

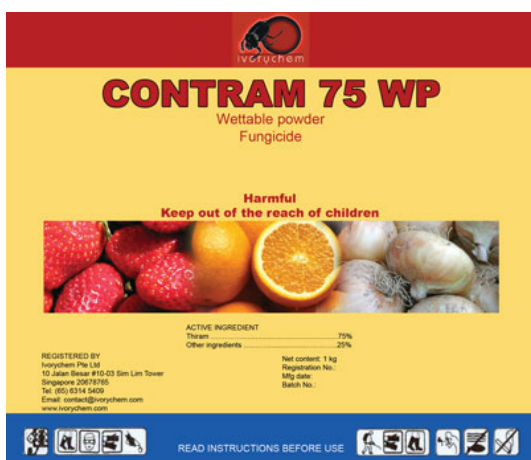
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READ THE ENTIRE LABEL BEFORE USING THIS PRODUCT.

USE ONLY IN ACCORDANCE WITH INSTRUCTIONS.

KEEP OUT OF REACH OF CHILDREN

CONTRAM 75 WP



INGREDIENTS

Thiram75%
Other ingredients25%

CONTRAM 75 WP is a dimethyl dithiocarbamate compound used as a fungicide to prevent crop damage in the field and to protect harvested crops from deterioration in storage or transport.

CONTRAM 75 WP is also used as a seed protectant and to protect fruit, vegetable, ornamental, and turf crops from a variety of fungal diseases. In addition, it is used as an animal repellent to protect fruit trees and ornamentals from damage by rabbits, rodents, and deer.

Thiram is available as dust, flowable, wettable powder, water dispersible granules, and water suspension formulations, and in mixtures with other fungicides. Thiram has been used in the treatment of human scabies, as a sunscreen, and as a bactericide applied directly to the skin or incorporated into soap.

Trade Names Of Other Firms: Trade names for products containing thiram include AAtack,

Arasan, Aules, Fermide 850, Fernasan, FMC 2070, Hexathir, Mercuram, Micropearls, Nomersan, Pomarsol, Puralin, Rezifilm, Rhodiasan Express, Spotrete, Tersan, Thiosan, Thiotex, Thiramad, Thirame, Thiuramin, Thirasan, Tirampa, Tiuramyl, TMTC, TMTD 50 Borches, Trametan, Tuads, and Tulisan

What is CONTRAM 75 WP and how does it work?

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Key Benefits of CONTRAM 75 WP:

1. Effective protectant against mould and other fungi
2. Available in other formulations for application flexibility

PRECAUTIONS

Harmful if swallowed, inhaled or absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or vapor. Wash thoroughly with soap and water after handling. 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

Treatment is symptomatic.

FIRST AID

If skin contacts, remove all contaminated clothing at once; thoroughly wash affected areas with soap and water. If eyes contact, flush for 15 minutes with large amount of water. If inhaled, remove patient to fresh air. In all cases, notify a physician and present this label. Ingestion: Do not induce vomiting or administer liquids. Vomiting should be induced only under professional supervision. Keep patient prone and

quiet. Get medical aid. ONLY A PHYSICIAN should induce vomiting as first aid for this slightly toxic substance due to increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent.

DIRECTIONS OF USE

Crop	Directions	Dosage
Garlic	Control of Fungii	2-3 kg
Onion		PC/ha
Citruses	Control of scab	0.4% ai
Forest		0.8% ai
Strawberries	Treatment by immersion to estolones	0.2% ai
Seeds	Seeds Treatment of botanical seeds	90-368 ai/100 kg

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 "CONTRAM 75 WP DETAILS"

More Details:

TOXICOLOGICAL EFFECTS

- **Acute toxicity:** Thiram is slightly toxic by ingestion and inhalation, but it is moderately toxic by dermal absorption. Acute exposure in humans may cause headaches, dizziness, fatigue, nausea, diarrhea, and other gastrointestinal complaints. In rats and mice, large

doses of thiram produced muscle incoordination, hyperactivity followed by inactivity, loss of muscular tone, labored breathing, and convulsions. Most animals died within 2 to 7 days [4]. Thiram is irritating to the eyes, skin, and respiratory tract. It is a skin sensitizer. Symptoms of acute inhalation exposure to thiram include itching, scratchy throat, hoarseness, sneezing, coughing, inflammation of the nose or throat, bronchitis, dizziness, headache, fatigue, nausea, diarrhea, and other gastrointestinal complaints. Persons with chronic respiratory or skin disease are at increased risk from exposure to thiram [4]. Ingestion of thiram and alcohol together may cause stomach pains, nausea, vomiting, headache, slight fever, and possible dermatitis. Workers exposed to thiram during application or mixing operations within 24 hours of moderate alcohol consumption have been hospitalized with symptoms. The 4-hour inhalation LC50 for thiram is greater than 500 mg/L in rats. Reported oral LD50 values for thiram are 620 to over 1900 mg/kg in rats; 1500 to 2000 mg/kg in mice; and 210 mg/kg in rabbits [1,3]. The dermal LD50 is greater than 1000 mg/kg in rabbits [4] and in rats [1,3].

