

MATERIAL SAFETY DATA SHEETDATE PREPARED: 09/16/1997
MSDS No: 6093**1. PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME:** ORTHO® GroundClear® Triox® Total Vegetation Killer1 Concentrate
PRODUCT DESCRIPTION: Herbicide**MANUFACTURER**The ORTHO Group
P.O. Box 1749
Columbus, OH 43216**24 HR. EMERGENCY TELEPHONE NUMBERS****Emergency Phone:** 1-800-225-2883**EPA REG. NO.:** 239-2657A **PN:** 6057**2. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>Chemical Name</u>	<u>Wt. %</u>	<u>CAS#</u>
Glyphosate, isopropylamine salt	5	38641-94-0
Imazapyr, isopropylamine salt	0.08	81510-83-0

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****PHYSICAL APPEARANCE:** clear to amber liquid.**IMMEDIATE CONCERNS:** CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY

DO NOT GET IN EYES OR ON CLOTHING

KEEP OUT OF REACH OF CHILDREN

POTENTIAL HEALTH EFFECTS**EYES:** This substance is a moderate eye irritant and causes substantial but temporary eye injury. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment. Signs and symptoms of overexposure may include discomfort, irritation and redness, and blurred vision. See Toxicological Information, section 11.**SKIN:** This substance is not expected to cause skin irritation. See Toxicological Information, section 11.**INGESTION:** If swallowed, this substance is considered practically non-toxic. See Toxicology Information, Section 11.**INHALATION:** If inhaled, this substance is considered practically non-toxic. See Toxicological Information, Section 11.**SENSITIZATION:** This product contains trace quantities of methylisothiazolinone and methylchloroisothiazolinone as preservatives. At higher concentrations these preservatives have been shown to cause allergic skin reactions in susceptible individuals. These preservatives are also found in a number of widely used personal care products, such as shampoos and cosmetics.**4. FIRST AID MEASURES****EYES:** Hold eye open and rinse slowly and gently with water for 15 to 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:** If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.**INGESTION:** If swallowed, call a poison control center or doctor immediately for treatment advice. Have person sip glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Never give anything by mouth to an unconscious person.**INHALATION:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: None

EXTINGUISHING MEDIA: Alcohol Foam, CO2, Dry Chemical, Water Fog

FIRE FIGHTING PROCEDURES: This material will not burn. Smoke from fires involving this material may present unusual hazards. Avoid breathing smoke and mists. Avoid contact with fallout and runoff. Minimize the amount of water used for fire fighting. Foam fire-extinguishing system is preferred because uncontrolled water can spread contamination. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Read the entire document.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Soak up spilled material with paper towels and discard in trash.

LARGE SPILL: Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgite, bentonite or other absorbent clays. Collect contaminated absorbent, place in plastic-lined metal drum and dispose of in accordance with instructions provided under Section 13. "DISPOSAL". Thoroughly scrub floor or other impervious surface with a strong industrial type detergent solution and rinse with water. For liquid spills that soak into the ground, contact the applicable Federal, State and or County Health Dept. for disposal recommendations. If disposal is required then refer to Section 13 "DISPOSAL" for instructions. 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 13 "Disposal". Any recovered spilled liquid should be similarly collected and disposed of. Do not contaminate water, foodstuffs or feed by storage or disposal.

GENERAL PROCEDURES: Observe all protection and safety precautions when cleaning up spills -- see Section 8. "EXPOSURE CONTROLS/PERSONAL PROTECTION".

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Store product in original container in a safe place. Protect from freezing.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Use this material only in well ventilated areas.

PERSONAL PROTECTION

EYES AND FACE: Wear chemical goggles or safety glasses 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: Although this product does not present a significant skin concern, minimize skin contamination by following good handling practices. Applicators and other handlers must wear: long sleeved shirt, long pants, and shoes with socks. Wash hands and contaminated skin thoroughly after handling.

RESPIRATORY: Avoid breathing vapor or mist. This product is not likely to pose an airborne exposure concern when handled and used in accordance with label instructions.

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

<u>Chemical Name</u>	<u>EXPOSURE LIMITS</u>		
	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>ACGIH STEL</u>
Imazapyr, isopropylamine salt	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

COLOR: Clear to amber

pH: ~7.48

SOLUBILITY IN WATER: Miscible with water.

DENSITY: 8.63 lb/gal at 20°C

SPECIFIC GRAVITY: 1.036 at 20°C

VISCOSITY: Same as water.

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

INCOMPATIBLE MATERIALS: Avoid contact with strong oxidizing and reducing agents. Corrosive to mild steel and brass.

