

Material Safety Data Sheet

Dinotefuran 10% + Pymetrozine 40% WDG

1. PRODUCT IDENTIFICATION

Product Name: Dinotefuran 10% + Pymetrozine 40% WDG
 Common Name: Dinotefuran; Pymetrozine
 Chemical Family: Neonicotinoid (Dinotefuran);
 Selective feeding blocker (Pymetrozine)
 Chemical Formula: C₇H₁₄N₄O₃ (Dinotefuran);
 C₁₀H₁₁N₅O (Pymetrozine);
 Chemical Name: (*RS*)-1-methyl-2-nitro-3-(tetrahydro-3-furylmethyl)guanidine
 (Dinotefuran);
 (*E*)-4,5-dihydro-6-methyl-4-(3-pyridylmethyleneamino)-1,2,4-
 triazin-3(2*H*)-one (Pymetrozine);
 CAS No.: 165252-70-0 (Dinotefuran);
 123312-89-0 (Pymetrozine);
 Product Use: Insecticide

2. COMPANY IDENTIFICATION:

Exporter:

CHICO CROP SCIENCE CO., LTD.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>CAS Registry Number</u>	<u>Typical Wt. % w/w</u>
Dinotefuran	165252-70-0	10%
Pymetrozine	123312-89-0	40%
Inert	-	to 100 %

4. HAZARDS IDENTIFICATION

Emergency Overview

Off-white particles.

CAUTION!

KEEP OUT OF REACH OF CHILDREN

MAY CAUSE EYE AND SKIN IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION.

5. FIRST AID MEASURES

- If swallowed: If swallowed, rinse mouth with water. Never give anything by mouth to an unconscious person. The patient should be sent to the hospital for symptomatic treatment with this label immediately.
- If in eye: Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.
- If on skin: Remove contaminated clothing immediately and rinse contaminated skin with plenty of water. Rinse with soap and then rinse with water. If the skin is inflamed, consult a doctor.
- If Inhaled: Keep patient calm, remove to fresh air, and seek medical attention.

Notes to Physician: No special antidotes. Treat them according to their symptoms.

6. FIRE FIGHTING MEASURES

Fire and explosive Properties

Auto-Ignition Temperature	Not available
Flash Point	Not applicable

Extinguishing Media

Water fog, Carbon Dioxide, Dry Chemical, Foam.

Fire Fighting Instructions

The product is not flammable. But if firing, fire fighters and others who may be exposed to products of combustion should wear full firefighting turn out gear and self-contained breathing apparatus. Firefighting equipment should be thoroughly decontaminated after use. Person who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

7. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Stop the leak, if possible. Ventilate the space involved. Absorb, sweep up, place in container for disposal. Shut off or remove all ignition sources. Prevent waterway contamination. Construct a dike to prevent spreading. Protect works with water spray. Collect run-off water and transfer to drums or tanks for later disposal.

8. HANDLING AND STORAGE

Handling

Harmful if swallowed, inhaled, or absorbed through the skin. Causes eye irritation. Do not breathe gas or allow to get in eyes, on skin, or on clothing. Wash hands, arm and face

thoroughly with soap and warm water after use and before eating or smoking. Wash all contaminated clothing with soap and hot water before reuse. Do not contaminate feed or food items. Keep out of reach of children.

Storage

Store in a cool, dry, ventilated, rain-proof place. Keep container sealed. Keep away from fire and heat. Keep out of the reach of children and unrelated persons and locked. The storage area shall be provided with suitable materials for leakage.

9. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye/Face Protection

Goggles and full-face shield should be used when needed to prevent liquid from face and getting into the eyes.

Skin Protection

Avoid skin contact. Use chemical-resistant gloves, and wear long sleeves and trousers to prevent dermal exposure.

