
OAR 437, DIVISION 2

GENERAL OCCUPATIONAL SAFETY AND HEALTH RULES

SUBDIVISION Z – TOXIC AND HAZARDOUS SUBSTANCES

NOTE: Former Division 130, Thiram, has been redesignated, renumbered, and slightly amended as Oregon-initiated Rule 437-002-0373 to continue coverage **not** provided in federal standards.

437-002-0373 Oregon Rules for Thiram.

(1) Scope and Application.

(a) These rules include requirements for the control of worker exposure to thiram (Tetramethylthiuram disulfide).

(b) These rules apply where worker exposure to thiram may occur during manufacture, storage, packaging, tree application, treated seedling handling, or use of thiram or thiram treated seedlings.

(c) These rules apply to the transportation of thiram or thiram treated trees except to the extent that the U. S. Department of Transportation may regulate the hazards covered by these rules.

(2) Definitions.

The following definitions shall apply in the application of the thiram rules:

Clean – *The absence of dirt or materials which may be harmful to a worker’s health.*

Large Seedlings – *Those seedlings of such size, either by length or breadth, that during normal planting operations it is difficult to avoid contact of the thiram treated plant with the mouth or face.*

(3) General Requirements. The following rules shall be applicable to thiram:

(a) Permissible Exposure Limits.

(A) No employee may be exposed to thiram at atmospheric concentrations greater than 0.15 mg/m³ over any 8-hour period; and

(B) No employee may be exposed to thiram at atmospheric concentrations greater than 0.30 mg/m³ averaged over any period not exceeding 15 minutes.

(C) Workers shall not be allowed to work more than five days in any seven day period with or around thiram or thiram treated seedlings.

(D) OAR 437-002-0373(3)(a)(C) above is not applicable if a specific thiram control program in addition to these rules and approved by the Administrator has been implemented.

(b) Washing and Worker Hygiene.

(A) Workers shall wash their hands prior to eating or smoking and at the close of work.

(B) Warm (at least 85°F, 29.4°C) wash water and single use hand wiping materials shall be provided for washing.

(C) The warm water and hand wiping materials shall be at fixed work locations or at the planting unit.

(D) Where warm water is not available within 15 minutes travel time, non-alcoholic based waterless hand cleaner shall also be provided.

(E) Every planter or nursery worker shall be advised to bathe or shower daily.

(F) The inside of crummies or other worker carrying vehicles shall be washed or vacuumed and wiped down at least weekly during the period of thiram use.

(c) Personal Protective Measures.

(A) Clothing shall be worn by workers to reduce skin contact with thiram to the legs, arms and torso.

(B) For those workers who have thiram skin irritations, exposed areas of the body shall be protected by a suitable barrier cream.

(C) Only impervious gloves may be worn by workers.

(D) Workers' hands should be clean of thiram before placing them into gloves.

(E) Nursery applicators shall be provided with and use NIOSH approved respirators according to OAR 437, Division 2/I, 1910.134, Respiratory Protection, disposable coveralls or rubber slickers or other impervious clothing, rubberized boots, head covers and rubberized gloves.

(F) Reserved.

(G) Nursery workers other than applicators who may be exposed to thiram shall be provided with and use disposable coveralls or rubber slickers or other impervious clothing, impervious footwear and gloves, and head covers unless showers in accordance with OAR 437, Division 2/J, 1910.141, Sanitation, have been provided and are used.

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(H) Eye protection according to OAR 437, Division 2/I, 437-002-0134(8), shall be provided and worn by workers who may be exposed to splashes of thiram such as during spraying, plug bundling, belt line grading and plugging or other operations.

(d) Respiratory Protection.

(A) Only certified respiratory protection which is applicable and approved by NIOSH shall be provided to workers.

(B) All respirators shall be used and maintained in accordance with OAR 437, Division 2/I, 1010.134, Respiratory Protection.

(C) Respirators shall be worn when planting large seedlings to avoid mouth and face contact with the thiram treated plant unless equally effective measures or planting practices have been taken.

(e) Food Handling.

(A) Food, snacks, beverages, smoking materials, or any other item which is consumed shall not be stored or consumed in the packing area of the nursery.

(B) Crummies or other worker carrying vehicles shall have a clean area for carrying lunches.

(C) The clean area of the vehicle shall be elevated from the floor and not used to carry other than food or other consumable items.

(D) The carrying of lunches, food or other consumable items in tree planting bags is prohibited.

(E) Care shall be taken to ensure that worker exposure to thiram spray, including downwind driftings, is minimized or eliminated.

(F) Workers shall stand upwind when bags that contained thiram or thiram treated seedlings are burned.

(f) Thiram Use and Handling.

(A) Nurseries shall develop a quality control program approved by the Administrator to ensure that only the minimum amount of thiram necessary to achieve the desired anti-browsing results is applied to the tree seedlings.

(B) Thiram treated seedlings shall be allowed to set between the time of spraying and packing.

(C) Seedlings shall be kept moist during packing and whenever possible during planting operations.

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(D) Floors where thiram is used shall not be dry swept but instead vacuumed, washed or otherwise cleaned at least daily.

