

Material Safety Data Sheet

Lufenuron 5% + Chlorantraniliprole 5 % SC

1. PRODUCT IDENTIFICATION

Product Name: Lufenuron 5% + Chlorantraniliprole 5 % SC
 Common Name: Lufenuron; Chlorantraniliprole
 Chemical Family: benzoylurea(Lufenuron);
 diamide (Chlorantraniliprole)
 Chemical Formula: C₁₇H₈Cl₂F₈N₂O₃ (Lufenuron);
 C₁₈H₁₄BrCl₂N₅O₂ (Chlorantraniliprole);
 Chemical Name: (RS)-1-[2,5-dichloro-4-(1,1,2,3,3,3-hexafluoropropoxy)phenyl]-
 -3-(2,6-difluorobenzoyl)urea(Lufenuron);
 3-bromo-N-[4-chloro-2-methyl-6-(methylcarbamoyl)phenyl]-1-
 (3-chloropyridin-2-yl)-1H-pyrazole-5-carboxamide;
 3-bromo-4'-chloro-1-(3-chloro-2-pyridyl)-2'-methyl-6'-(methylc
 arbamoyl)pyrazole-5-carboxanilide(Chlorantraniliprole);
 CAS No.: 103055 - 07 - 8 (Lufenuron);
 500008 - 45 - 7 (Chlorantraniliprole);
 Product Use: Insecticide

2. COMPANY IDENTIFICATION:

Exporter:

CHICO CROP SCIENCE CO., LTD.

Add: Rm 2202, T2, Runhong Building, No. 75 Meiyuan Road, Luohu District,
 Shenzhen, China.

Tel: 86-755-22969199 Fax: 86-755-25919993

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>CAS Registry Number</u>	<u>Typical Wt. %</u>
Lufenuron	103055 - 07 - 8	5%
Chlorantraniliprole	500008 - 45 - 7	5%
Inert	-	to 100 %

4. HAZARDS IDENTIFICATION

HAZARD STATEMENT

Toxic to silkworms and aquatic organisms.

May be harmful if swallowed.

May cause eye and skin irritation.

May cause allergic skin reaction.

PRECAUTIONARY STATEMENT

Keep out of reach of children.

Avoid contact with pregnant and lactating women.
Do not eat, drink or smoke when using this product.
Wash hands after application.
Be stored far of the children, food and drinks place.

5. FIRST AID MEASURES

If swallowed: Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. 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: Wash thoroughly with soap and water. If irritation develops, seek medical attention.

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. 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, 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:	White
Physical state:	liquid
Odor:	N/A.
pH:	6.0-9.0 (formulation)
Melting point	168.7-169.4°C (Lufenuron); 208–210°C(tech.,200–202°C) (Chlorantraniliprole)
Boiling point:	N/A(Lufenuron) N/A(Chlorantraniliprole)
Vapor pressure:	$<4 \times 10^{-3}$ mPa (25 °C)(Lufenuron) 2.1×10^{-8} mPa (25°C, calc.); 6.3×10^{-9} mPa (20 °C). (Chlorantraniliprole)
Solubility in water:	In water 0.048 mg/l (pH7.7, 25°C). (Lufenuron)

Solubility in organic solvents:	In water 0.9-1.0 mg/l (20 °C). (Chlorantraniliprole)
	In acetone 460, toluene 66, n-hexane 0.10, n-octanol 8.2, dichloromethane 84, ethyl acetate 330, methanol 52 (all in g/l, 25 °C). (Lufenuron)
Partition coefficient:	In acetone 3.4, acetonitrile 0.71, dichloromethane 2.48, ethyl acetate 1.14, methanol 1.71 (all in g/l). (Chlorantraniliprole)
	$K_{ow} \log P = 5.12$ (25 °C) (Lufenuron) $K_{ow} \log P = 2.76$ (pH7) (Chlorantraniliprole)

11. STABILITY AND REACTIVITY

Stability

Stable at pH 5 and 7 (25 °C); DT50 512 d (pH 9, 25 °C). (Lufenuron)
In water, DT50 10 d (pH 9, 25 °C). (Chlorantraniliprole)

Hazardous Polymerization

Does not occur.

Incompatibility

This product is not compatible with strong acids, strong oxidizing agents.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride.

