

Material Safety Data Sheet

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

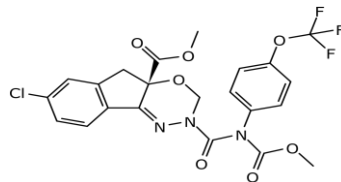
1.1 Identification of the substance

Product name: Indoxacarb TC

IUPAC name: (S)-Methyl 7-chloro-2-[[[(methoxycarbonyl)[4-(trifluoromethoxy)phenyl]amino]carbonyl]-2H,3H,4aH,5H-indeno[1,2-e][1,3,4]oxadiazine-4a-carboxylate

Empirical name: C₂₂H₁₇ClF₃N₃O₇

Structural formula:



Kind of use: Insecticide

1.2 Identification of the supplier

Company name: Jiangsu Subin Agrochemical Co.,Ltd.

Address: No.69, Kanyuan Rd, Yancheng, Jiangsu, China

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Concentration
Indoxacarb	[153233-91-1]	96% min.
Impurities	-	4% max.

3. HAZARDS IDENTIFICATION

Emergency overview

CAUTION:

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

Causes moderate eye irritation. Avoid contact with eyes, clothing or skin.

Harmful if inhaled, swallowed or absorbed through skin. Wash thoroughly with soap and water after handling.

Avoid breathing dust. Remove contaminated clothing and wash clothing before reuse.

4. 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 a 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 doctor for treatment advice.

INGESTION:

Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

INHALATION:

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN:

None

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable

AUTOIGNITION: No data available

EXTINGUISHING MEDIA: Water fog, carbon dioxide, foam, dry chemical

FLAMMABLE LIMITS IN AIR - LOWER (%): Not applicable

FLAMMABLE LIMITS IN AIR - UPPER (%): Not applicable

FIRE FIGHTING 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 area 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. Read the entire document.

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce: Oxides of nitrogen. Combustion may produce toxic: Fluorine compounds. Incomplete combustion can produce carbon monoxide.

6. ACCIDENT RELEASE MEASURES

FOR SPILLS ON LAND:

CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Clean up spill immediately. Vacuum or sweep up material 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.

7. HANDLING AND STORAGE

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

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYES: 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 PROTECTION: Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including gloves.

9. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at room temperature, but a little sensitive to light. Decomposition is accelerated at temperatures above 180° F.

INCOMPATIBILITY: None known

OXIDATION/REDUCTION PROPERTIES: No oxidizing properties

EXPLODABILITY: Not expected to be explosive.

10. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Crystalline powder
Color:	White
Odor:	Musty
M.P.:	101.5–102.5 °C
Bulk density:	1.33 mg/L
pH	6.40
DISSOCIATION CONSTANT	Does not dissociate, no measurable pKa
V.P.:	2.18×10^{-3} mPa
OCTANOL/WATER PARTITION COEFFICIENT:	LogPow=-5.52 ± 0.58
SOLUBILITY:	7.04×10^{-5} g/L in water. Soluble in most organic solvents.

11. TOXICOLOGICAL INFORMATION

Oral Toxicity: The oral LD50 in rats is > 5000 mg/kg. (Toxicity Category IV)

Dermal Toxicity: The dermal LD50 in rats is > 2000 mg/kg. (Toxicity Category III)

Inhalation Toxicity: The 4-hour inhalation LC50 in rats is > 1.09 mg/L. (Toxicity Category III)

Eye Irritation: This product produced minimal or no eye irritation in the eyes of test animals. (Toxicity Category IV)

Skin Irritation: This product produced brief and/or minor irritation in animals. (Toxicity Category IV)

Skin Sensitization: This material was not a skin sensitizer in the modified Buehler Guinea Pig Sensitization test.

SUBCHRONIC: Compound-related effects observed in rodent studies, at high dietary dose levels of Indoxacarb Technical, included increased liver weight, histological changes in the liver, and slight changes in hematology and blood biochemistry parameters. The NOELs in rats and mice were 100 and 400 ppm, respectively. In a 13-week feeding study in dogs with Indoxacarb Technical, dose-related effects noted at the top two levels (10000 and 2000 ppm) included increased liver weights, decreased prostate weights, histological changes of the liver and prostate (acinar cell atrophy), and changes in blood biochemistry (high dose only). The NOEL for this study was 200 ppm. In a 28-day dermal toxicity study, no adverse effects were observed at doses of Indoxacarb Technical up to 1000 mg/kg/day.

