

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : TRANSTECT™ 70WSP INSECTICIDE
Product code : EPA Reg. No. 59639-170-74779

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Insecticide

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

<u>Classification</u>	<u>Category</u>
Acute Toxicity – Inhalation (Dusts/Mists)	4

2.2. Label elements

Hazard Symbols : 

Signal word : WARNING
Hazard statements : Harmful if inhaled
Precautionary statements (prevention) : Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Precautionary statements (response) : See Section 4, First Aid Measures.
Precautionary statements (storage) : None
Precautionary statements (disposal) : None



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2.3 Hazards not otherwise classified (HNOC)

Other Information:

- Very toxic to aquatic life with long lasting effects.

For information on Transportation requirements, see Section 14.

SECTION 3: Composition/information on ingredients

Chemical Name	CAS Number	%/wt
Dinotefuran*	165252-70-0	70
Particulates Not Otherwise Classified**	No CAS#	30

*Active Ingredient

**Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identity is withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document.

SECTION 4: First aid measures

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

4.1. Description of first aid measures

EYE CONTACT	: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice.
SKIN CONTACT	: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or physician for treatment advice.
INGESTION	: Call physician or Poison Control Center immediately for treatment advice. Have the person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by a Poison Control Center or a physician. Do not give anything by mouth to an unconscious person.
INHALATION	: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN	: None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water fog, carbon dioxide, foam, dry chemical.

5.2. Special hazards arising from the substance or mixture

Flash Point °F	: Not Applicable
Autoignition	: 350°C
Flammable limits in air - lower (%)	: Not Applicable
Flammable limits in air – upper (%)	: Not Applicable

NFPA RATING:

Health: 1



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Flammability: 3
Reactivity: 1
Special: None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgment. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

5.3. Advice for firefighters

Firefighting instructions : Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed areas without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.

This material is not expected to burn or explode in normal conditions, but will burn violently if involved in a fire. Dinotefuran becomes self-reactive in high temperatures. Exposure to heat may promote violent decomposition.

Hazardous decomposition products : Normal combustion forms carbon dioxide, water vapor and may produce: Oxides of Nitrogen

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION.

Stop the source of the spill if it is safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

6.2. Environmental precautions

This material should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

6.3. Methods and material for containment and cleaning up

FOR SPILLS ON LAND:

CONTAINMENT : Remove all sources of ignition. Ventilate area of leak or spill. Clean-up personnel may require protection from inhalation of dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP : Clean up spill immediately in a manner that does not disperse dust into the air and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER:

CONTAINMENT : This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further release into soil, surface water and ground water.

CLEANUP : Clean up spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.

SECTION 7: Handling and storage

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

7.1. Precautions for safe handling

HANDLING

: Keep away from all possible sources of ignition (sparks or flame). Avoid high temperatures exceeding 150°C. Keep container closed. Use only with adequate ventilation. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring the material. Use explosion-proof electrical equipment. Take precautionary measures against static discharges.

Wear protective clothing and equipment when handling this product. Goggles or protective eyewear, gloves, long-sleeved shirt, long pants, socks and shoes are appropriate.

Users should wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco or using the toilet.

7.2. Conditions for safe storage, including any incompatibilities

STORAGE

: Keep pesticide in original container only. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place. Do not store diluted spray. Do not contaminate water, food or feed by storage or disposal.

SECTION 8: Exposure controls/personal protection

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

8.1. Personal protective equipment

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If operating conditions result in airborne concentrations of this material, the use of an approved respirator is recommended.

SKIN & HAND PROTECTION: Avoid contact with skin or clothing. Skin contact can be minimized by wearing protective clothing including gloves.

8.2. Exposure controls

EXPOSURE LIMITS

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Dinotefuran	None	None	None
Particulates Not Otherwise Classified	None	None	None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid



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Appearance	: Granule
Color	: Light brown
Odor	: No information available
Odor threshold	: No information available
pH	: 6.4 @ 21°C (1% solution)
Melting/freezing point	: 107.5°C (Dinotefuran)
Boiling point/boiling range	: Decomposed at 208°C (Dinotefuran)
Flash point	: Not applicable
Evaporation rate	: No information available
Flammability (solid, gas)	: No information available
Flammability Limits in Air	
Upper flammability limits	: Not applicable
Lower flammability limits	: Not applicable
Vapor pressure	: No information available
Vapor density	: No information available
Specific gravity	: No information available
Water solubility	: Soluble in water
Solubility in other solvents	: No information available
Partition coefficient	: No information available
Auto-ignition temperature	: No information available
Decomposition temperature	: No information available
Viscosity	: No information available
Explosive properties	: No information available
Oxidizing properties	: No information available
Density	: No information available
Bulk density	: 29.8 lb./cu. ft.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

None known based on information supplied.