Respiratory Protection

Under normal handling conditions no respiratory protection is needed. However, if needed to prevent respiratory irritation, either a respirator approved for dusts and mists, or one approved for pesticides

10. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Off-white
Physical state:	Particles
Odor:	No characteristic odor
pH:	6.0-10.0 (formulation)
Melting point	107.5 °C (Dinotefuran); 217 °C (Pymetrozine)
Boiling point:	Decomp. 208 °C (Dinotefuran) N/A(Pymetrozine)
Vapor pressure:	$<1.7 \times 10^{-3}$ mPa (30 °C) (Dinotefuran) $<4 \times 10^{-3}$ mPa (25 °C) (OECD 104) (Pymetrozine)
Solubility in water:	In water 39.8 g/l (20 °C). (Dinotefuran) In water 0.29 g/l (pH 6.5, 25 °C). (Pymetrozine)
Solubility in organic solvents:	In hexane 9.0×10^{-6} , heptane 11×10^{-6} , xylene 72×10^{-3} , toluene 150×10^{-3} , dichloromethane 61, acetone 58, methanol 57, ethanol 19, ethyl acetate 5.2 (all in g/l, 20 °C). (Dinotefuran) In ethanol 2.4, hexane <0.001 , toluene 0.034, dichloromethane 1.2, <i>n</i> -octanol 0.45, acetone 0.94, ethyl acetate 0.26 (all in g/l, 25 °C). (Pymetrozine)

Partition coefficient: $K_{ow} \log P = -0.66$ (25 °C, unstated pH). (Dinotefuran)
 $K_{ow} \log P = -0.549$ (25 °C) (Pymetrozine)

11. STABILITY AND REACTIVITY

Stability

Stable at 150 °C (DSC). Hydrolysis $DT_{50} > 1$ y (pH 4, 7, 9). Photodegradation DT_{50} 3.8 h (sterilized/natural water). (Dinotefuran)

Stable in air (OECD 113/DTA). Hydrolysis DT_{50} 5–12 d (pH 5); 616–800 d (pH 7); 510–1212 d (pH 9, 25 °C). (Pymetrozine)

Hazardous Polymerization

Does not occur.

Incompatibility

This product is not compatible with strong oxidizing agents.

Hazardous Decomposition Products

Carbon oxides, nitrogen oxides.

12. TOXICOLOGICAL INFORMATION

Acute oral LD_{50} : Acute oral LD_{50} for male rats 2804, female rats 2000, male mice 2450, female mice 2275 mg/kg. (Dinotefuran)
 Acute oral LD_{50} for rats > 5000 mg/kg. (Pymetrozine)

Acute dermal LD_{50} : Acute percutaneous LD_{50} for male and female rats > 2000 mg/kg. (Dinotefuran)
 Acute percutaneous LD_{50} for rats > 2000 mg/kg. (Pymetrozine)

Acute inhalation LC_{50} : LC_{50} (4 h) for rats > 4.09 mg/l. (Dinotefuran)
 LC_{50} (4 h) for rats > 1800 mg/m³ air. (Pymetrozine)

Irritation: Slight eye and skin irritant (rabbits). (Dinotefuran)
 Non-irritating to skin and eyes (rabbits). (Pymetrozine)

Sensitization: Not a skin sensitizer (guinea pigs). (Dinotefuran)
 Not a skin sensitizer (guinea pigs, M&K). (Pymetrozine)

Long-term Studies: Not oncogenic (rats, mice). Not teratogenic (rats, rabbits). No effect on reproductive performance (rats). Non-mutagenic (4 tests). (Dinotefuran)
 Not a mutagen, neurotoxin, carcinogen, teratogen or reproductive toxin. (Pymetrozine)

13. ECOTOXICOLOGICAL INFORMATION

The data is from studies conducted on the technical material.

