Material Safety Data Sheet	ferti-lome® Brush Killer- Stump Killer

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Name: Voluntary Purchasing Groups, Inc.	Box 460, Bonham, TX 75418
Emergency Telephone: (903) 583-5501 or (800) 424-9300 (Chemtrec)	
For Additional Information Contact: Product Manager or Chemtrec	Date Prepared: 03-14-03
Common Name (Used on Label): ferti-lome® Brush Killer- Stump Killer	Chemical Family: Mixture
Chemical Name: Mixture	Formula: Mixture
Trade Name & Synonyms: ferti-lome® Brush Killer- Stump Killer EPA # 62719-226-7401	

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT	CAS NUMBER	% (TYPICAL)	TLV (UNITS)	PEL (UNITS)
Triclopyr(3,5,6-trichloro-2-pyridinyloxyacetic acid), as the triethylamine salt	057213-69-1	8.8	Not established	Not established
Water	00732-18-5	Proprietary	Not established	Not established
Proprietary emulsifiers and surfactants	Proprietary	Proprietary	Not established	Not established
Ethanol	000064-17-5	1	1000	1000
Triethylamine	000121-44-8	1(approx.)	1	10

PEL: Permissible Exposure Limit established by the Occupational Safety and Health Administration.
TLV: Threshold Limit Value recommended by the American Conference of Governmental Industrial Hygienists.

SECTION 3 - PHYSICAL DATA

BOILING POINT (°F) Not determined	SPECIFIC GRAVITY (H_2O=1) 1.135	VAPOR PRESSURE (mm Hg) Not determined
PERCENT VOLATILE BY VOLUME (%) Not determined	VAPOR DENSITY (AIR=1) Not determined	EVAPORATION RATE (ethyl ether=1) Not determined
SOLUBILITY IN WATER High	REACTIVITY IN WATER Will not evolve flammable or toxic gases	
APPEARANCE AND ODOR Light purple/pink liquid/ammonia-like odor		

SECTION 4 - FIRE AND EXPLOSION DATA

FLASH POINT (°F) 110 degrees F./ 43 degrees C	FLAMMABLE LIMITS IN AIR (% by volume) Lower: Not determined Upper: Not determined
EXTINGUISHING MEDIA Alcohol foam and carbon dioxide	AUTO IGNITION TEMPERATURE Not determined
UNUSUAL FIRE AND EXPLOSION HAZARDS Toxic, irritating vapors may be formed or given off if product is involved in fire. Although product is water-based, it	

has a flash point due to the presence of small amounts of ethanol and triethylamine.

SPECIAL FIRE FIGHTING PROCEDURES
Use positive-pressure, self-contained breathing apparatus and full protective clothing.

SECTION 5 - HEALTH INFORMATION

PRIMARY ROUTES OF EXPOSURE AND TARGET ORGANS
Eyes and skin contact, skin absorption, ingestion, inhalation. ORGANS: liver, kidneys, and central nervous system.

SIGNS AND SYMPTOMS OF EXPOSURE

(1) ACUTE OVEREXPOSURE
EYE CONTACT: May cause severe irritation with corneal injury, which may result in permanent impairment of vision, even blindness. When tested on animals, dilution of this product was less irritating to eyes than the undiluted product. Vapors of triethylamine may cause swelling of the cornea resulting in visual disturbances such as blurred, smoky, or halo vision. SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation, even a burn. When tested on animals, dilution of this product was less irritating to skin than the undiluted product. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. With end-use dilution to 30% or more however, no allergic skin reaction has been observed. SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. INGESTION: Single dose oral toxicity is low. The oral LD50 was 2574 mg/kg for male rats and 1847 mg/kg for female rats. Small amounts swallowed incidental to normal handling operations are not likely to cause injury. Ingestion of large amounts may cause gastrointestinal irritation or ulceration. INHALATION: Based on animal data, short, single exposures to this formulation should pose no acute inhalation hazard.

