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READ THE ENTIRE LABEL BEFORE USING THIS PRODUCT.

USE ONLY IN ACCORDANCE WITH INSTRUCTIONS.

KEEP OUT OF REACH OF CHILDREN

ROUT 50 EC



INGREDIENTS

Pirimiphos Methyl50% w/v
Other ingredients50% w/v

ROUT 50 EC is a **cost effective insecticide with a wide variety of uses on storage grain, poultry sheds against darkling beetles and as a general disinfectant.** The active ingredient in ROUT 50 EC is Pirimiphos Methyl 50 EC

Trade names for products containing Pirimiphos methyl include

What is Pirimiphos Methyl and how does it work?

An insecticide which is active by contact, ingestion, and vapor action, and causes phosphorylation of the acetylcholinesterase

enzyme of tissues, allowing accumulation of acetylcholine at cholinergic neuro-effector junctions (muscarinic effects), and at skeletal muscle myoneural junctions and autonomic ganglia. Poisoning also impairs the central nervous system function.

Key Benefits of ROUT 50 EC:

1. Immediate knock down effect.
2. Chemical resistance in many species develops slower for products of the Organophosphate class (ROUT & STEADFAST). {Note: Among pyrethrins the lowest resistance was to ARROW}.

PRECAUTIONS

Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse. Keep children or pets away from treated area until dry.

SYMPTOMS OF POISONING

Irritation on skin or eyes.

MEDICAL TREATMENT

No specific antidote is available. Treatment is symptomatic.

FIRST AID

If on skin, remove contaminated clothes. Rinse and then rinse skin immediately with plenty of water and soap for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

If inhaled, move person for fresh air. If person is not breathing, call for an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control centre or doctor for further treatment advice.

If in eyes, first hold eye open and rinse with plenty of water for 15-20 minutes (remove contact lenses if easily possible). Call poison control center or doctor for treatment advice.

If ingested, call a poison control centre 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 poison control center or doctor. Do not give anything to an unconscious person.

DIRECTIONS OF USE

The darkling beetle, Alphitobius diaperinus is a common insect of poultry houses, in particular broiler sheds and egg barns, and is capable of transmitting a large number of poultry diseases and parasites. REMOVE BIRDS PRIOR TO USE

and then spray the poultry house with ROUT 50 EC.

Alternate use of ROUT 50 EC with ARROW which is a pyrethrin or with PLUNGE (for building exteriors), hence ensuring higher effectiveness and slower development of resistance of pests.

1. ROUT 50 EC is registered for the control of lesser mealworm (Litter Beetle, Darkling Beetle or Black Beetle) infestations in broiler sheds.
2. Advice from growers indicates that the recommended dose is usually applied twice, 4-6 days apart by boom sprayers and, in some cases, airblast orchard sprayers (for walls).
3. The spray is applied to the cleaned floors of sheds, walls and in a band around the outside of the shed wall and the shed left to dry and air for a couple of days.
4. Litter (usually wood shavings) is then placed in the shed and the shed left to stand for a few more days.
5. Chickens are then introduced and no more chemical is applied during the growing period.
6. A period of 7-10 days normally elapses between the removal of a finished batch of chickens and the introduction of a new batch.
7. Occasionally, farmers will keep part of the litter from the previous batch and this litter is treated in the same operation as the shed floors and walls at the same rate of use and by the same method. Under normal circumstances, there is no treatment of litter at all.

Hand held wands, boomsprayers and orchard sprayers are used in poultry sheds to cover walls and floors.

Although adult lesser meal worm may lodge in the throats of young chicks and thereby cause physical harm to birds, the main problems are the damage larvae do to the building insulation and the potential for tapeworm transmission. Physical barriers and decoy pupation sites (to avoid larvae tunnelling into insulation) are possible alternative control strategies but these have not been taken up by producers.

DISPOSAL METHODS

Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority

landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

STORAGE CONDITION

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilizers. Triple or preferably pressure rinse containers before disposal. Add rinsing to spray tank.

For More Details including effects on environment email contact@ivorychem.com with Subject "ROUT 50 EC DETAILS". You may also send your request for **STEADFAST** (Fenitrothion) and **ARROW** (Cyfluthrin) as alternate control strategies for darkling beetles in poultry.

