1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: FAR-GO® Herbicide

MSDS No.: S00010168
Date: April 1, 1999
Chemical Name: Formulation

EPA Reg. No.: 524-145
MONSANTO COMPANY, 800 N. LINDBERGH BLVD., ST. LOUIS, MO 63167

FOR EMERGENCY MEDICAL INFORMATION (call collect): (314) 694-4000
FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, OR ACCIDENT
Call CHEMTREC - Day or Night - 1-800-424-9300
Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted)

For additional non-emergency information, call: 1-800-332-3111

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component | CAS No. | % by weight
---------- | ------- | ---------
Active Ingredient: triazine+ | 2303-17-5 | 46.3%

Inert Ingredients:
- emulsifier* | <5%

Components of C9 Aromatics in this product

Component | CAS No. | % by weight
---------- | ------- | ---------
1,2,4-trimethylbenzene* or dimethyl benzene | 95-63-6 or 25531-13-7 | <18%

Xylenes (mixed)* | 1330-20-7 | <8%

Cumene* | 98-62-8 | <3%

3. HAZARDS IDENTIFICATION

3.1. EMERGENCY OVERVIEW

Appearance and Odor: amber to light brown colored liquid

WARNING STATEMENTS

Keep out of reach of children

CAUTION!

CAUSES EYE IRRITATION

MAY CAUSE RESPIRATORY TRACT IRRITATION

HARMFUL IF SWALLOWED OR INHALED

COMBUSTIBLE

3.2. POTENTIAL HEALTH EFFECTS

LIKELY ROUTES OF EXPOSURE: skin contact and inhalation

EYE CONTACT: May cause pain, redness and tearing based on toxicity studies. Direct contact or excessive exposure to the hydrocarbon solvent vapors may result in eye irritation.

SKIN CONTACT: No more than slightly toxic based on toxicity studies. Prolonged or repeated contact with the hydrocarbon solvents in this product may cause skin irritation, redness and dry skin.

INGESTION: More than slightly toxic based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. Coughing, choking and shortness of breath may occur if material is accidentally drawn into the lungs during swallowing or vomiting.

This product contains hydrocarbon solvents and an emulsifier which if swallowed, may result in stomach upset with nausea and vomiting, and central nervous system (CNS) depression including headache, dizziness, fatigue, and with more severe exposures, unconsciousness.

INHALATION: No more than slightly toxic if inhaled based on toxicity studies. Inhalation of the hydrocarbon solvent vapors may be irritating to the respiratory tract. Prolonged or excessive inhalation of the hydrocarbon solvent vapors in the product may result in CNS depression.

Refer to Section 11 for toxicological information.

4. FIRST AID MEASURES

IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

IF INHALED: Remove individual to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF SWALLOWED: Do NOT induce vomiting. Give large quantities of water. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UN-CONSCIOUS PERSON. Get medical attention.

NOTE: For additional human emergency first aid or treatment guidance, call collect, anytime, day or night (314) 694-4000.

5. FIRE FIGHTING MEASURES

FLASH POINT: 115 degrees F (46 degrees C)

METHOD: Tag Closed Cup

HAZARDOUS PRODUCTS OF COMBUSTION: None known

EXTINGUISHING MEDIA: In case of fire, use water spray (fog), foam, dry chemical, or CO2.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known

FIRE FIGHTING EQUIPMENT: Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

Observe all protection and safety precautions when cleaning up spills - See Exposure Controls/Personal Protection, Section 8.

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 contaminant absorbent, place in metal drum and dispose of in accordance with instructions provided under DISPOSAL CONSIDERATIONS. Thoroughly scrub floor with a strong industrial type detergent solution and rinse with water.

Liquid spills that soak into the ground should be dug up, placed in metal drums and disposed of in accordance with instructions provided under DISPOSAL CONSIDERATIONS.

7. HANDLING AND STORAGE

Handling:

Avoid contact with eyes, skin or clothing. Avoid breathing vapors or spray mist.

User should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Do not use, pour, spill or store near heat or flame.

Use only with adequate ventilation.

Do not apply directly to water, or 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 washwaters.

Storage:

STORE ABOVE 32 DEGREES F (0 DEGREES C) TO KEEP FROM FREEZING.

Freezing will result in crystals which settle to the bottom.

If allowed to freeze, place in a warm room (72 degrees F, 22 degrees C) and roll and shake the can frequently for several days to redissolve before using.

For bulk containers, see the bulk container label for alternate storage information. Keep containers closed to prevent spills, evaporation and contamination.

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Empty containers retain vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION: Wear chemical safety goggles to prevent eye contact during operations such as mixing or transfer or other activities when there is potential for eye contact.

SKIN PROTECTION: Although this material does not present a significant skin contact, skin contamination should be minimized as good industrial practice. Applicators and other handlers must wear long sleeved shirt, long pants, shoes plus socks, and chemical resistant gloves such as barrier laminate and viton. Follow manufacturer's instructions for cleaning contaminated personal protective equipment. If in doubt about instructions for washables, use detergent and hot water. Keep and wash personal protective equipment separately from other laundry.

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

VENTILATION: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). The use of local mechanical exhaust ventilation at sources of contamination such as open process equipment is preferred.