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10.6. Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NOx), Oxides of sulfur, Crystalline silica

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Based on an evaluation of the ingredients and/or similar products.

ACUTE TOXICITY		
Oral Toxicity LD ₅₀ (rats)	>5000 mg/kg	EPA Tox Category IV
Dermal Toxicity LD ₅₀ (rabbits)	>5000 mg/kg	EPA Tox Category IV
Inhalation Toxicity LC ₅₀ (rats)	>2.34 mg/L air	EPA Tox Category IV
Eye Irritation (rabbits)	Minimally irritating	EPA Tox Category IV
Skin Irritation (rabbits)	Brief and/or minor irritation	EPA Tox Category IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category - Not applicable

CARCINOGEN CLASSIFICATION

Chemical Name	IARC	OSHA- Select Carcinogens	NTP Carcinogen List
Dinotefuran	Not listed	Not listed	Not listed
Particulates Not Otherwise Classified	Not listed	Not listed	Not listed

TOXICITY OF DINOTEFURAN TECHNICAL

SUBCHRONIC: Dinotefuran technical was tested in 13-week dietary toxicity studies in rats, mice and dogs. In the rat study, a NOEL of 500 ppm was established, based on reduced body weight gain in females and adrenal cortical vacuolation in males and a NOAEL of 5,000 ppm based on marked growth retardation at 25,000 ppm (adrenal cortical vacuolation not adverse). A NOEL of 25,000 ppm was established in the mouse study based on reduced body weight gain at 50,000 ppm. In the dog 13-week dietary study, a NOEL of 8,000 ppm was established based on reduced body weight gain. No target organs were identified in subchronic inhalation or dermal toxicity studies in rats.



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TOXICITY OF DINOTEFURAN TECHNICAL

CHRONIC/CARCINOGENICITY: Dinotefuran technical was tested in lifetime studies with rats and mice and a one-year study with dogs. In common with the subchronic studies in these species, no specific target organs could be identified. In the 78-week mouse study a NOAEL of 2500 ppm was established, based on decreased weight gain and a decrease in circulating platelet counts. In the 104-week rat study a NOAEL of 2000 ppm was established, based on a decrease in weight gain in females. There were no treatment-related effects in rats or mice on survival or the nature and incidence of neoplastic and adverse non-neoplastic histomorphological findings in either species at any dose level. In the 52-week dog study a NOAEL of 16000 ppm was established based on decreased weight gain in both sexes and decreased food consumption in females.

NEUROTOXICITY: Dinotefuran did not produce any functional or histomorphological evidence of neurotoxicity in acute (gavage) and 13-week (dietary) neurotoxicity studies in rats. The NOEL for neurotoxicity in the acute study was 1,500 mg/kg, the highest dose level administered. The NOEL for neurotoxicity in the 13-week dietary study was 50,000 ppm. The NOEL for all effects in this study was 5,000 ppm based on reduced body weight gain and food consumption.

DEVELOPMENTAL TOXICITY: In a developmental toxicity study of Dinotefuran technical in rats the maternal NOAEL was 300 mg/kg/day based on reduced weight gain, food consumption and water intake at 1000 mg/kg/day. Dinotefuran technical did not produce developmental effects in rats at doses up to 1000 mg/kg/day (the highest doses tested). In a study with rabbits the maternal NOAEL was 52 mg/kg/day based on reduced weight gain, food consumption and water intake and clinical signs noted at 300 mg/kg/day and pathology findings in the liver and stomach at 125 mg/kg/day and higher. The developmental NOEL was 300 mg/kg/day.