12. TOXICOLOGICAL INFORMATION

Acute oral LD ₅₀ :	Acute oral LD ₅₀ for rats >2000 mg/kg (Lufenuron)
	Acute oral LD ₅₀ for male and female rats >5000 mg/kg. (Chlorantraniliprole)
Acute dermal LD ₅₀ :	Acute percutaneous LD ₅₀ for rats >2000 mg/kg. (Lufenuron)
	Acute percutaneous LD ₅₀ for male and female rats >5000 mg/kg. (Chlorantraniliprole)
Acute inhalation LC ₅₀ :	LC ₅₀ (4 h, 20 °C) for rats >2.35mg/l. (Lufenuron)
	LC ₅₀ for male and female rats > 5.1 mg/l. (Chlorantraniliprole)
Irritation:	Non-irritating to eyes and skin (rabbits). (Lufenuron)
	No skin irritation (rabbits). (Chlorantraniliprole)
Sensitization:	Moderate skin sensitisation potential (M&K). (Lufenuron)
	Not a skin sensitiser (guinea pigs). (Chlorantraniliprole)
Long-term Studies:	(2 y) for rats 2.0 mg/kg b.w. daily. (Lufenuron)
	NOAEL (18 mo) for male mice 158 mg/kg b.w. (Chlorantraniliprole)

13. ECOTOXICOLOGICAL INFORMATION

The data is from studies conducted on the technical material.

Toxicity to bees:

LC50 (oral) >197 µg/bee; LD50 (topical) >200 µg/bee. (Lufenuron)

LD50 (oral) >104 µg/bee; (contact) >4 µg/bee. (Chlorantraniliprole)

Toxicity to fish and other aquatic organisms:

LC50 (96 h) for rainbow trout >73, carp >63, bluegill sunfish >29, catfish >45 mg/l.(Lufenuron)

LC50 (96 h) for rainbow trout >13.8, bluegill sunfish >15.1 mg/l. (Chlorantraniliprole)

Toxicity to birds:

Acute oral LD50 for bobwhite quail and mallard ducks >2000 mg/kg. Dietary LC50 (8 d) for bobwhite quail and mallard ducks >5200 mg/kg diet. (Lufenuron)

Acute oral LD50 for bobwhite quail >2250 mg/kg b.w. LC50 (5 d) for bobwhite quail and mallard ducks >5620 mg/kg diet.(Chlorantraniliprole)

Toxicity to earthworms and soil microorganisms:

Acute LC50 (14 d) >1000 mg/kg. (Lufenuron)

LC50 >1000 mg/kg.(Chlorantraniliprole)

Toxicity to daphnia:

Toxic to Daphnia; EC50 (48 h) 1.1 µg/l. (Lufenuron)

EC50 0.0116 mg/l. (Chlorantraniliprole)

Toxicity to algae:

EC50 (72 h) for green algae 10 mg/l.(Lufenuron)

EC50 for *Selenastrum capricornutum* >2 mg/l. (Chlorantraniliprole)

Chemical Fate Information

The data is from studies conducted on the technical material.

Animals:

Major route of elimination was via faeces, with very little degradation. (Lufenuron)

Extensively metabolised by hydroxylation of the N-methyl group followed by N-demethylation, hydroxylation of the toluene methyl group, and cyclisation with loss of water to form a quinazolinone derivative. (Chlorantraniliprole)

Plants:

No metabolites occurred in significant amounts in the investigated target crops (cotton, tomatoes).(Lufenuron)

Very little degradation was observed in primary and rotational crops. Unchanged parent chlorantraniliprole was the major identified residue. (Chlorantraniliprole)

Soli/Environment:

Lufenuron was rapidly degraded in biologically active soils under aerobic conditions. DT50 9.4 - 83.1 d. Lufenuron showed a very strong adsorption onto soil particles: Koc (mean value) 38 mg/g o.c. (Lufenuron)

Degrades in the environment with DT50 <2 - 12 mo; shorter half-lives occur with crop cover. Sequestered in soil and so has limited mobility. Degradation is mainly chemical, with a single major degradate which is not active and does not leach. Koc 244 - 464 l/g (EC DAR). (Chlorantraniliprole)

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: NA

Dangerous Goods Class: NA

Packing Group: NA

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.