(E) Silica chips used to cover seedling plugs shall be removed at the nursery.

(g) Labeling.

(A) In the event the Oregon Department of Agriculture, or the U.S. Environmental Protection Agency (EPA), has promulgated and maintained administrative rules relative to the labeling of thiram treated seedlings, such rules shall apply.

(B) In the event the Oregon State Department of Agriculture, or EPA, has not promulgated or maintained thiram labeling rules, there shall be attached to each container, bundle or wrapping of thiram treated seedlings, a clearly legible and visible tag or label, of waterproof material and printing, on which there is stated in English and Spanish the following:

CAUTION

*These seedlings have been treated with an animal repellent containing **Thiram** (Tetra-methylthiuram disulfide) which may flake off the seedlings during handling. Consumption of alcoholic beverages or use of alcohol-base creams or lotions during a time span from 12 hours before to 7 days after exposure to **Thiram** may result in nausea, headache, vomiting, fatigue, or flushness. Exposure to **Thiram** may also cause irritation of the eyes, nose, throat, or skin.*

Thiram may interfere with or render ineffective medications taken by epileptics or heart patients with blood-clotting difficulties. Animal studies at very high concentrations (more than 250 mg/kg) indicate that Thiram may cause birth defects.

SAFETY PRECAUTIONS

- 1. Keep treated seedlings moist at all times.*
- 2. Clothing shall be worn by workers to reduce skin contact with Thiram to the legs, arms and torso.*
- 3. A fiber or cloth face mask (respirator) may be worn at the planter's discretion, except that when planting large seedlings, respirators shall be required to avoid mouth and face contact with thiram treated plants, unless equally effective measures have been taken.*
- 4. Wash exposed skin areas thoroughly after handling treated seedlings and before smoking, drinking, eating or going to the bathroom.*
- 5. If Thiram flakes come in contact with eyes, immediately flush eyes freely with water.*
- 6. Bathe daily and change work clothes at least every other day.*

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PRECAUCION

*Estas plantas han sido tratadas con un replente contra animales que tiene la substancia **Thiram** (Tetramethylthiuram disulfide) que puede desaparecer en manoseo. La consuncion de bebidas alcoholicas o el uso de cremas o lociones con base de alcohol dentro de 12 horas antes de ser expuesto o hasta 7 dias despues de ser expuesto a **Thiram** puede resultar en sintomas de nausea, dolor de cabeza, vomito, faiga o rubor. Contacto con **Thiram** puede causar irritacion de los ojos, nariz, garganta o piel.*

Thiram puede interferir o desvalidar en completa las medicinas de los epilepticos o personas con condiciones de la corazon con dificultades de coagulacion de la sangre. Estudios con animals en concentraciones muy altas (mas que 250 mg/kg) indican que Thiram puede causar deformaciones fetales. Sin que cuando se sembra plantas de semillas grandes macaras estaran requerido a evitar contacto con la boca y la cara con plantas tratado con Thiram excepto cuando otros metodos igualmente efecaz estarah usados.

MEDIAS DE PRECAUCION

- 1. Guardar mojados las platas siempre.*
- 2. El trabajador necesita usar ropa para reducir el contacto de Thiram con las piernas, brazos, y el torso.*
- 3. Una mascara de fibre o garra (mascara) se puede usar a la discrecion del plantador.*
- 4. Lavese bien los parten expuestos cuando trate los semillos antes de fumar, tomar, comer e ir al bano.*
- 5. Se acaso el Thiram cae en sus ojos, imediatamente lavese los ojos libremente con agua.*
- 6. Banese todos los dias y cambiese de ropa de trabajo por lo menos cada otro dia.*

(E) Other containers or thiram handling areas shall be signed and labeled in accordance with OAR 437, Division 2/J, General Environmental Controls, 1910.144 and 1910.145.

(h) Training.

(A) Each worker engaged in operations where exposure to thiram may occur shall be provided training relating to the hazards of thiram and precautions for its safe use and handling.

(B) The training shall be approved by the Administrator.

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(C) The training shall include instruction in:

(i) The nature of the health hazard(s) from chronic exposure to thiram including specifically the potential for birth defects, alcohol intolerance, and drug interaction.

(ii) The specific nature of operations which could result in exposure to thiram and the necessary protective steps;

(iii) The purpose for, proper use, and limitations of protective devices including respirators and clothing;

(iv) The acute toxicity and skin irritation effects of thiram, and the necessary protective steps;

(v) The necessity for and requirements of excellent personal hygiene;

(vi) A review of the thiram rules at the worker's first training and indoctrination, and annually thereafter.

(D) A copy of these thiram rules shall be provided to each worker who may be exposed to thiram.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: WCB Admin. Order, Safety 13-1977 (temp), f. 11/7/77, ef. 11/7/77.

WCD Admin. Order, Safety 2-1978 (perm), f. 3/6/78 ef. 3/6/78.

OR-OSHA Admin. Order 12-1993, f. 8/20/93, ef. 11/1/93.

OR-OSHA Admin. Order 1-2012, f. 4/10/12, ef. 4/10/12.

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