Material Safety Date Sheet (MSDS)
Acibate 50 EC

IDENTIFICATION OF THE SUPPLIER:

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PRODUCT IDENTIFICATION:

Common Name: Temephos 50% w/v
Trade Name: Acibate 50 EC
Type of formulation : Emulsifiable Concentrate (EC)
Chemical Name:
O,O'-(thiodi-4,1-phenylene) bis(O,O-dimethyl phosphorothioate)
Chemical Formula: $C_{16}H_{20}O_6P_2S_3$
Molecular Weight: 466.5

PRODUCT COMPOSITION:

Active Ingredient:	*% w/v*	*CAS #*
Temephos	50%	*[3383-96-8]*
Inert ingredient:		
Emulsifier	7%	--
Solvent	Up to 100%	--

HAZARDS IDENTIFICATION:

This product is considered to be slightly toxic by acute ingestion.
This product is considered to be moderately toxic by acute dermal exposure

FIRST-AID MEAUSRES:

Skin Contact: Remove contaminated clothing. Rinse skin Immediately with plenty of water for 15-20 minutes
Inhalation: Remove to fresh air. If breathing is difficult, Administer oxygen. See a physician promptly.
Eye: Causes substantial but temporary eye injury. Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contacts, if present, after the first 5 minutes, and then continue rinsing. Call a poison control center or doctor for treatment advice.
Ingestion: give 1-2 glass of water induce the vomiting Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control center or doctor. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious Person

FIRE FIGHTING MEASURES:

Extinguishing Media: Use water, foam, dry chemical, or carbon dioxide (CO2), to extinguish fires.
Special Fire Fighting Procedures: Wear self-contained, positive pressure breathing apparatus and full fire fighting protective clothing. Keep unnecessary people away. Use as little water as possible. Dike area of fire to prevent pesticide run-off. Use spray or fog, solid stream may cause spreading. Do not decontaminate personnel or equipment, or handle broken packages or containers without protective equipment as specified in the Exposure Control Section.
Decontaminate emergency personnel with soap and water before leaving the fire area.
Unusual Fire & Explosion Hazards: Avoid breathing dusts, vapors and fumes from burning materials. Control run-off water. Alert medical personnel to be ready to treat for pesticide poisoning. Control run-off water. If water enters a drainage system, advise the Authorities downstream. Hot containers may explode. Use water to keep containers cool.

ACCIDENTAL RELEASE MEASURES:

Spill Response: Wear protective equipment per Exposure Control Methods Section. Shovel spill into a closed metal container.
Storage: Do not contaminate water, food, or feed by storage or disposal. Store in a secure, dry, well-ventilated room, building or covered area.
Waste Disposal: Dispose in accord with local, state, and federal regulation.

HANDLING AND STORAGE:

Storage Condition: Store in original tightly closed container in dry shaded store , away from food , drink and animal feeding stuffs, away from reach of children . stable for 3 years minimum. Under normal condition
Conditions to Avoid: Storage above 60 °C

EXPOSURE CONTROLS/ PERSONAL PROTECTION:

Exposure Control Methods: Loaders and applicators involved in backpack blower application must wear long-sleeved shirt and long pants, shoes and socks, chemical-resistant gloves and protective eyewear, such as goggles, or safety glasses. Aerial applicators and flaggers must wear long-sleeved shirt, long pants, shoes plus socks. Flaggers must wear chemical resistant headgear and protective eyewear. All other loaders, applicators and handlers must wear coveralls over long-sleeved shirt and long pants, chemical resistant gloves, chemical-resistant foot wear plus socks, protective eyewear, such as goggles or safety glasses, and chemical resistant headgear (if overhead exposure). Loaders supporting aerial applications must wear a dust mist filtering respirator with MSHA/NIOSH
Other Protection: Loaders and cleaners of equipment must wear a chemical resistant apron. Wash thoroughly with soap and water

PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: brown liquid.
Odor: organophosphorus odour.
PH: 6
Density: 1.08 gm/ml
Solubility in water: Emulsion in water

STABILITY AND REACTIVITY:

Conditions to Avoid: Storage above 60 °C
Strong alkalis and some oxidizing agents
Hazardous Decomposition
Products
Decomposition may produce oxides of carbon, phosphorous, and sulfur

TOXICOLOGICAL INFORMATION:

Skin irritation**:** on irritating to rabbit skin
Eye Irritation**:** non irritating to rabbit eye

Teratogenicity: No Teratogenic or fetotoxic effect was observed at all dose levels tested in both rabbits and rats
Carcinogenicity: Temephos is not listed as a human carcinogen by the IARC, OSHA, or NTP.
Mutagenicity: No mutagenic activity was observed in ABATE Tech by all test methods used. (Bacterial/Microsome Reverse Mutation (AMES) Test, Chemical Induction of Chromosome Aberration using Monolayer Cultures or Chinese Hamster Ovary (CHO) Cells with and without Metabolic Activity, Rat Hepatocyte Primary Culture/DNA Repair Test, and Mammalian Cell CHO/Hypoxanthine Guanine Phophoribosyl Transferase (HGPRT) Mutagenicity Test)
Medical Conditions Aggravated by Exposure: Knowledge of the available toxicology information and of the physical and chemical properties of the material suggest that overexposure is unlikely to aggravate existing medical conditions**.**
Symptoms of Overexposure (Note to Physicians): Probable muscosal damage may contraindicate the use of gastric lavage. This product may

inhibit activity of cholinesterase. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM Chloride) may be effective as an adjunct to atropine. Because of increased risk of chemical pneumonia or pulmonary edema caused by aspiration of aromatic hydrocarbons into the lung, vomiting should be induced only under professional supervision.

ECOLOGICAL INFORMATION:

As technical:
Birds Dietary LC50 (5 d) for mallard ducks 1200, ring-necked pheasants 170 mg/kg diet.
Fish LC50 for rainbow trout 31.8 mg/l.
Bees Highly toxic by direct contact; LD50 (topical) 1.55 µg/bee.
Environmental fate:
Animals In mammals, elimination is mainly of unchanged temephos in the faeces and urine. Other principal urinary metabolites are sulfate ester conjugates of 4,4'-thiodiphenol, 4,4'-sulfinyldiphenol, and 4,4'-sulfonyldiphenol.
Plants In plants, oxidation to the sulfoxide, and, to a lesser extent, to the sulfone and the mono- and di-orthophosphates. Further degradation proceeds very slowly.
Soil/Environment Soil adsorption Freundlich K 73 (loamy sand), 130 (sandy loam), 244 (silt loam), 541 (loam).

DISPOSAL CONSIDERATIONS:

Container Disposal: Pesticide wastes are toxic, do not reuse product containers. Dispose of product containers, waste containers, and residues according to local health and environmental regulations.