MATERIAL SAFETY DATA SHEET

Niclosamide 70% WP

1. PRODUCT IDENTIFICATION

Product Name:	Niclosamide 70% WP
Common Name:	Niclosamide
Chemical Family:	Salicylamide derivatives
Chemical Formula:	$C_{13}H_8Cl_2N_2O_4$
Chemical Name:	2′,5-dichloro-4′-nitrosalicylanilide
CAS No.:	50–65–7
Product Use:	Insecticide

2. COMPANY IDENTIFICATION

Exporter:

CHICO CROP SCIENCE CO., LTD.
Add: Rm 903, Unit C, Tian An International Bldg., Renmin South Rd.,
Shenzhen, China.
Tel: 86-755-22969199 Fax: 86-755-25919993
E-mail: chico1@chicocrop.com

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS Registry Number	Typical Wt. w/w
Niclosamide	50–65–7	70%
Inert	-	to balance

4. HAZARDS IDENTIFICATION

Emergency Overview

Bright yellow powder.

CAUTION!

KEEP OUT OF REACH OF CHILDREN

MAY CAUSED SKIN SLIGHT IRRITATION

MAY CAUSED EYE SLIGHT IRRITATION

Potential Health effects

Dermal contact, ingest and inhalation of the product are the primary routes to induce potential adverse health effects. Inhalation of aerosol during application of the product as part of its end use is another potential route of entry. Eye and skin irritation may occur from contact with the liquid or spray mixture.

5. FIRST AID MEASURES

If swallowed: Rinse mouth with water. Never give anything by mouth to an unconscious person. Should be send to the hospital treatment immediately.

If in eye: Hold eyelids apart. Immediately rinse eyes with a large amount of running water. Go to a doctor.

If on skin: Wash with plenty of soap and water, including hair and under fingernails. Do not apply any medicating agents except on the advice of a physician. Remove contaminated clothing and decontaminate prior to use.

If Inhaled: Move victim from contaminated area to fresh air. Keep patient calm, apply artificial respiration if necessary. Seek medical attention.

Notes to Physician: There is no specific antidote, Treat symptomatically.

6. FIRE FIGHTING MEASURES

Fire and explosive Properties

Auto-Ignition Temperature	Not available
Flash Point	Not available

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.

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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. Ventilated 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 and air ventilating warehouse and protected from light. Avoid contacting with food, feed stuff and seed.

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.

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10. PHYSICAL AND CHEMICAL PROPTERTIES

Color:	Bright yellow
Physical state:	Powder
Odor:	Not distinct odor
PH:	7.0-10.0
Melting point	230 ℃
Boiling point:	N/A
Vapor pressure:	8×10^{-8} mPa (20 ℃, by extrapolation)
Solubility in water and solvents:	In water 0.005 (pH 4), 0.2 (pH 7), 40 (pH 9) (all in mg/l, 20 ℃). Soluble in common organic solvents such as ethanol and diethyl ether.
Partition coefficient:	K_{ow} logP = 5.95 (pH ≤4.0), 5.86 (pH 5.0), 5.63 (pH 5.7), 5.45 (pH 6.0), 4.48 (pH 7.0), 3.30 (pH 8.0), 2.48 (pH 9.3)

11. STABILITY AND REACTIVITY

Stability

Stable at pH 5–8.7. (For tech.)

Hazardous Polymerization

Does not occur.

Incompatibility

This product is not compatible with strong oxidizing substances.

Hazardous Decomposition Products

Carbon oxides, Nitrogen oxides, Hydrogen chloride gas

12. TOXICOLOGICAL INFORMATION

Acute Oral:	Acute oral LD_{50} for rats ≥5000 mg/kg.
Acute Dermal:	Acute percutaneous LD_{50} for rats >1000 mg/kg (EC250).
Irritation:	Strong eye irritant; skin reacts after repeated and long-lasting exposure (rabbits).

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Sensitization: N/A

Long-term Studies: No relevant mutagenic or embryotoxic effect.

13. ECOLOGICAL INFORMATION

Ecotoxicological Information

Effects on Birds: LD_{50} for mallard ducks >500 mg/kg (*FAO Specifications*).

Effects on Fish: LC_{50} (96 h) for golden orfe 0.1 mg/l.

Bees: No significant mortality effects.

Daphnia: LC_{50} (48 h) 0.2 mg/l.

Algae: E_rC_{50} for *Scenedesmus subspicatus* 5 mg/l.

Chemical Fate Information

Animals: Following oral administration, ^{14}C-niclosamide was absorbed and metabolized in the rat. The major metabolite in the urine was the reduced compound 2′,5-dichloro-4′-aminosalicylanilide ([10558–45–9])*;* several labile conjugates were also detected. The major constituent in the faeces was unchanged niclosamide, although considerable amounts of 2′,5- dichloro -4′- amino -salicylanilide were also present; parent compound is present not only because of non-absorption, but also because of release from the biliary conjugate by β-glucuronidase of the intestinal microflora. Another study indicates that niclosamide is very poorly absorbed after dermal application. Radioactivity in the urine and faeces after application of ^{14}C-niclosamide accounted for <2% and 10% of the labelled compound applied to pig and rat skin, respectively; *c.* 20% was recovered from the area of application. Studies in fish with niclosamide and its 2-aminoethanol salt, indicate that niclosamide is rapidly excreted, as the glucuronide conjugate, and that there is little biomagnification.

Soil/Environment: There was a rapid decline in niclosamide residues in paddy water; degradation followed pseudo-first order kinetics, DT_{50} 0.3 d. At harvest, niclosamide residues were below the detection limit of 0.03 mg/kg in rice leaves, stalk and grain, indicating that the use of niclosamide as a molluscicide in rice production does not lead to persistent residues in the rice paddy ecosystem. An aqueous solution of ^{14}C-niclosamide was 95% degraded after 14 d exposure to long-wavelength uv light. No degradation occurred within 56 days either in buffered solution (pH 5.0, 6.9 and 8.7) or in pond water (initial pH 7.8).

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14. DISPOSAL CONSIDERATIONS

Waste Disposal

Pesticide wastes are acutely hazardous. Do not reuse product containers. Dispose product containers, waste containers, residues according local health and environmental regulations.

15. TRANSPORT INFORMATION

UN Number: 3077

Dangerous Goods Class: 9

Packing Group: III

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.

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