MATERIAL SAFETY DATA SHEET

Product: Far-GO® Herbicide

Formulator: Gowan Company
P.O. Box 5569
Yuma, Arizona 85366-5569
(800) 883-1844

Emergency Phone: (928) 783-3803
For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC®:
Inside the U.S.: (800) 424-9300
Outside the U.S.: (703) 527-3887
For *Medical* Emergency: (888) 478-0798

1. CHEMICAL IDENTIFICATION

Product:	**FAR-GO**		
EPA Signal Word:	CAUTION	**EPA Registration No.:**	10163-286
Active Ingredient:	Triallate (46.3%)	**CAS No.:**	2303-17-5
Chemical Name:	*S*-(2,3,3-trichloro-2-propenyl) bis(1-methylethyl)carbamothioate		
Chemical Class:	Thiocarbamate		

2. COMPOSITION/INFORMATION ON INGREDIENTS

	Component	CAS No.	% by weight
Active Ingredient:	Triallate*+	2303-17-5	46.3%
Inert Ingredients:	emulsifier*#		<5%
	C9 Aromatics (composition variable)*	64742-95-6 or 64741-98-6	40-46%

Components of C9 Aromatics in this product	CAS No.	% by weight
1,2,4-trimethylbenzene*+ or trimethyl benzenes (mixed)	95-63-6 or 25551-13-7	<18%
Xylenes (mixed)*+	1330-20-7	<8%
Cumene*+	98-82-8	<3%

*Hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
+This material is defined by and subject to the reporting requirements of SARA §313.
#The specific chemical identity is withheld because it is a trade secret information.

3. HAZARDS IDENTIFICATION

Physical Properties
Appearance: Amber to light brown colored liquid
Primary Routes of Exposure
Skin contact and inhalation
Medical Conditions Likely to be Aggravated by Exposure
May cause respiratory tract and eye irritation
Hazardous Decomposition Products
None known
Unusual Fire, Explosion, and Reactivity Hazards
Combustible

4. FIRST AID MEASURES

If inhaled	• 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.
If in 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 eye. • Call a poison control center or doctor for treatment advice.
If swallowed	• Call 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. • Do not give anything by mouth to an unconscious person.
• Have the product container or label with you when calling a poison control center or physician, or going for treatment.	

FOR MEDICAL EMERGENCIES INVOLVING THIS PRODUCT, CALL TOLL FREE: (888) 478-0798

5. FIRE FIGHTING MEASURES

Flashpoint (test method): 115°F (46°C) Tag Closed Cup

Appropriate Extinguishing Media

In case of fire, use water spray (fog), foam, dry chemical, or CO_2

Fire Fighting Guidance

Firefighters and other exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

Unusual Fire, Explosion, and Reactivity Hazards

None known

6. ACCIDENTAL RELEASE MEASURES

In Case of Spills or Leaks

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 contaminated 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.

Leaking containers should be separated from those not leaking 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 DISPOSAL CONSIDERATIONS. Collect and disposed of any recovered spilled liquid.

Refer to Section 13 for disposal information and Section 15 for reportable quantity information.

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.

7. HANDLING AND STORAGE (cont.)

Storage:

STORE ABOVE 32° F (0° 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° F, 22° 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.

Emptied container retains 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 concern, 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/maintaining personal protective equipment. If no such 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 air contamination such as open process equipment is preferred.

AIRBORNE EXPOSURE LIMITS:

Product/Component	OSHA PEL	ACGIH TLV
Triallate	None established	None established
C_9 aromatics (comp variable)**	None established	None established
emulsifier	None established	None established
trimethyl benzene	None established	25 ppm, 123 mg/m3
xylenes (mixed)	100 ppm	100 ppm, 150 ppm STEL
cumene	50 ppm(skin)*	50 ppm TWA (skin)*

* -- Skin notation means that skin absorption of this material may add to the overall exposure. Avoid skin contact.

