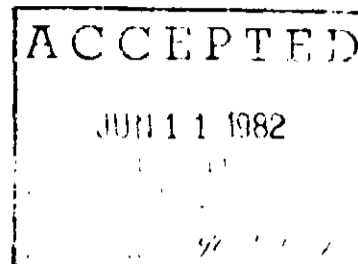




ucb chemicals corporation



THIRAM TECHNICAL

For Manufacturing Use Only

Active Ingredient:

THIRAM (Tetramethylthiuram Disulfide) 98.5%

Inert Ingredient: 1.5%

Keep out of Reach of Children

**Precautionary Statements
Hazards to Humans and Domestic Animals**

CAUTION

Do not inhale dust or spray mist. Do not get in eyes or on skin. Causes irritation to eyes, nose and skin. Use with adequate ventilation. Wash thoroughly after handling. Consumption of alcoholic beverages increases the possibility of harm. First Aid: In case of contact, immediately flush eyes or skin with water for 15 minutes. If irritation persists, contact a physician.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes.

DIRECTIONS FOR USE

It is a violation of Federal (U.S.A.) law to use this product in a manner inconsistent with its labeling. For manufacturing use only. Refer to technical bulletins for manufacturing instructions.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

STORAGE: Store in a cool, dry place.

PESTICIDE DISPOSAL: Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to Federal or approved state procedures under Subtitle C of the Resource Conservation and Recovery Act.

CONTAINER DISPOSAL: Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of bags in a sanitary landfill or by incineration if allowed by State and local authorities.

UCB Chemicals Corp.
Portsmouth, Virginia 23703

EPA Reg. No. 45728-1

EPA Est. 32557-BL-1

Net Wt. 55 Pounds (25kg)



ucb chemicals corporation

BULLETIN THIRAM-01

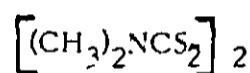
THIRAM TECHNICAL
(TETRAMETHYLTHIURAM DISULPHIDE)

DESCRIPTION

The Agricultural grade which is in fact a 98.5% technical grade THIRAM is intended for formulation into a wettable powder for end use applications as a fungicide. Due to the special wettable powder properties of THIRAM technical grade, conversion into a wettable powder of good quality can be made easily.

80 - 82% THIRAM (technical grade) is blended with 18 - 20% sodium lignosulfonate in a stainless steel blender. The sodium lignosulfonate acts as a wetting agent to form a creamy-white wettable ready for end use applications.

CHEMICAL FORMULA



PHYSICAL PROPERTIES

Bulk density:

not tamped	0.3
tamped	0.35
pH (4% suspension in neutral water)	6 - 9
Molecular Weight	240.44

CHEMICAL PROPERTIES

Mineral acids break down THIRAM with evolution of carbon disulphide and hydrogen sulphide.

HEADQUARTERS 3340 West Norfolk Road Portsmouth, Virginia 23703
Tel. (804) 499-4400
Telex 47,000

PLANT P. O. Box 54 Bucks, Alabama 36512
Tel. (205) 743-7500
Telex 47,000

AGENTS:



SPECIFICATIONS

Appearance	creamy-white powder
Assay (*) (%) min.	98.5 min.
Water content (%) max.	0.3
Particle size distribution (screen under water flow)	
on 0.21 mm sieve (65 mesh)(%) max.	-
on 0.147 mm sieve (100 mesh)(%) max.	0.1
on 0.044 mm sieve (325 mesh)(%) max.	0.75
Wettability in 5 x WHO water (**)(min.) max.	3

- (*) Method of D. G. Clarke and co-workers applied to 0.5 g of sample first reduced by Na_2S in tetrahydrofuran media. Method available upon request.
- (**) Time expressed in minutes which is required so that 5 g of sample disposed onto 100 ml of water (hardness: 1700 mg/l as CaCO_3) are completely wetted.

PACKAGING

55 Pounds net multiply paper bags (inner polyethylene ply).

FLAMMABILITY

Fire hazard is slight. On burning, emits fumes of nitrogen oxides and sulphur oxides. To fight fire, use carbon dioxide, dry chemical, water.

TOXICOLOGY

Toxicity to animals

	Oral LD_{50} (mg/kg)
Mouse	1,800
Rat	820
Rabbit	210
Sheep	225
Guinea pig	1,530

THIRAM is toxic to poultry: the feeding of hens at 35 ppm of the diet caused a severe reduction in egg production (soft shells), weight loss, leg deformities.



Human toxicity

Irritating to eyes, nose, throat and skin. Harmful by ingestion.

Symptoms: dermatitis, nausea, vomiting, diarrhea, hyperexcitability, weakness, ataxia.

Threshold limit values in workplaces

TLV - USA (1978) 5 mg/m³

SAFETY MEASURES, FIRST AID

- Wear rubber gloves, inhalation mask, safety glasses and coverall.
- Provide adequate ventilation.
- Keep out of reach of children and away from food, drink and animal feeding stuffs.
- Wash face and hands prior to taking food.
- Do not drink alcohol. When taken simultaneously, THIRAM causes violent nausea, vomiting and collapse.
- Store at normal temperature, away from source of ignition.
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

IMPORTANT

The Environmental Protection Agency Compendium of Registered Pesticides, Volume II (Fungicides and Nematicides) Part I, Pages T-30-00.01 - T-30-00.09 provides detailed application information for THIRAM.

APPLICATIONS

As seed protectant, increases stands and yields by reducing losses from seed decay, damping off and seedling blights caused by many seed-borne and soil-borne organisms.

As agricultural fungicide, used for control of certain fungus diseases of apples, peaches, strawberries, celery, and tomatoes. Particularly useful on varieties of apples susceptible to russetting, such as Golden Delicious and on red varieties where depth and uniformity of color are desirable; light colored varieties are given outstanding fruit finish.

As turf fungicide, used for control of large brown patch and dollar spot of fine turfs.