CHRONIC/CARCINOGENICITY: Two rat chronic/oncogenicity studies have been conducted with rats fed Indoxacarb Technical in the diet. The first study, conducted at dose levels of 0, 4, 16 and 64 mg/kg/day, indicated liver toxicity and tumors of the testis and pancreas, but a MTD was not achieved. A second confirmatory study was conducted at dose levels of 0, 50, 5000 and 10000 ppm. The findings of the second study confirm that

Indoxacarb Technical is not carcinogenic. Two oncogenicity studies were also conducted in mice using dietary levels ranging from 15 to 4500 ppm. Again, Indoxacarb Technical was found to be toxic to the liver at high doses, but not carcinogenic. In a one year study in dogs with Indoxacarb Technical, an increase in absolute and relative liver weights was observed with corresponding histopathological changes in the liver at 1000 and 5000 ppm. The NOEL for this study was 200 ppm.

DEVELOPMENTAL TOXICITY: No developmental toxicity was observed in rats even at maternally toxic levels of Indoxacarb Technical. Based on decreased food consumption at the 1000 mg/kg/day level, the maternal NOEL was 200 mg/kg/day and the developmental NOEL was 1000 mg/kg/day. In rabbits, Indoxacarb Technical produced a slight increase in skeletal variations, but only at the maternally toxic level of 1000 mg/kg/day (based on decreased body weight gain, reduced food consumption and enlarged liver). The maternal and developmental NOELs were both 200 mg/kg/day.

REPRODUCTION: In a two-generation rat reproductive study with Indoxacarb Technical, an increase in relative liver weight was observed in the F0 and F1 males in the 2000 ppm group. At the 2000 ppm level, the viability index on lactation day 4 was reduced in F1 pups. Body weights of this group were also reduced in F1 and F2 pups during the latter half of the lactation period. The NOEL for both adults and offspring was 400 ppm.

MUTAGENICITY: Indoxacarb Technical was negative in the Microbial/Microsome Reverse Mutation Assay (Ames Test), in vivo mouse micronucleus assay, Unscheduled DNA Synthesis and the in vitro chromosome aberration test in Chinese hamster lung cells. A positive response was observed in the mammalian mutation assay using L5178Y mouse lymphoma cells.

12. ECOTOXICOLOGY INFORMATION

AVIAN TOXICITY: Indoxacarb Technical is considered to be practically nontoxic to birds based on results of test in the following species:

Mallard duck oral LD50 : greater than 2000 mg/kg;

Bobwhite quail dietary LC50 : greater than 5200 ppm.

No reproductive effects were observed in bobwhite quail exposed to 1000 ppm of Indoxacarb Technical, the highest dose tested.

AQUATIC ORGANISM TOXICITY: Indoxacarb Technical is moderately to highly toxic to fish and very highly toxic to aquatic invertebrates:

96-Hour LC50 rainbow trout: 2.8 mg/l;

96-Hour LC50 bluegill sunfish: 1.4 mg/l;

96-Hour LC50 Japanese carp: 0.89 mg/l;

48-Hour EC50 Daphnia magna: 7.1 µg/l;

Early life-stage rainbow trout MATC: 0.022 mg/l;

Life-cycle Daphnia magna MATC: 0.48 µg/l.

(MATC - Maximum Acceptable Toxicant Concentration)



OTHER NON-TARGET ORGANISM TOXICITY: Indoxacarb Technical is practically nontoxic to adult worker honey bees. The 48-hour LD50 values were: Oral LD50 > 200 µg/bee & Contact LD50 > 200 µg/bee.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material.

Dispose in accordance with applicable laws and regulations.

14. TRANSPOT INFORMATION

DOT (ground) SHIPPING NAME: Pesticides, dry, non-regulated

DOT TECHNICAL SHIPPING NAME: Indoxacarb 95% Powder

DOT REPORTABLE QUANTITY (RQ): None

UN/NA NUMBER: Not applicable

HAZARD CLASS: Not applicable

REMARKS: None

EXEMPTION REQUIREMENT: None

15. REGULATORY INFORMATION

Following is the hazard information as required on the pesticide label.

CAUTION:

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

Causes eye irritation.

Avoid contact with the skin, eyes and clothing.

Wash thoroughly after handling.

16. OTHER INFORMATION

The information and recommendations contained herein are based on information believed to be correct. However, no guarantee or warranty of any kind, expressed or implied is made with respect to the information provided herein.