REPRODUCTION: Dinotefuran technical was tested in a two-generation rat reproduction study at doses of 0, 300, 1000, 3000 and 10000 ppm. The NOAEL for systemic toxicity in parental animals was 3000 ppm based on decreased body weight gain and food consumption and decreased spleen and thyroid weights at the highest dose level evaluated (10000 ppm). The NOAEL for reproductive effects was 10000 ppm. The NOAEL for effects on the offspring was 3000 ppm based on reduced preweaning weight gain at 10000 ppm.

MUTAGENICITY: Dinotefuran technical was negative in the following in vitro assays: Ames Assay, mouse lymphoma (L5178Y), mammalian cytogenetics (CHL/IU) or DNA Repair. Dinotefuran technical was negative in the following in vivo assays: mouse micronucleus. Overall, Dinotefuran technical does not present a genetic hazard.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

SECTION 12: Ecological information

12.1. Toxicity

AVIAN TOXICITY

: Dinotefuran Technical is practically nontoxic to moderately toxic to avian species. Test results include:
Oral LD₅₀ quail: greater than 2000 mg/kg
Dietary LC₅₀ Mallard duck: greater than 997.9 ppm
Dietary LC₅₀ quail: greater than 1301 ppm
Reproduction quail: NOEL = 5000 ppm
Reproduction Mallard duck: NOEL = 2000 ppm



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AQUATIC ORGANISM TOXICITY

: Dinotefuran Technical is practically nontoxic to fish and practically nontoxic to highly toxic to aquatic invertebrate species. Test results include:

LC₅₀ (96 hr) Bluegill Sunfish: greater than 100 mg/L

LC₅₀ (96 hr) Rainbow Trout: greater than 100 mg/L

LC₅₀ (96 hr) Common Carp: greater than 100 mg/L

LC₅₀ (96 hr) Sheepshead Minnow: greater than 109 mg/L

NOEC (early life stage) Rainbow Trout: greater than 10 mg/L

EC₅₀ (48 hr) Daphnia magna: greater than 1000 mg/L

NOEC (lifecycle) Daphnia magna: >10 mg/L

LC₅₀ (96 hr) Mysid Shrimp: 0.79 mg/L

EC₅₀ (96 hr) Oyster Shell Deposition: greater than 141 mg/L

ErC₅₀ (0-72 hr) Algae (*P. subcapitata*): greater than 100 mg/L

OTHER NON-TARGET ORGANISM TOXICITY

: Dinotefuran Technical is highly toxic to bees. The acute oral and contact LD₅₀ in bees were 0.056 ug/bee and 0.022 ug/bee, respectively.

OTHER ENVIRONMENTAL INFORMATION:

This pesticide is toxic to shrimp. Do not apply directly to water, to areas where surface water is present or to intertidal areas below mean high water mark. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

SECTION 13: Disposal considerations

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

13.1. Waste treatment methods

PRODUCT DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure 2 more times.

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations.



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SECTION 14: Transport information

DOT (ground) SHIPPING NAME	: Pesticide, Solid, Non-regulated
REMARKS	: Not regulated for domestic ground transport by U.S. DOT
EMERGENCY RESPONSE GUIDEBOOK NO.	: Not applicable
ICAO/IATA SHIPPING NAME	: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Dinotefuran), 9, III, Marine Pollutant
REMARKS	: Single or inner packaging less than 5 L (liquid) or 5 Kg (solids) exempted from Dangerous Goods regulations – see UN Special Provision 375. For U.S. Shipping, Emergency Response Guidebook No. 171.
IMDG SHIPPING NAME	: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Dinotefuran), 9, III, Marine Pollutant
EMS NO.	: F-A, S-F

SECTION 15: Regulatory information

EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:

This material is a pesticide product registered by the EPA under FIFRA and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

Signal word	: CAUTION
Precautionary statements	: Avoid breathing vapor or dust Avoid contact with eyes, skin, and clothing Powder material may form explosive dust-air mixture. Keep out of reach of children

PESTICIDE REGULATIONS: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

U.S. FEDERAL REGULATIONS: Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	No
Fire:	No
Sudden Pressure:	No



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Reactivity: No

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

SECTION 16: Other information

MSDS US

Disclaimer: The information provided by Rainbow Treecare Scientific Advancements, contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

REVISED DATE: Dec 2019