More Details:

USE PATTERNS AND FORMULATIONS

- **Application sites:** Stored grain products - corn, rice, wheat, and grain sorghum intended for export only. Poultry houses and as a general disinfectant.
- **Types of formulations:** emulsifiable concentrate
- **Types and methods of application:** sprays
- **Application rates:** 0.006 to 0.015 lbs. a.i./1,000 lbs. of grain
- **Usual carriers:** petroleum solvents

TOXICOLOGICAL EFFECTS

- **Acute oral LD50:** 2050 mg/kg, Toxicity Category III
- **Acute dermal LD50:** 1505 mg/kg, Toxicity Category II
- **Primary dermal irritation:** No irritation, Toxicity Category III
- **Primary eye irritation:** Corneal opacity persisted to 14 days. Toxicity Category III.
- **Skin sensitization:** Not a sensitizer.
- **Acute inhalation:** Uncharacterized. The use pattern precludes inhalation exposure.
- **Neurotoxicity:** Not an acute delayed neurotoxic agent at doses up to 10 mg/kg/day for 90 doses.

- **Oncogenicity:** Not shown to be an oncogen in rat or mouse studies at dose levels up to 300 and 500 ppm (highest dose tested) respectively.
- **Teratogenicity:** The Agency has determined that this chemical is not teratogenic at levels up to 16 mg/kg/day; however, an additional study in a second species (rats) is still required.
- **Reproduction, 3-generation:** Two studies adequately demonstrate that pirimiphos-methyl does not produce reproductive effects. No effects were demonstrated at dose levels up to 100 ppm.
- **Metabolism:** The studies suggest that pirimiphos-methyl is rapidly excreted, and no evidence of bioaccumulation was noted.
- **Mutagenicity:** This chemical has been determined to be non-mutagenic in all three required studies.
- **Chemical Family:** organophosphate
- **Physical state:** liquid
- **Color:** amber
- **Odor:** putrid - a typical organophosphorothioate odor. Odorless when pure.
- **Molecular weight:** 305
- **Melting point:** 15-18 degrees C
- **Boiling point:** Decomposes above 100 degrees
- **Vapor pressure:** 1.1×10^{-4} tor at 30 degrees C
- **Flash point:** Not reported
- **Solubility in various solvents:** Solubility in water is 5 ppm at 30 degrees C. Miscible in all proportions with methanol, ethanol, chloroform, acetone, benzene, toluene, and xylene.

ECOLOGICAL EFFECTS

- **Effects on Birds:** Avian oral: mallard duck, 76.6 mg/kg. Ring-necked pheasant, 17.7 mg/kg. Avian dietary: mallard duck, 633 ppm. Bobwhite quail, 207 ppm.
- Freshwater fish: coldwater fish (rainbow trout), 0.40 ppm
- Freshwater fish: warmwater fish (bluegill sunfish), 2.9 ppm.
- Acute freshwater invertebrates: Daphnia, 0.21 ppb

ENVIRONMENTAL FATE

- Uncharacterized. This use pattern precludes exposure to the environment.

PHYSICAL PROPERTIES AND GUIDELINES

Physical Properties:

- **Generic Name:** 0-[2-(diethylamino)-6-methyl-4-pyrimidinyl]0,0 dimethylphosphorothioate
- **Common Name:** pirimiphos-methyl
- **EPA Shaughnessy Code:** 108102
- **Chemical Abstracts Service (CAS) Number:** 29232-93-7
- **Year of Initial Registration:** 1984
- **Pesticide Type:** Insecticide

Physiological and Biochemical Behavioral Characteristics

- **Mechanism of pesticidal action:** An insecticide which is active by contact, ingestion, and vapor action, and causes phosphorylation of the acetylcholinesterase enzyme of tissues, allowing accumulation of acetylcholine at cholinergic neuro-effector junctions (muscarinic effects), and at skeletal muscle myoneural junctions and autonomic ganglia. Poisoning also impairs the central nervous system function
- **Symptoms of poisoning include:** Headache, dizziness, extreme weakness, ataxia, tiny pupils, twitching, tremor, nausea, slow heartbeat, pulmonary edema, and sweating. Continual absorption at intermediate dosages may cause influenza-like illness which includes symptoms like weakness, anorexia, and malaise.
- **Metabolism and persistence in plants and animals:** The metabolism of pirimiphos-methyl in plants and animals is not, at this time, adequately understood in order to establish a tolerance for grain crops.



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