

MATERIAL SAFETY DATA SHEET

ACEPHATE 97UP Insecticide

Version: 1

Date Issued: 12/19/02

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company: United Phosphorus, Inc.
423 Riverview Plaza
Trenton, NJ 08611
Product Information: (609) 392-8200 or www.upi-usa.com
Product Name: ACEPHATE 97UP INSECTICIDE
Product use: Insecticide

**FOR MEDICAL EMERGENCIES, CONTACT A POISON CONTROL CENTER
FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300**

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Component Name:	CAS No.	Typical Weight %	Exp. Limit
ACEPHATE* [O,S-Dimethyl acetylphosphoramidothioate]	30560-19-1	97.0	None
Other**	NA	3.0	None

*Active Ingredient

**Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this product.

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION:

- **CAUSES EYE IRRITATION**
- **HARMFUL IF SWALLOWED**
- **AVOID BREATHING DUST OR SPRAY MIST**
- **AVOID CONTACT WITH EYES, SKIN OR CLOTHING**
- **KEEP OUT OF REACH OF CHILDREN**

POTENTIAL HEALTH EFFECTS: Acute toxicity (Primary routes of Exposure)

SIGNS AND SYMPTOMS OF SYSTEMIC EFFECTS: This product contains a cholinesterase inhibitor. Signs and symptoms that may be seen, usually within several hours of exposure, include but are not limited to, headaches, dizziness, weakness, constriction of the pupil, blurred or dark vision, excessive salivation or nasal discharge, profuse sweating, abdominal cramps, nausea, diarrhea and vomiting. Severe poisonings may result in incontinence, unconsciousness, convulsions and death.

EYE: This product is expected to cause minimal or no eye irritation. The degree of injury will depend on the amount and duration of contact and the speed and thoroughness of the first aid treatment. Exposure may include redness and possibly some minor swelling.

SKIN: This product is expected to cause brief and/or minor irritation. The degree of injury will depend on the amount and duration of contact and the speed and thoroughness of the first aid treatment. An exposure may include redness and possibly some minor swelling.

This product is not expected to cause allergic skin reactions. This product has been shown to be slightly toxic when absorbed through the skin. The degree of injury will depend on the amount of material absorbed and the speed and thoroughness of the first aid treatment.

INGESTION: This product has been shown to be slightly toxic when ingested. The degree of injury will depend on the amount of material ingested and the speed and thoroughness of the first aid treatment.

INHALATION: Based on evaluation of the ingredients and/or similar products, this product is expected to be minimally toxic when inhaled. The degree of injury will depend on the amount of material inhaled and the speed and thoroughness of the first aid treatment. Exposure to high concentrations of dust may result in respiratory irritation. Signs and symptoms may include, but not be limited to, nasal discharge, sore throat, coughing and difficulty in breathing.

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Chronic Toxicity (Including Cancer): High doses of Acephate Technical have produced cancer in mice but there is no evidence that Acephate Technical causes cancer in humans. EPA has classified Acephate as a Group C (possible) human carcinogen based on the cancer produced in female mice. This product is not listed as a carcinogen by the national toxicology program (NTP), the International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

Teratology (Birth Defects) Information: There is no evidence that Acephate Technical causes birth defects.

Reproduction Information: There is no evidence that Acephate Technical causes reproductive effects in humans.

Potentially Aggravated Conditions: Individuals with preexisting medical conditions which lower cholinesterase levels may have increased susceptibility to cholinesterase depression.

SECTION 4 FIRST AID MEASURES

If a known exposure occurs or is suspected, immediately start the recommended procedures below. Simultaneously, contact a Poison Control Center and a physician.

EYES: Flush immediately with plenty of water while holding eyelids open. Remove contact lenses if worn. If irritation persists, see a doctor.

SKIN: Wash with soap and water. Remove and wash contaminated clothing separately. Get medical attention if irritation persists.

