



Material Safety Data Sheet

MSDS Number: 000000000081

FOLEX[®] BRAND 6EC COTTON DEFOLIANT

MSDS Version 2.

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name FOLEX[®] BRAND 6EC COTTON DEFOLIANT
Chemical Name TRIBUFOS
Synonym
MSDS Number 81
Chemical Family
Chemical Formulation C12H27OPS3
EPA Registration No. 264-498
Canadian Registrat. No.

Aventis CropScience USA LP
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For Product Use Information: (888)-AVENTIS (283-6847) Monday through Friday
8:00AM-4:30PM
For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day
For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

Product Use Description FIFRA regulated use only.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name</u>	<u>CAS No.</u>	<u>Concentration % by Weight</u>	
		<u>Minimum</u>	<u>Maximum</u>
S,S,S-TRIBUTYL PHOSPHOROTRITHIOATE	78-48-8	70.5000	
Xylene	1330-20-7	3.6000	
Other ingredients (Trade secret)		25.9000	

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Danger! Corrosive. Causes skin burns. Causes irreversible eye damage. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Combustible liquid.

Physical State liquid

Odor pungent

Appearance amber

Immediate Effects
Eye Irritant. Liquid or vapor can cause irritation, redness, tearing.

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Skin	Causes irritation, redness, swelling.
Ingestion	May be fatal if swallowed. May lead to rapid onset of nausea, vomiting, diarrhea, abdominal pain, involuntary shaking, excess salivation, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression, and convulsions. Aspiration of the swallowed or vomited product can cause severe pulmonary complications.
Inhalation	Harmful if inhaled. May cause upper respiratory tract irritation, dizziness, headache, nausea, vomiting.
Chronic or Delayed Long-Term	This product does not contain any ingredients designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.
Medical Conditions Aggravated by Exposure	Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

SECTION 4. FIRST AID MEASURES

Eye	Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention.
Skin	In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. Particular attention should be paid to hair, nose, ears and other areas not easily cleaned. Seek immediate medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned. Heavily contaminated shoes and clothing should be discarded in a manner which limits further exposure. Launder contaminated clothing separately.
Ingestion	If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.
Inhalation	Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.
Note to Physician	<p>All treatment should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.</p> <p>This product is a cholinesterase inhibitor. Severe symptoms and signs include diarrhea, pinpoint and non-reactive pupils, respiratory difficulty, pulmonary edema, cyanosis, loss of sphincter control, convulsions, and coma.</p>

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Support respiration as needed. Measures should include removal of secretions, maintenance of patent airway, and, if necessary, artificial ventilation.

If cyanosis is absent, give Atropine 2-4 mg intravenously (0.5 mg/kg for children). Repeat Atropine at 5 to 10 minute intervals until atropinization occurs (dry, flushed skin, tachycardia, pupillary dilation), and maintain for 48 hours.

If cyanotic, give initial atropine intramuscularly and start measures to improve ventilation. Start 2-PAM at the same time. Give 1 to 2 gm 2-PAM (20 to 40 mg/kg for children) in 100 cc saline over 15 to 30 minutes.

If pulmonary edema is present, give intravenously slowly as a 5% solution in water over 5 minutes. A second dose may be given after 1 hour if muscle weakness persists. Additional doses may be given cautiously for persistent muscle weakness. May be given by intramuscular or suncutaneous routes if intravenous administration is not feasible.

In case of skin contact, wash patient with soap and water followed by wash with 95% ethyl alcohol. Keep patient under constant observation for 24 to 36 hours. Symptoms may persist for 1 month. Solvent presents aspiration hazard. Gastric lavage may be indicated if material was taken internally.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	54 °C / 129 °F Flammability Class: FLAMMABLE. Method Used: Tagliabue Closed Cup
Lower Flammable Limit	0.9 %(V)
Upper Flammable Limit	7 %(V)
Fire and Explosion Hazards	Under fire conditions, toxic, corrosive fumes are emitted. Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat.
Suitable Extinguishing Media	Small Fires:, dry chemical, water spray Small Fires:, dry chemical, carbon dioxide (CO2)
Fire Fighting Instructions	Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Cool closed containers exposed to fire with water spray. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation. After fire is extinguished, do not turn on any ignition source until the area is determined to be free from explosion or fire hazard.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

General and Disposal Evacuation Procedures and Safety: Ventilate closed spaces before entering. Eliminate all sources of ignitions until the area is determined to be free from explosion of fire hazards. Wear appropriate gear for the situation. See Personal Protection information in Section 8.

Cleanup and Disposal of Spill: Pump any free liquid into an appropriate closed container. Decontaminate tools and equipment following cleanup.

Land Spill or Leaks Containment of Spill: Dike spill using absorbent or impervious materials such as earth, sand or clay. Follow procedure under Cleanup and Disposal of Spill. Collect and contain contaminated absorbent and dike material for disposal.

Environmental and Regulatory Reporting: Do not flush to drain. If spilled on the ground, the affected area should be removed to a depth of one or two inches and placed in an appropriate container for disposal. Dispose of as a hazardous waste. Prevent material from entering public sewer system or any waterway.

SECTION 7. HANDLING AND STORAGE

Handling Procedures Do not breathe vapors and mists. Do not get on skin or in eyes. Do not ingest.

Storing Procedures Store in an area that is away from ignition sources. Store in an area away from food, feedstuffs, fertilizers and seed.

Work/Hygienic Procedures Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.

Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.