AIRBORNE EXPOSURE LIMITS:

Product/Component | OSHA PEL | ACGIH TLV
---------- | ------- | -----
FAR-GO® | None established | None established

specific chemical identity is withheld because it is trade secret information of Monsanto Company.

4. FIRST AID MEASURES

If allowed to freeze, place in a warm room (72 degrees F, 22 degrees C) and roll and shake the can frequently for several days to redissolve before using.

For bulk containers, see the bulk container label for alternate storage information. Keep containers closed to prevent spills, evaporation and contamination.

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Empty containers retain vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: amber to brown colored liquid

Boiling Point: 320 degrees F

Solubility: forms an emulsion

Specific Gravity: 1.03 at 25/25.6 degrees C

Vapor Pressure: 18 mmHg at 100 degrees F

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

Stability: Stable for at least four years under normal conditions of warehouse storage.

Materials to Avoid: None known

Hazardous Decomposition Products: None known

Hazardous Polymerization: Will not occur

Incompatibility: None known

11. TOXICOLOGICAL INFORMATION

Data from laboratory studies conducted by Monsanto with this material are summarized below:

- Oral LD50 (Rat) - 2193 mg/kg, Slightly Toxic, FIFRA Category IV
- Dermal LD50 (Rabbit) - >5000 mg/kg, Practically Non-toxic, FIFRA Category IV
- Inhalation LD50 (Rat) - >5 mg/l, Practically Non-toxic, FIFRA Category IV, Not DOT Poisonous.
- Eye Irritation (Rabbit) - Score = 14.7/11.0, Moderately Irritating, FIFRA Category III
- Skin Irritation (Rabbit, 24-hr) - Score = 1.7/8.0, Slightly Irritating, FIFRA Category IV

COMPONENTS

- C9 aromatics
- triazine
- chlorinated
- brominated
Data from Monsanto studies and from the available literature for this product which have been identified under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200); 5,12,3,3-Trichlorobenzidinophosphoryl carbamate (Trianillate)

Abnormal behavioral effects have been observed in laboratory animals following single and repeated oral doses of TRIALLATE. No evidence of delayed neurotoxicity (death from repeated oral or dermal doses) or cholinesterase inhibition in rats (single oral doses) has been observed. Following repeated exposure (30 to 90 days) to TRIALLATE in their feed, abnormal behavior, reduced body weights, body weight gains and food consumption, changes in blood composition, effects on gastrointestinal tract, sex organ, liver, thymus, spleen and kidney tissues, and some deaths were observed in laboratory animals (rats, hamsters, or dogs). Degeneration of nerve fibers in the peripheral nervous system and in a specific sensory motor tract of the spinal cord were observed in rats after repeated dietary exposure (90 days) to high doses of TRIALLATE. Dogs fed TRIALLATE at a lower dose for a longer period (1 year) exhibited changes in blood chemistry. Following repeated skin exposure (3 week) to TRIALLATE, skin irritation was the primary effect in rabbits with one death observed at the highest dose. No skin rash was observed in guinea pigs following repeated skin exposure. Eye and nasal irritation, changes in body weight and blood composition and effects on kidney tissues were noted following repeated inhalation (7 week) of TRIALLATE in rats. Mice fed TRIALLATE in long-term (2 year) studies showed some organ weight changes, effects on liver, cornea, brain and spleen tissues and tumors in the liver. Liver tumors are the most common spontaneous tumor in this strain of mice, and it was concluded that the increased incidence of these tumors provides insufficient evidence of a treatment response. Hamsters and/or rats fed TRIALLATE (18-24 months) studied showed reduced body weight gain and survival, some organ weight changes and slight anemia. No adverse organ effects were observed in a long-term (2 year) feeding study in dogs. TRIALLATE did not produce tumors in these studies.

No birth defects were noted in rats and rabbits given TRIALLATE orally during pregnancy, even at amounts which produced toxic effects on the mothers and their offspring. Clinical signs of toxicity, reduced body and pup weight, and effects on reproductive performance parameters (females) were noted in 2-generation studies. Farnam et al. (second generation only) were noted when rats were fed TRIALLATE for two successive generations. TRIALLATE produced genetic changes in standard tests with bacteria, mammalian cells and/or yeast. Both positive and negative responses have been reported in assays using animal or bacterial cells.

C₂₂ Aromatics (Containing mixed isomers of trimethylbenzene and xylenes) (a commercial chemical, off-specification species, container residue, or spill residue thereof)

Although the information and recommendations set forth herein are presented "as is" and "as available" (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Monsanto Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Monsanto Company be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREBUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

15. REGULATORY INFORMATION

TSCA Inventory: All components are listed.

SARA Hazard Notification

Hazard Categories Under Title III Rules (40 CFR 370): Immediate (Acute), Delayed (Chronic), Fire Section 313 Toxic Chemical(s): cumene, triallate, 1,2,4-trimethylbenzene

CERCLA Reportable Quantity: 1 lb RO of triallate

Release of more than 2 pounds of this product to the environment in a 24-hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675).

Refer to Section 2 for OSHA Hazardous Chemical(s) and Section 13 for RCRA classification.

16. OTHER INFORMATION

Reason for revision: Sections 14 and 15 updated. Supersedes MSDS dated 5/18/96

FAR-GO is a registered trademark of Monsanto Company

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label. Although the information and recommendations set forth herein are presented "as is" and "as available" (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Monsanto Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Monsanto Company be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREBUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.