INGESTION: If swallowed, drink 1 or 2 glasses of water (or milk) and induce vomiting by touching the back of the throat with finger. If possible, contact a physician or poison control center before inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. Take person and product container to the nearest emergency treatment center.

INHALATION: If inhaled remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

NOTES TO PHYSICIAN: This material contains a cholinesterase inhibitor. Measurement of blood cholinesterase activity may be useful in monitoring exposure but decisions regarding treatment will usually need to be made before test results are available. If signs of cholinesterase inhibition appear, atropine sulfate is antidotal. 2-PAM (PROTOPAM) is also antidotal and may be used in conjunction with atropine but should not be used alone.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT:	NA
AUTOIGNITION:	NA
EXTINGUISHING MEDIA:	CO2, dry chemical, foam, water fog.
FLAMMABLE LIMITS:	Lower: NA Upper: NA
FIRE FIGHTING INSTRUCTIONS:	Products of combustion from fires involving this product may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.
HAZARDOUS COMBUSTION PRODUCTS:	Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorous. Incomplete combustion can produce carbon monoxide.

SECTION 6 ACCIDENTAL RELEASE MEASURES

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800 424-9300

Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water.

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LAND SPILLS OR LEAKS:

CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Cleanup spill immediately. Vacuum or sweep up material and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER:

CONTAINMENT: This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further release into soil, surface water and ground water.

CLEANUP: Cleanup spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.

SECTION 7 HANDLING AND STORAGE

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, out of direct sunlight.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE/FACE PROTECTION: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATION/VENTILATION: Use this material only in well ventilated areas. Unless ventilation is adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn.

SKIN PROTECTION: Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including gloves.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White colored free flowing granules
ODOR:	Strong cabbage-like odor
MELTING POINT:	NA
BULK DENSITY:	0.55 g/cc
SOLUBILITY:	Soluble in water
VAPOR PRESSURE:	1.7×10^{-6} mm HG @ 24° C (acephate)
pH:	3.5-4.5 (1% w/w in water)

SECTION 10 STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at normal ambient temperatures. Acephate can degrade on prolonged exposure to elevated temperatures or at alkaline pH.

INCOMPATIBILITY: Avoid contact with alkaline materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Contact with alkaline materials including hypochlorite oxidants may produce noxious gases.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE: This product contains Acephate, a cholinesterase inhibitor. Acute overexposures by oral, dermal or inhalation routes may produce signs and symptoms of toxicity, usually within several hours of exposure, including but not limited to headaches, dizziness, weakness, constriction of the pupil, blurred or dark vision, excessive salivation or nasal discharge, profuse sweating, abdominal cramps, nausea, diarrhea and vomiting. Severe poisonings may result in incontinence, unconsciousness, convulsions and death.

Eye Irritation: Minimal effects clearing within 24 hours (Toxicity Category IV).

Skin Irritation: Slight and transient irritation was present at 72 hours after exposure (Toxicity Category IV).

Dermal Toxicity: The dermal LD50 in rabbits is > 2 g/kg (Toxicity Category III).

Oral Toxicity: The oral LD50 in male rats is 688 mg/kg. The oral LD50 in female rats is 1127 mg/kg. The LD₅₀ for the combined sexes is 846 mg/kg (Toxicity Category III).

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Inhalation Toxicity: No product specific data is available. The 4-hour LC₅₀ in rats of Acephate Technical, a similar product, is > 61.7 mg/l (Toxicity Category IV). Exposure to high concentrations of dust in the air may result in respiratory irritation.

Skin Sensitization: Acephate Technical did not induce a positive skin sensitization reaction in the guinea pig using the modified Buehler or the maximization techniques.

**CHRONIC/
CARCINOGENICITY** High doses of Acephate Technical have produced cancer in mice but there is no evidence that Acephate Technical causes cancer in humans. EPA has classified Acephate as a Group C (possible) human carcinogen based on the cancer produced in female mice. This product is not listed as a carcinogen by the national toxicology program (NTP), the International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

**TERATOLOGY/
DEVELOPMENTAL
TOXICITY** There is no evidence that Acephate Technical causes birth defects.

REPRODUCTION: There is no evidence that Acephate Technical causes reproductive effects in humans.