11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: Rabbit - Moderately irritating, corneal involvement and conjunctivitis cleared by day 14.
EPA FIFRA toxicity category - II.

DERMAL LD₅₀: Rat = > 5.0g/kg. **SKIN IRRITATION:** Rabbit - slight irritation PIS 1.5/8.
EPA FIFRA toxicity category - IV.

ORAL LD₅₀: Rat = > 5.0 g/kg.
EPA FIFRA toxicity category - IV.

INHALATION LC₅₀: Rat - 4-hour inhalation = >2.4 mg/l.
EPA FIFRA toxicity category - IV.

SENSITIZATION: Guinea pig - no evidence of allergic skin reactions.

CARCINOGENICITY:

CARCINOGENICITY COMMENTS: GLYPHOSATE: Glyphosate is not considered to be a carcinogen. Glyphosate did not produce tumors in any of the long-term toxicology studies. EPA has classified glyphosate in category "E" (Evidence of noncarcinogenicity for humans).

Mice: 2-year feeding study. Reduced body weight gain and effects on liver tissues were observed at high dose levels.

Rats: 2-year feeding study. Reduced body weight gain and eye changes were observed at the high dose level in one study, while no treatment related effects occurred in a second study conducted at lower dose levels.

Dogs: No adverse effects were observed in feeding studies with dogs.

IMAZAPYR: Not a carcinogen based on the results of the chronic feeding studies in rats and mice. EPA classes imazapyr in Group E (no evidence of carcinogenicity in at least 2 adequate animal tests in different species.). Not listed as a human carcinogen by IARC, OSHA or NTP.

TERATOGENICITY: GLYPHOSATE: No evidence of teratogenic effects. Results of rat and rabbit teratology studies indicate that no birth defects were noted. This included dose levels of glyphosate that were maternally toxic. **IMAZAPYR:** Results of rat and rabbit teratology studies did not reveal any teratogenic or fetotoxic effects.

REPRODUCTIVE TOXIN: GLYPHOSATE: No evidence of adverse reproductive effects. Glyphosate was fed continuously to rats at very high dose levels for 2 successive generations. Toxicity was reported in offspring from the high dose, a level which also produced adverse effects on the mothers. In a 3-generation study conducted at lower dose levels, no effects were seen on the ability of male or female rats to reproduce. **IMAZAPYR:** No data available.

MUTAGENICITY: GLYPHOSATE: Glyphosate has not produced any genetic changes in various mutagenicity tests involving animals and animal or bacterial cells. **IMAZAPYR:** Technical imazapyr is not considered a mutagen. Test results were negative re unscheduled DNA synthesis rat hepatocyte assay, in vitro Chinese hamster ovary (CHO)/hypoxanthine guanine phosphoribosyl transferase (HGPRT) mutation assay, bacterial/microsome reverse mutation (Ames) test and in vitro chromosomal aberrations in Chinese hamster ovary cells.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No data available.

13. DISPOSAL CONSIDERATIONS

FOR LARGE SPILLS: Material collected that cannot be reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

PRODUCT DISPOSAL: Carefully follow all label directions and precautions. If necessary to dispose of partially filled container,

then securely wrap it in several layers of newspaper and discard in trash.

EMPTY CONTAINER: Do not reuse container. Wrap empty container in several layers of newspaper and discard in trash.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated

U.S. SURFACE FREIGHT CLASS: Tree or weed killing compounds, NOI, Density of 20 lbs. or greater per cu. ft.

SPECIAL SHIPPING NOTES: The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA				
ACUTE: YES	CHRONIC: NO	FIRE: NO	REACTIVITY: NO	PRESSURE GENERATING: NO

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All non FIFRA regulated components are on the US EPA's TSCA Inventory List.

16. OTHER INFORMATION

HMS CODES

FIRE: 0 HEALTH: 3 REACTIVITY: 0 PROTECTION: -

NFPA CODES

FIRE: 0 HEALTH: 3 REACTIVITY: 0 SPECIAL: -

APPROVAL DATE: 09/13/2002

REVISION SUMMARY Revision #: 2

This MSDS replaces the February 22, 2001 MSDS. Any changes in information are as follows:

In Section 5

(Group Field) for Flash Point Flash Point (Operator) Flash Point °F (From) Flash Point Method

MANUFACTURER DISCLAIMER: The information contained herein is, to the best of the Manufacturer's (see Section 1) knowledge and belief, accurate and reliable as of the date of preparation of this document. However, no warranty or guarantee, express or implied, is made as to the accuracy or reliability, and the Manufacturer shall not be liable for any loss or damage arising out of the use thereof. No authorization is given or implied to use any patented invention without a license. In addition, the Manufacturer shall not be liable for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.