Toxicity to bees:

Highly toxic to honeybees; LD₅₀ (oral) 0.023 µg/bee; (contact) 0.047 µg/bee (*EPA Fact Sheet*). (Dinotefuran)

LD₅₀ (48 h) (oral) >117 µg/bee; (contact) >200 µg/bee. (Pymetrozine)

Toxicity to fish and other aquatic organisms:

LC₅₀ (96 h) for carp, rainbow trout and bluegill sunfish >100 ppm. Other aquatic spp. LC₅₀ (48 h) for crayfish 4.84 ppm. LC₅₀ (96 h) for eastern oysters 141, mysid shrimps 0.79 ppm. EC₅₀ for *Lemna gibba* >110 ppm. (Dinotefuran)

LC₅₀ (96 h) for rainbow trout, sheepshead minnows and common carp >100 mg/l. Other aquatic spp. EC₅₀ (96 h) for eastern oysters 3.05 ppm. (Pymetrozine)

Toxicity to birds:

Acute oral LD₅₀ for Japanese quail >2000 mg/kg. LC₅₀ (5 d) for mallard ducks >5000 ppm (997.9 mg/kg daily), Japanese quail >5000 ppm (1301 mg/kg daily). (Dinotefuran)

Acute oral LD₅₀ for mallard ducks >2000 mg/kg. LC₅₀ (8 d) for bobwhite quail >5200 ppm. (Pymetrozine)

Toxicity to earthworms and soil microorganisms:

N/A. (Dinotefuran)

LC₅₀ (14 d) for *Eisenia foetida* 1098 mg/kg soil. (Pymetrozine)

Toxicity to daphnia:

EC₅₀ (48 h) >1000 ppm. (Dinotefuran)

LC₅₀ (48 h) 87 mg/l. (Pymetrozine)

Toxicity to algae:

E_bC₅₀ (72 h) for *Pseudokirchneriella subcapitata* >100 mg/l. (Dinotefuran)

LC₅₀ (72 h) for *Scenedesmus subspicatus* 47.1 mg/l; (5 d) for *Selenastrum capricornutum* 21.7 mg/l. (Pymetrozine)

Chemical Fate Information

The data is from studies conducted on the technical material.

Animals:

In rats, extensively absorbed and completely eliminated within 168 h, mainly via urine. Little metabolism occurred. (Dinotefuran)

Extensively and rapidly absorbed (*c.* 90% in 24 h). Quickly and efficiently eliminated (mainly via excreta) and extensively metabolised in all species tested (rats, farm animals), without accumulation in most major animal food products. Metabolism is via oxidation of the methyl and triazine methylene, and cleavage between the triazine and pyridine rings. The metabolic pathways are similar for all species. Pymetrozine is the relevant residue for assessing the consumer exposure to treated animal food products. (Pymetrozine)

Plants:

In lettuce, metabolites include 1-methyl-3-(tetrahydro-3-furylmethyl)guanidine and 1-methyl-3-(tetrahydro-3-furylmethyl)urea. (Dinotefuran)

The basic degradation steps are similar in all investigated crops; pymetrozine is the only relevant compound for residue definition. (Pymetrozine)

Soli/Environment:

Aqueous photolysis DT₅₀ 1.8 d. Soil DT₅₀ 50–100 d. The major degradate is 1-methyl-2-nitroguanidine. (Dinotefuran)

In soils, very rapidly and strongly adsorbed; K_f 3.1–47.7 ml/g, K_{oc} 246–7875 ml/g o.c. (10 soils, mean 2245 ml/g o.c.); low mobility and low leaching potential. Soil DT₅₀ 2–69 d (field, 7 soils, median 14 d), DT₉₀ 55–288 d (field, 7 soils, median 185 d). Rapidly degraded in slightly acidic or sunlight-exposed surface water; DT₅₀ in surface water 5.2–6.6 d (lab., darkness, 2 water-sediment systems). Slightly volatile. In air, efficiently removed by direct photolysis and photochemically induced oxidation. (Pymetrozine)

14. DISPOSAL CONSIDERATIONS

Waste Disposal

For the packaging container, completely remove the residual agent from the material in the barrel. Landfill or incineration can be used if local authorities permit. Do not reuse empty containers. The residue should be disposed of in strict accordance with the label requirements.

15. TRANSPORT INFORMATION

UN Number: N/A

Dangerous Goods Class: N/A

Packing Group: N/A

16. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

17. OTHER INFORMATION

The information contained herein relates only to the specific material identified. We believe that such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, express or implied, is made as to the reliability or completeness of the information. Urge persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

Chico Crop Science Co., Ltd.