Wash exposed skin promptly to remove accidental splashes of contact with this material.

Min/Max Storage Temperatures Not Available

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls Where engineering controls are indicated by use conditions of a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures:

Eye/Face Protection Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Body Protection Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard of use conditions and exposure potential. An emergency shower must be readily accessible to the work area. Consideration must be given both to durability as well as permeation resistance.

Respiratory Protection When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. dusts, mist and fumes, pesticides.

Under normal conditions, in the absence of other airborne contaminants, the following should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridge/canister approved for use against pesticides.

Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.

General Protection These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Limits

Xylene	1330-20-7	ACGIH	TWA	100 ppm	434 mg/m ³
		ACGIH	STEL	150 ppm	651 mg/m ³

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OSHA Z1	PEL	100 ppm	435 mg/m3
OSHA Z1A	TWA	100 ppm	435 mg/m3
OSHA Z1A	STEL	150 ppm	655 mg/m3
US CA OEL	TWA PEL	100 ppm	435 mg/m3
US CA OEL	Ceiling		300 ppm
US CA OEL	STEL	150 ppm	655 mg/m3
NIOSH	REL	100 ppm	435 mg/m3
NIOSH	STEL	150 ppm	655 mg/m3
NIOSH	REL	100 ppm	435 mg/m3
NIOSH	STEL	150 ppm	655 mg/m3
NIOSH	REL	100 ppm	435 mg/m3
NIOSH	STEL	150 ppm	655 mg/m3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	amber
Physical State	liquid
Odor	pungent
pH	Not applicable
Vapor Pressure	0.01 mmHg at 100 °C
Vapor Density (air = 1)	Not available
Specific Gravity	1.008 at 20 °C
Boiling Point	150 °C at mmHg
Melting/Freezing Point	Not available
Solubility (in water)	slightly soluble
Molecular Weight	314.54 g/mol

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Other Information Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	This material is stable under normal handling and storage conditions described in Section 7.
Conditions to Avoid	elevated temperatures open flame spark aqueous alkaline conditions
Incompatibility	None known
Hazardous Products of Decomposition	Decomposition Type: thermal oxides of sulfur
Hazardous Polymerization (Conditions to avoid)	not applicable

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	Male Rat: LD50: 712 mg/kg Female Rat: LD50: 348 mg/kg	
Acute Dermal Toxicity	Rat: LD50: 850 mg/kg	
Acute Inhalation Toxicity	Rat: LC50: > 1.4 mg/l 4 h Acute Respiratory Irritation: No test data found for product.	
Skin Irritation	Rabbit: Moderately irritating	
Eye Irritation	Rabbit: Moderately irritating	
Assessment Carcinogenicity		
ACGIH		
Xylene	1330-20-7	Group A4
NTP		
None		
IARC		
Xylene	1330-20-7	
OSHA		
None		

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SECTION 12. ECOLOGICAL INFORMATION

- Ecological Information** For ecotoxicological data call the product information phone number listed in Section 1.
- Environmental Fate** For chemical fate data call the product information phone number listed in Section 1.

SECTION 13. DISPOSAL CONSIDERATIONS

- General Disposal Guidance** Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.
- Container Disposal** Do not reuse containers. Any container or equipment used should be decontaminated immediately after use. Consult state and local regulations regarding the proper disposal of container.
- EPA Hazardous Waste - Yes
- RCRA Classification** 1330-20-7 Xylene
- US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U239

SECTION 14. TRANSPORT INFORMATION

For Transportation Regulatory Information call the Product Information phone number in Section 1.

SECTION 15. REGULATORY INFORMATION

US Federal

- EPA Registration No.** 264-498
- TSCA list**
- S,S,S-TRIBUTYL PHOSPHOROTRITHIOATE 78-48-8
- Xylene 1330-20-7
- TSCA 12b export notification**
- None
- SARA Title III - section 302 - notification and information**
- None
- SARA Title III - section 313 - toxic chemical release reporting**

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S,S,S-TRIBUTYL PHOSPHOROTRITHIOATE	78-48-8	1.0%
Xylene	1330-20-7	1.0%

US States Regulatory

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State right-to-know ingredients

S,S,S-TRIBUTYL PHOSPHOROTRITHIOATE	78-48-8	CA, NJ
Xylene	1330-20-7	CA, CT, IL, NJ, PA, RI

Canadian Regulations

Canadian Registrat. No.

Canadian Domestic Substance List

Xylene	1330-20-7
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Environmental

CERCLA

Xylene	1330-20-7	100 lbs
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Clean Water Section 307 Priority Pollutants

None

Safe Drinking Water Act Maximum Contaminant Levels

Xylene	1330-20-7
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International Regulations

EU Classification

Xylene	1330-20-7	Harmful
R Phrases	Flammable. Harmful by inhalation and in contact with skin. Irritating to skin.	
S Phrases	Keep out of the reach of children. Avoid contact with the eyes.	

European Inventory of Existing Commercial Substances (EINECS)

S,S,S-TRIBUTYL PHOSPHOROTRITHIOATE	78-48-8
Xylene	1330-20-7

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SECTION 16. OTHER INFORMATION

	Health	Flammability	Reactivity	Others
HMIS	3	2	1	
NFPA	3	2	1	

Reason for Revisions: Updated Regulatory Information - Section 13 Addition of RCRA Classification and Section 15, Addition of EU Classification phrases.

Print Date: 04/29/2002

Supersedes MSDS, which is older than: 04/29/2002

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