(2) CHRONIC OVEREXPOSURE
Excessive or prolonged exposures may cause liver or kidney effects. Ethanol, a minor component, has caused central nervous system and liver effects. CANCER INFORMATION: The active ingredient did not cause cancer in long-term animal studies. This product contains a small amount of ethanol; epidemiology studies provide evidence that drinking alcoholic beverages (containing ethanol) is associated with cancer, and IARC has classified alcoholic beverages as carcinogenic to humans. TERATOLOGY (BIRTH DEFECTS): For the active ingredient, birth defects are unlikely; even exposures having an adverse effect on the mother should have no effect on the fetus. Ethanol has caused birth defects in laboratory animals. Ethanol has also been toxic to the fetus in laboratory animal tests. Ethanol has been shown to cause human fetotoxicity and/or birth defects when ingested during pregnancy. REPRODUCTIVE EFFECTS: In animal studies, Triclopyr has been shown not to interfere with reproduction. Ethanol, a minor component, has produced some adverse effects on male fertility in laboratory animals and humans. MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): Results of in vitro (test tube) mutagenicity tests have been negative for both Triclopyr and ethanol. Results of mutagenicity tests in animals have been negative to Triclopyr. Ethanol has been shown to be negative in some animal mutagenicity tests and positive in others. Ethanol is not believed to be a direct acting mutagen.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
Disorders of the skin, liver, kidneys, and/or central nervous system.

CHEMICAL/COMPONENT LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN
None

NTP	IARC	OSHA
☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO

OTHER EXPOSURE LIMITS
OSHA STEL=15 ppm-Triethylamine; ACGIH STEL=5 ppm-Triethylamine; The ACGIH has indicated that it intends to change the TLV for triethylamine to 1 ppm, and the STEL to 3 ppm (1994). Dow Industrial Hygiene Guide (for airborne concentrations) is 2mg/m3 as acid equivalent for 3,5,6-trichloro-2-pyridyloxyacetic acid (Triclopyr).

EMERGENCY AND FIRST AID PROCEDURES
EYES: Hold eyelids open and flush with steady stream of water for 15 minutes. Get medical attention. SKIN: Wash with plenty of soap and water. Get medical attention if irritation persists. Remove contaminated clothing and wash before reuse. INGESTION: Call a physician or poison control center. Do not induce vomiting. Promptly drink large quantities of milk, egg whites, or gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol. INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention. NOTE TO PHYSICIAN: Ingestion may cause tissue destruction, leading to stricture. If lavage is performed, endotracheal and/or esophagoscopic control is suggested. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the

physician in response to reaction of the patient.

SECTION 6 - REACTIVITY DATA

STABILITY ☐ Unstable ☒ Stable	CONDITIONS TO AVOID Avoid sources of ignition if temperature is near or above flash point.
INCOMPATIBILITY (Materials to Avoid) Any oxidizing agent. Consult manufacturer for specifics.	
HAZARDOUS DECOMPOSITION PRODUCTS Nitrogen oxides, oxides of carbon, and hydrogen chloride may be formed under fire conditions.	
HAZARDOUS POLYMERIZATION ☐ May Occur ☒ Will Not occur	CONDITIONS TO AVOID Does not apply

SECTION 7 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS LEAKED OR SPILLED
Dike large spills. Keep out of streams and domestic water supplies. Absorb small spills in inert material such as dry sand.

WASTE DISPOSAL METHOD
Dispose of in accordance with Federal, State, and local regulations.

SECTION 8 - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION
NIOSH/MSHA approved respiratory devices to provide high efficiency protection against vapors, amines, dusts, and mists.

VENTILATION
Provide local and/or general ventilation to maintain exposure below TLV/PEL. General ventilation or outdoor air movement should be sufficient for normal handling operations such as mixing of spray solutions.

PROTECTIVE GLOVES
Rubber, nitrile, or other impervious material.

EYE PROTECTION
Use goggles, face shield, or safety glasses; selection of specific type is dependent upon the potential for eye contact. Use chemical goggles when handling the concentrate.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT
Utilize apron, boots, arm sleeves, long pants, head covering, and other protective equipment, as necessary to prevent contact of product with skin.

SECTION 9 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING
See label. Do not get into eyes, on skin, or on clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling. Keep away from children. Do not contaminate domestic water supplies or water used for irrigation. Do not apply directly to water, 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 wash waters.

OTHER PRECAUTIONS
None determined

SECTION 10 - OTHER INFORMATION

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The information contained within was obtained from authoritative sources and is believed to be accurate for the manner in which the product is intended to be used. Other uses could result in ramifications, which are not included within this document.