

MATERIAL SAFETY DATA SHEET



In the event of a medical or chemical emergency contact
ChemTel, Inc. North America 1-800-255-3924 or worldwide
Intl. + 01-813-248-0585

Voluntary Purchasing Groups, Inc.
230 FM 87
Bonham, Texas 75418

Hi-Yield® Turflon Ester Ultra

Effective Date: January 1, 2012

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Hi-Yield® Turflon Ester Ultra
EPA Reg. No.: 62719-566-7401

COMPANY IDENTIFICATION:

Voluntary Purchasing Groups, Inc.
230 FM 87
Bonham, TX. 75418

2. COMPOSITION / INFORMATION ON INGREDIENTS:

| Chemical Name | Wt. % | CAS# |
|---------------------------------|-------|------------|
| Triclopyr-2-butoxyethyl ester | 60.5% | 64700-56-7 |
| Ethylene glycol monobutyl ether | .05% | 111-76-2 |
| Balance | 39.0% | |

3. HAZARDOUS IDENTIFICATIONS:

Emergency Overview

Color: Colorless to yellow

Physical State: Liquid

Odor: Mild

Hazards of product: CAUTION! Causes skin irritation. Causes eye irritation. Harmful if swallowed. May cause allergic skin reaction.

OSHA Hazard Communication Standard

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

Potential Health Effects

Eye Contact: May cause slight eye irritation. Corneal injury is unlikely.

Skin Contact: Brief contact may cause moderate skin irritation with local redness. May cause drying and flaking of the skin.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Skin Sensitization: Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. Has demonstrated the potential for contact allergy in mice.

Inhalation: Prolonged exposure is not expected to cause adverse effects.

Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Effects of Repeated Exposure: For the active ingredient(s): In animals, effects have been reported on the following organs: Blood. Kidney. Liver.

Cancer Information: In long-term animal studies with ethylene glycol butyl ether, small but statistically significant increases in tumors were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling procedures, exposures should not pose a carcinogenic risk to man.

Birth Defects/Developmental Effects: For the active ingredient(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Reproductive Effects: The data presented are for the following material: Triclopyr. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

4. FIRST AID:

EYE CONTACT: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

SKIN CONTACT: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

INHALATION: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc.) Call a poison control center or doctor for treatment advice.

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INGESTION: 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. Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES:

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams including (AFFF) or protein foams may function, but will be less effective. Water fog, applied gently may be used as a blanket for fire extinguishment.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from the fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this MSDS.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Phosgene.

6. ACCIDENTAL RELEASE MEASURES:

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Small spills: absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with clay, dirt or sand. Collect contaminated absorbent, place in disposable container and dispose of in accordance with instructions provided under Section "DISPOSAL". Thoroughly scrub floor or other impervious surface with a strong industrial type detergent solution and rinse with water. 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 Section "Disposal". Any recovered spilled liquid should be similarly collected and disposed of.

Personal Precautions: Use appropriate safety equipment. For additional information refer to Section 8, Exposure Controls and Personal Protection.

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. HANDLING AND STORAGE:

Handling

General Handling: Keep out of reach of children. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling.

Storage: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or portable water supplies.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Exposure Limits

| Component | List | Type | Value |
|-------------------------------|------|------|---------------|
| Triclopyr-2-butoxyethyl ester | IHG | TWA | 2 mg/m3 D-SEN |

APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING. A D-SEN notation following the exposure guideline refers to the potential to produce dermal sensitization, as confirmed by human or animal data.

Engineering Controls

Ventilation: use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

9. PHYSICAL AND CHEMICAL PAROPERTIES:

PHYSICAL STATE: Liquid

APPEARANCE: Colorless to yellow

ODOR: Mild

FLASH POINT-CLOSED CUP: >100°C (>212°F) *Pensky-Martens Closed Cup ASTM D 93*

FLAMMABLE LIMITS IN AIR: Lower: No Data Available **Upper:** No Data Available

AUTO IGNITION TEMPERATURE: >325°C (>617°F) *Literature*

VAPOR PRESSURE: No Data Available

BOILING POINT: No Data Available

VAPOR DENSITY: No Data Available

SPECIFIC GRAVITY: 1.11 *Digital Density Meter (Oscillating Coil)*

LIQUID DENSITY: 1.11 g/cm³ @ 20°C *Digital Density Meter*

FREEZING POINT: No Data Available

MELTING POINT: Not Applicable

SOLUBILITY IN WATER: Emulsifies

pH: 3.36 (@1%) *pH Elrctrode (1% aqueous suspension)*

DECOMPOSITION TEMPERATURE EVAPORATION RATE: No Data Available

DYNAMIC VISCOSITY: 23.4 mPa.s @ 20°C

KINEMATIC VISCOSITY: No Data Available.

