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ARY SCHOOLS
215 S.E. 8th Ave.
HILLSBORO, OR 97123

MATERIAL SAFETY DATA SHEET

CM 0194

MATERIAL SAFETY DATA SHEET

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 01662

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PRODUCT NAME: CROSSBOW (R) WEED & BRUSH KILLER

Effective Date: 03/20/88 Date Printed: 04/01/88

MSDS:001715

1. INGREDIENTS:

2,4-Dichlorophenoxyacetic acid, butoxyethyl ester	CAS# 001929-73-3	34.4%
3,5,6-Trichloro-2-pyridinyloxyacetic acid, butoxyethyl ester	CAS# 064700-56-7	16.5%
Inerts including:		49.1%
Kerosene	CAS# 008008-20-6	
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.

2. PHYSICAL DATA:

BOILING POINT: >175C (kerosene)
VAP PRESS: 0.1mm @37.8C (kerosene)
VAP DENSITY: 4.7 (kerosene)
SOL. IN WATER: Forms an emulsion
SP. GRAVITY: 1.013 @ 20C/20C
APPEARANCE: Reddish brown liquid.
ODOR: Sweet odor.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 148F, 64.4C
METHOD USED: Setflash

FLAMMABLE LIMITS
LFL: Not determined
UFL: Not determined

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3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

EXTINGUISHING MEDIA: Water fog, foam, CO2, dry chemical.

FIRE & EXPLOSION HAZARDS: Noxious fumes under fire conditions.
Contain water from fire fighting to prevent entry to water supplies.

FIRE-FIGHTING EQUIPMENT: Use positive pressure self-contained breathing apparatus.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Avoid temperatures above or near flash point.

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

HAZARDOUS DECOMPOSITION PRODUCTS: Noxious fumes, nitrogen oxide, hydrogen chloride and phosgene may result under fire conditions.

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Use appropriate safety equipment. Dike large spills. Absorb spills with inert dry material such as sand or sawdust. Do not use water for cleanup.

DISPOSAL METHOD: If wastes cannot be disposed of by use according to label instructions, contact your state pesticide or Environmental Control Agency or the hazardous waste representative at the nearest EPA regional office for guidance.

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6. HEALTH HAZARD DATA:

EYE: May cause slight eye irritation. Corneal injury is unlikely.

SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation, even a burn. May cause allergic skin reaction in susceptible individuals.

SKIN ABSORPTION: A single prolonged exposure may result in the material being absorbed in harmful amounts. The LD50 for skin absorption in rabbits is 1796 mg/kg.

INGESTION: Single dose oral toxicity is low. The oral LD50 for female rats is 1792 mg/kg. If aspirated (liquid enters the lung), may cause lung damage or even death due to chemical pneumonia, a condition caused by petroleum and petroleum-like solvents.

INHALATION: Excessive exposure may cause irritation to upper respiratory tract. Signs and symptoms of excessive exposure may be central nervous system effects.

SYSTEMIC & OTHER EFFECTS: Excessive exposure may cause liver, kidney, blood, gastrointestinal, muscular and respiratory effects. Did not cause cancer in long-term animal studies (triclopyr). Various animal cancer tests have shown no reliably positive association between 2,4-D exposure and cancer. Epidemiology studies on herbicide use have been both positive and negative with the majority being negative (2,4-D). 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. In animal studies, has been shown to interfere with fertility in males. Results of in vitro ("test tube") mutagenicity tests have been inconclusive. Results of mutagenicity tests in animals have been inconclusive.

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7. FIRST AID:

EYES: Irrigate immediately with water for at least 5 minutes.

SKIN: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash contaminated clothing before reuse. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: 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, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. 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 reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): Dow Industrial Hygiene Guide is 10 mg/m³ for triclopyr butoxyethyl ester and 10 mg/m³ for kerosene. ACGIH TLV and OSHA PEL are 10 mg/m³ for 2,4-D as acid.

VENTILATION: Control airborne concentrations below the exposure guideline. Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

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

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8. HANDLING PRECAUTIONS: (CONTINUED)

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as 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. Contaminated leather items, such as shoes, belts and watchbands, should be removed and destroyed.

EYE PROTECTION: Use safety glasses.

9. ADDITIONAL INFORMATION:

REGULATORY 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

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: See label. Keep out of reach of children. Avoid eye or skin contact. Provide eye fountain and washing facilities near work area. Do not store near fertilizer, seeds, insecticides and fungicides. Keep away from open flame.

MSDS STATUS: Revised Section 9.

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