** -- 50 ppm TWA and 75 ppm STEL, A threshold limit value (TLV) has not been established for this product. The occupational exposure limit shown has been recommended by the supplier based on consideration of available toxicological data.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: amber to brown colored liquid
Boiling Point: 320° F
Solubility: forms an emulsion
Specific Gravity: 1.03 at 25/15.6° C
Vapor Pressure: 18 mmHg at 100° 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.
Hazardous Polymerization:	Will not occur
Decomposition Products:	None known
Hazardous Mixtures:	None known
Conditions To Avoid:	None known

11. TOXICOLOGICAL INFORMATION

Oral LD50 (Rat) -	2193 mg/kg, Slightly Toxic
Dermal LD50 (Rabbit) -	>5000 mg/kg, Practically Nontoxic
Inhalation LC50 (Rat) -	>5.2 mg/1, Practically Nontoxic
Eye Irritation (Rabbit) -	Moderately Irritating
Skin Irritation (Rabbit, 24-hr) -	Slightly Irritating

COMPONENTS

Data from the available literature on components of this product, which have been identified under the criteria of the OSHA Hazard Communication Standard (29 CFR § 1910.1200):

Triallate

Abnormal behavioral effects have been observed in laboratory animals following single and repeated oral doses of triallate. No evidence of delayed neurotoxicity effects in chickens (repeat oral and dermal doses) or cholinesterase inhibition in rats (single oral doses) have been observed.

Following repeated exposures (30 to 90 days) 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 nervous tract of the spinal cord were observed in rats after repeated dietary exposure (90 days) to high doses. Dogs fed at a lower dose for a longer period (1 year) exhibited changes in blood chemistry. Following repeated skin exposure (3 week), skin irritation was the primary effect in rabbits with one death observed at the highest dose. No skin allergy 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) in rats.

Mice fed 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 (18-24 months) showed reduced body weight gain and survival, some organ weight changes and slight anemia. No adverse effects were observed in long-term (2 year) feeding studies in dogs. Triallate did not produce tumors in these studies.

No birth defects were noted in rats and rabbits given the 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 weights, and effects on some reproductive parameters (second generation only) were noted when rats were fed triallate for two successive generations.

Triallate produced genetic changes in standard tests which use animals or fruit flies. Both positive and negative responses have been reported in assays using animal or bacterial cells.

11. TOXICOLOGICAL INFORMATION (cont.)

C_9 Aromatics

This component is a complex, variable and combustible mixture consisting predominantly of C_9 aromatic hydrocarbons. Accidental swallowing of hydrocarbons is often associated with stomach and intestinal irritation, vomiting and CNS depression. These aromatic components have a low order of acute oral toxicity unless they enter the lungs (aspiration) during swallowing, or during spontaneous or induced vomiting following accidental swallowing. This may cause mild to severe injury to the lungs; symptoms of injury include increased breathing and heart rates, coughing, and related signs of respiratory distress. Irritation, changes in blood composition and toxic effects on liver and lung have been reported following repeated inhalation of trimethylbenzenes and xylenes by laboratory animals. Birth defects were reported in mice given mixed xylenes (containing ethylbenzene) orally during pregnancy, but only at a level which produced adverse effects on the mother. No adverse genetic changes in standard tests using bacterial and yeast cells, insects, animals and animals cells.

Emulsifier

Concentrated material is severely irritating or corrosive to eyes and irritating to skin and may contribute to the eye and skin irritation potential reported in tests on this product. This emulsifier is irritating to the respiratory tract. If large amounts are ingested, CNS depression may occur.

12. ECOLOGICAL INFORMATION

The results of single exposure (acute) environmental toxicity studies indicate that Far-GO herbicide is moderately toxic to two species of fish and practically nontoxic to quail.

13. DISPOSAL CONSIDERATION

PESTICIDE DISPOSAL: Wastes of this pesticide may cause eye irritation and may be dangerous. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law. If these 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.

CONTAINER DISPOSAL: Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. (See individual container label for disposal information.)

14. TRANSPORT INFORMATION

DOT Classification

Bulk: NA1993, Combustible Liquid, N.O.S. (contains Petroleum Naphtha), PGIII
Non-Bulk: Not regulated

International Maritime Organization

Petroleum distillates, n.o.s., mixture, 3, UN1268, PG III, Marine Pollutant

International Civil Aviation Organization

Petroleum distillates, n.o.s., mixture, 3, UN1268, PG III

15. REGULATORY INFORMATION

SARA Title III Classification

Section 302:	Not applicable
Section 311/312:	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard
Section 313 chemical(s):	Cumene (CAS #98-82-8) – <3% Triallate (CAS #2303-17-5) – 46.3% 1,2,4-trimethylbenzene (CAS #95-63-6 or 25551-13-7) – <18%

Proposition 65

Not applicable

CERCLA Reportable Quantity (RQ)

100 lbs of Triallate (460 lbs. of product)

RCRA Classification

If spilled or discarded, this product may be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

16. OTHER INFORMATION

NFPA Hazard Ratings

Health:	1
Flammability:	2
Reactivity:	0

0	Least
1	Slight
2	Moderate
3	High
4	Severe

Prepared By:

Gowan Company
(800) 883-1844

Notice: The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information herein.