MUTAGENICITY: Acephate Technical has been shown to have a weak potential to cause mutations when tested at high doses in microbes or cultured cells. However, the results of most in vivo assays indicate that Acephate Technical does not cause mutations in whole animals. Overall, Acephate is not considered to be a mutagenic hazard.

SECTION 12 ECOLOGICAL INFORMATION

AVIAN TOXICITY Acephate Technical is moderately toxic to birds.
Oral LD₅₀ Mallard Duck: 350 mg/kg
Oral LD₅₀ Pheasant: 140 mg/kg
Oral LD₅₀ Chickens: 852 mg/kg

In addition Acephate Technical in the diet causes adverse effects on reproduction in mallard ducks (No Effect Level greater than 5 ppm, but less than 20 ppm) and in bobwhite quail (No Effect Level greater than 20 ppm, but less than 80 ppm).

**AQUATIC ORGANISM
TOXICITY** Acephate Technical is practically non-toxic to freshwater fish. The 96-hour LC₅₀ for Acephate Technical was found to be higher than 1,000 ppm in rainbow trout, bluegill, and channel catfish. The following LC₅₀ values for Lancer 75 S Soluble Powder substantiate the low toxicity to fish:
Bluegill: 2,050 ppm
Black Bass: 1,725 ppm
Catfish: 2,230 ppm
Mosquito Fish: 6,000 ppm
Crayfish: 750 ppm

**OTHER NON-TARGET
ORGANISM TOXICITY** Acephate Technical is highly toxic to bees. The acute Oral LD₅₀ for bees is 1.2 ug/bee.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Check governmental regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

SECTION 14 TRANSPORT INFORMATION

D.O.T. SHIPPING NAME: Insecticide, dry, non-regulated
TECHNICAL SHIPPING NAME: Acephate 97%
RQ: NA
D.O.T. HAZARD CLASS: NA
U.N./N.A. NUMBER: NA
REMARKS: None
EXEMPTION REQUIREMENT: None

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SECTION 15 REGULATORY INFORMATION

REGULATIONS UNDER FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

OTHER U.S. FEDERAL REGULATIONS:

OSHA: NA

CERCLA RQ*: NA

RCRA:** NA

SARA TITLE III:

Sara (313) Chemicals: Acephate

Sara (313, 312): Immediate health effects: Yes
Chronic Health Effects: Yes
Sudden Release of Pressure: No
Reactivity Hazard: No

Sara Section 302: NA

This product is not listed as a carcinogen by the National Toxicology Program (NTP), The International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

*RQ: Reportable Quantity. **RCRA Waste codes must be determined on a case-by-case basis (i.e., spill, processing waste etc.).

SECTION 16 OTHER INFORMATION

NFPA RATING	HEALTH	FLAMMABILITY	REACTIVITY	OTHERS
	1	1	1	None

Least – 0, Slight – 1, Moderate – 2, High – 3, Extreme – 4. These values are obtained using professional judgment and were not available in the guidelines or published evaluations prepared by the National Fire Protection Association.

THIS INFORMATION IN THIS MSDS IS BASED ON DATA AVAILABLE AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. CONTACT UNITED PHOSPHORUS, INC. TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS. JUDGMENTS AS TO THE SUITABILITY OF THE INFORMATION HEREIN FOR THE INDIVIDUAL'S OWN USE OR PURPOSES IS NECESSARILY THE INDIVIDUAL'S OWN RESPONSIBILITY. ALTHOUGH REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF SUCH INFORMATION, UNITED PHOSPHORUS, INC. EXTENDS NO WARRANTIES, MAKES NO REPRESENTATIONS, AND ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR SUITABILITY OF SUCH INFORMATION FOR APPLICATION TO THE INDIVIDUAL'S PURPOSES OR THE CONSEQUENCES OF ITS USE.

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