10. STABILITY AND REACTIVITY:

Stability/Instability

Thermally stable at typical use temperatures.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous Polymerization: Will not occur.

Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Hydrogen chloride. Nitrogen oxides. Phosgene.

11. TOXICOLOGICAL INFORMATION:

Acute Toxicity

Ingestion: LD50, Rat, female 3,200 mg/kg

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Dermal: LD50, Rat, male and female >5,000 mg/kg

Inhalation: LC50, 4h, Aerosol, Rat, male and female >5.05 mg/l

Eye damage/eye irritation: May cause slight eye irritation. Corneal injury is unlikely.

Skin corrosion/irritation: Brief contact may cause moderate skin irritation with local redness. May cause drying and flaking of the skin.

Sensitization

Skin: Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. Has demonstrated the potential for contact allergy in mice.

Repeated Dose Toxicity: For the active ingredient(s): In animals, effects have been reported on the following organs: Blood. Kidney. Liver.

Chronic Toxicity and Carcinogenicity: In long-term animal studies with ethylene glycol butyl ether, small but statistically significant increases in tumors were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling procedures, exposures should not pose a carcinogenic risk to man. The data presented are for the following material: Triclopyr. Did not cause cancer in laboratory animals.

Carcinogenicity Classifications:

| Component | List | Classification |
|---------------------------------|-------|---|
| Ethylene glycol monobutyl ether | ACGIH | Confirmed animal carcinogen with unknown relevance to humans.; Group A3 |

Developmental Toxicity: For the active ingredient(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. For the active ingredient(s): Did not cause birth defects in laboratory animals.

Reproductive Toxicity: The data presented are for the following material: Triclopyr. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. The data presented are for the following material: Butoxyethanol. In animal studies, did not interfere with reproduction. For the minor component(s): Available data are inadequate to determine effects on reproduction.

Genetic Toxicology: For the active ingredient(s): In vitro genetic toxicity studies were negative. For the active ingredient(s): Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

Environmental Fate

Movement & Partitioning: For the active ingredient(s): Bioconcentration potential is low (BCF < 100 or Log Pow <3). Potential for mobility in soil is low (Koc between 500 and 2000).

Persistence and Degradability: Based largely or completely on information for similar material(s). Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%).

Exotoxicity: Based largely or completely on information for similar material(s). Material is highly toxic to aquatic organisms on an acute basis. (LC50/EC50 between 0.1 and 1 mg/L) in the most sensitive species tested). Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

Fish Acute & Prolonged Toxicity: Based largely or completely on information for similar material(s). LC50, bluegill (*Lepomis macrochirus*): 0.44 – 1.2 mg/l

LC50, rainbow trout (*Oncorhynchus mykiss*): 0.98 – 2.6 mg/l

LC50, Atlantic silverside (*Menidia menidia*): 0.77 mg/l

Aquatic Invertebrate Acute Toxicity: Based largely or completely on information for similar material(s). LC50, water flea *Daphnia magna*, immobilization: 0.35 – 2.0 mg/l

EC50, eastern oyster (*Crassostrea virginica*), shell growth inhibition: 0.30 mg/l

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LC50, grass shrimp (*palaemonetes pugio*): >1.8 mg/l

Aquatic Plant Toxicity: Based largely or completely on information for similar material(s). EC50, green alga *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum*), biomass growth inhibition: 11 mg/l

Toxicity to Above Ground Organisms: Based largely or completely on information for similar material(s). Oral LD50, bobwhite (*Colinus virginianus*): 1,350 mg/kg

13. DISPOSAL CONSIDERATIONS:

If wastes or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION:

DOT Non-Bulk: Not regulated

DOT Bulk: Not regulated

IMDG

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.

Technical Name: Contains Triclopyr-2-butoxyethyl Ester

Hazard Class: 9 **ID Number:** UN3082 **Packing Group:** PG III

Cargo Packing Instruction: 914

Passenger Packing Instruction: 914

Additional Information:

MARINE POLLUTANT

Contains Triclopyr-2-butoxyethyl Ester

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION:

OSHA Hazard Communication Standard

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

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard: Yes

Delayed (Chronic) Health Hazard: Yes

Fire Hazard: No

Reactive Hazard: No

Sudden Release of Pressure Hazard: No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 313: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

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Pennsylvania (Worker and Community Right-to-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-to-Know Act): Pennsylvania Special Hazardous Substances List: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): This product contains no listed substances known to the state of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Toxic Substances Control Act (TSCA): All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

16. OTHER INFORMATION:

Hazard Rating System

NFPA: Health-2 Fire-1 Reactivity-0

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED, IS MADE. CONSULT VPG, INC. FOR FURTHER INFORMATION.