ between 1 and 10 mg/L). Growth inhibition EC₅₀ for green alga (*Selenastrum capricornutum*) is 13.3 mg/L based on cell count, 16.8 mg/L based on cell vol.

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SECTION 12 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Excess wastes that cannot be used according to label instructions must be disposed of according to all applicable Federal, State, or Local procedures.

SECTION 13 - TRANSPORT INFORMATION

For DOT regulatory information, if required, consult transportation regulations, product shipping papers, or consult your Dow AgroSciences representative.

SECTION 14 - REGULATORY INFORMATION

NOTICE: This information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another, it is the Buyer's responsibility to ensure that its activities comply with Federal, State or Provincial, and Local Laws. The following specific information is made for the purpose of complying with numerous Federal, State or Provincial, and Local Laws and Regulations.

U. S. REGULATIONS

SARA 313 INFORMATION:

To the best of our knowledge, this product contains no chemical subject to SARA Title III section 313 supplier notification requirements.

SARA HAZARD CATEGORY:

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: An immediate health hazard.
A delayed health hazard.
A fire hazard.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW:

The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME

Proprietary Ingredient
Kerosene

CAS NUMBER

Proprietary
008008-20-6

LIST

PA1 NJ3
PA1 NJ3

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

HEALTH: 2
FLAMMABILITY: 2
REACTIVITY: 1

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

SECTION 15 - ADDITIONAL INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Voluntary Purchasing Groups, inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Voluntary Purchasing Groups, Inc. has been advised of the possibility of such damages.