- **Chronic toxicity:** Symptoms of chronic exposure to thiram in humans include drowsiness, confusion, loss of sex drive, incoordination, slurred speech, and weakness, in addition to those due to acute exposure. Repeated or prolonged exposure to thiram can also cause allergic reactions such as dermatitis, watery eyes, sensitivity to light, and conjunctivitis [1]. Except for the occurrence of allergic reactions, harmful chronic effects from thiram have been observed in test animals only at very high doses. In one study, a dietary dose of 125 mg/kg/day thiram was fatal to all rats within 17 weeks. Oral doses of about 49 mg/kg/day to rats for 2 years produced weakness, muscle incoordination, and paralysis of the hind legs. Rats fed 52 to 67 mg/kg/day for 80 weeks exhibited hair loss, and paralysis and atrophy of the hind legs. Symptoms of muscle incoordination and paralysis from thiram poisoning have been shown to be associated with degeneration of nerves in the lower lumbar and pelvic regions. Day-old white leghorn chicks fed 30 and 60 ppm for 6 weeks exhibited bone malformations [1]. At doses of about

10% of the LD50 for 15 days, thiram reduced blood platelet and white blood cell counts, suppressed blood formation, and slowed blood coagulation in rabbits [1].

- **Reproductive effects:** Very high oral doses of approximately 1200 mg/kg/day thiram to mice on days 6 to 17 of pregnancy caused resorption of embryos and retarded fetal development. In another study, doses of 132 mg/kg/day for 13 weeks produced infertility in male mice, while doses of 96 mg/kg/day for 14 days delayed the estrous cycle in females [1]. The feeding of 50 mg/kg/day thiram from day 16 of pregnancy to 21 days after birth caused reduced growth and survival of the pups. Pups that were transferred to untreated dams at birth remained healthy, while pups transferred from untreated to treated dams showed toxic effects [1]. These data suggest that reproductive effects occur at high doses not likely to be experienced by humans.
- **Teratogenic effects:** Cleft palate, wavy ribs, and curved long leg bones were observed in the offspring of mice that ingested very high thiram doses of 1200 mg/kg/day on days 6 to 17 of pregnancy. Maternal doses of 125 mg/kg/day thiram were teratogenic in hamsters, causing incomplete formation of the skull and spine, fused ribs, abnormalities of the legs, heart, great vessels, and kidneys [1]. Developmental toxicity was observed in a three-generation study of rats fed 5.0 mg/kg/day [1,4]. These data suggest that high doses are required to cause teratogenic effects.
- **Mutagenic effects:** Thiram has been found to be mutagenic in some test organisms but not in others [1]. Thus, the evidence is inconclusive.
- **Carcinogenic effects:** When administered to mice at the highest dose possible, thiram was not carcinogenic. Dietary levels as high as 125 mg/kg/day for 2 years did not cause tumors in rats [1]. These data indicate that thiram is not carcinogenic.
- **Organ toxicity:** Studies have shown evidence of damage to the liver by thiram in the form of decreased liver enzyme activity and increased liver weight [1]. Thiram may also cause damage to the nervous system, blood, and kidneys [4]
- **Fate in humans and animals:** In the body, carbon disulfide is formed from

the breakdown of thiram and does contribute to the toxicity of thiram to the liver [1,3]. Thiram is not a member of the ethylene(bis)dithiocarbamate (EBDC) chemical family, and thus it should not generate ethylene thiourea (ETU) [1].

ECOLOGICAL EFFECTS

- **Effects on birds:** Thiram is practically nontoxic to birds. The reported dietary LC50 of thiram in Japanese quail is greater than 5000 ppm [36]. Reported dietary LC50 values in pheasants and mallard ducks are 2800 ppm and 673 ppm, respectively [14]. The LD50 for the compound in red-winged blackbirds is greater than 100 mg/kg [3].
- **Effects on aquatic organisms:** Thiram is highly toxic to fish [4]. The LC50 for the compound is 0.23 mg/L in bluegill sunfish, 0.13 mg/L in trout, and 4 mg/L in carp [17]. Thiram is not expected to bioconcentrate in aquatic organisms [19].
- **Effects on other organisms:** Thiram is nontoxic to bees [3].

ENVIRONMENTAL FATE

- **Breakdown in soil and groundwater:** Thiram is of low to moderate persistence. It is nearly immobile in clay soils or in soils high in organic matter. Because it is only slightly soluble in water (30 mg/L) and has a strong tendency to adsorb to soil particles, thiram is not expected to contaminate groundwater. The soil half-life for thiram is reported as 15 days [20]. Thiram degrades more rapidly in acidic soils and in soils high in organic matter. In a humus sandy soil, at pH 3.5, thiram decomposed after 4 to 5 weeks, while at pH 7.0, thiram decomposed after 14 to 15 weeks. Thiram persisted for over 2 months in sandy soils, but disappeared within 1 week from a compost soil. The major metabolites of thiram in the soil are copper dimethyldithiocarbamate, dithiocarbamate, dimethylamine, and carbon disulfide [19]. In soil, thiram will be degraded by microbial action or by hydrolysis under acidic conditions. Thiram will not volatilize from wet or dry soil surfaces [19].
- **Breakdown in water:** In water, thiram is rapidly broken down by hydrolysis and photodegradation, especially under acidic conditions. Thiram may adsorb to suspended particles or to sediment [19].

- **Breakdown in vegetation:** No data are currently available.

PHYSICAL PROPERTIES AND GUIDELINES

Physical Properties:

- **Appearance:** Thiram is a white to yellow crystalline powder with a characterisic odor [3].
- **Chemical Name:** tetramethylthiuram disulfide [3]
- **CAS Number:** 137-26-8
- **Molecular Weight:** 240.44
- **Water Solubility:** 30 mg/L at 25 C [3]
- **Solubility in Other Solvents:** s.s in ethanol; s. in acetone and chloroform [3]
- **Melting Point:** 146 C [3]
- **Vapor Pressure:** Negligible at room temperature [3]
- **Partition Coefficient:** Not Available
- **Adsorption Coefficient:** 670 [11]



IVORYCHEM PTE LIMITED
15 Beach Road #02-09
Beach Centre
Singapore 189677
Tel: +65 63377765
Fax: +65 63377730
contact@ivorychem.com
www.ivorychem.com

Company Registration No 200405572W