

SAFETY DATA SHEETS

FLUDIOXONIL 95% TECHNICAL

No.: 111002
Version: 4
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SECTION 1: IDENTIFICATION

Product identifier	Fludioxonil 95% technical
Other means of identification	N/A
Recommended use	Fungicide
Supplier's details	Zhejiang Heben Pesticide & Chemicals Co., Ltd Liandun Road, Houjing, Yanjiang Industrial Area, Wenzhou, Zhejiang, China
Telephone No	+86-577-88797730; +86-577-88797721
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SECTION 2: HAZARDS IDENTIFICATION

2.1 GHS classification of the substance or mixture (Ninth Revised Edition, 2021)

Physical hazards	None	None
Health hazards	Acute toxicity, oral, Category 5	H303
	Acute toxicity, dermal, Category 5	H313
	Acute toxicity, inhalation, Category 4	H332
Environmental hazards	Hazardous to the aquatic environment, long-term hazard, Category 1	H410

2.2 GHS label elements, including precautionary statements

Hazard pictograms



Signal word

Warning

Hazard statement (s)

H303

May be harmful if swallowed

H313

May be harmful in contact with skin

H332

May be harmful if inhaled

H410 Very toxic to aquatic life with long lasting effects.

Prevention statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray
P271 Use only outdoors or in a well-ventilated area
P273 Avoid release to the environment

Response statements

P301+P317 IF SWALLOWED: Get medical help.
P302+P317 IF ON SKIN: Get medical help.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P391 Collect spillage.

Storage statements

P403 + P233 Store in the well-ventilated place, keep container tightly closed.
P405 Store locked up.

Disposal statements

P501 Dispose of contents/container in accordance with local regulations.

2.3 Other hazards which do not result in classification

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Common name, synonyms	Chemical identity	CAS number and other unique identifiers	The concentrations of the ingredients
Fludioxonil	4-(2,2-difluoro-1,3-benzodioxol-4-yl)pyrrole-3-carbonitrile (IUPAC name)	CAS No.: 131341-86-1	95% Min
Other non-hazardous ingredients			< 5%

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

Skin: Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.

Eyes: For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with

normal saline during transport.

Inhalation: Move affected person to fresh air and keep at rest until recovered. If not breathing, give artificial respiration and get to a doctor.

Ingestion: Do not induce vomiting if the person is conscious. Give glass of water. Get to a doctor.

4.2 Most important symptoms/effects, acute and delayed

No such information is reported.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No antidote, no special treatment, please treat it symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Use dry chemical, carbon dioxide, water spray, and foam.

5.2 Specific hazards arising from the chemical

May produce toxic fumes of nitrogen oxides, carbon dioxide and carbon monoxide if burn.

5.3 Special protective equipment for firefighters

Should wear full-protective clothing, and self-contained breathing apparatus. Fight fire from safe distance and protected location. Avoid (reject) fire-fighting water to enter environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear full protective clothing and self-contained breathing apparatus. Control the spill at its source. Dike area and absorb small spills with materials such as sand, sawdust, Zorb all, or dirt and place in suitable containers for recovery or disposal. Remove all contaminated clothing promptly and wash exposed body areas thoroughly with soap and water immediately after handling. Thoroughly launder clothing before reuse. Do not take clothing home to be laundered.

6.2 Environmental precautions

Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems of any body of water. Keep spills and cleaning run-off out of municipal sewers and open bodies of water.

6.3 Methods and materials for containment and cleaning up

If there is contamination of crops or waterways, advise emergency services or state department of agriculture.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid direct or prolonged contact with skin and eyes. Do not breathe dust. Do not ingest. It is recommended that wear full protective clothing including face mask, face shield and gauntlets, all skin areas should be covered, when handling this product.

Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for

exposure to the material. And take a bath or wash hands completely with soap after use. Remove contaminated clothing and protective equipment before entering eating areas.

Prevents handling of incompatible substances or mixtures when use this product. Minimize the release of this product to the environment when handling this product.

7.2 Conditions for safe storage, including any incompatibilities

Store the material in a well-ventilated, dry, cool, out of light and secure area, out of reach of children and domestic animals, and in sealed original containers. Do not store food, beverages or tobacco products in the storage area. Store this product away from the incompatible materials, explosive atmospheres, corrosive conditions, fire and heat, etc.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Contain no substances with occupational exposure limit values.

8.2 Appropriate engineering controls

Use only in an enclosed system. Use local exhaust ventilation. Safety shower. Use explosive dust handling controls.

8.3 Individual protection measures

Industrial hygiene: Remove and wash contaminated clothing promptly. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Personal protective equipment

Respiratory protection:

Wear respirator with a particle filter mask (protection factor 20) conforming to European Norm EN149FFP3 or EN140P3 or equivalent.

Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Protective gloves: rubber gloves;

Eye protection: Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Solid
Color	Earthy yellow to off white
Odor	Characteristic odour
Melting point / freezing point	199.8 °C
Boiling point or initial boiling point and boiling range	no boiling point up to decomposition at 306°C
Flammability	Not flammable
Lower and upper explosion limit/	Not applicable

flammability limit	
Flash point	Not applicable
Auto-ignition temperature	Not expected to self-ignite
Decomposition temperature	decomposition at 306°C
pH value	5.0-8.0
Kinematic viscosity	Not applicable
Solubility	In water 1.8 mg/l (25 °C). In acetone 190, ethanol 44, toluene 2.7, n-octanol 20, hexane 0.01 g/l (25 °C).
Partition coefficient n-octanol/water (log value)	logP = 4.12 (20°C)
Vapour pressure	3.9 x 10 ⁻⁴ Pa, 20°C
Density and/or relative density	1.54 (20°C)
Relative vapor density	Not applicable
Particle characteristics	Not known

9.2 Other information

Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No reactivity under normal conditions.

10.2 Chemical stability

This product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

This product does not react or polymerize, releasing excess pressure or heat, or creating other hazardous conditions.

10.4 Conditions to avoid

Avoid fire, feed, food and beds of water.

10.5 Incompatible materials

Not compatible with Strong oxidizing agents, alkalis and acids.

10.6 Hazardous decomposition products

When involves in a fire, maybe release oxides of carbon and nitrogen and other toxic nitrogen compounds on combustion.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral LD₅₀ for >2000 mg/kg (*Data From EFSA Scientific Report (2007) 110, 1-85*)

Acute dermal LD₅₀ for rats >2000 mg/kg (*Data From EFSA*

Scientific Report (2007) 110, 1-85)

Acute inhalation LC₅₀ (4h) for rats >2.6mg/L (*Data From EFSA Scientific Report (2007) 110, 1-85)*

Skin corrosion/irritation	Not irritant to skin (Rabbit) (<i>Data From EFSA Scientific Report (2007) 110, 1-85)</i>
Serious eye damage/irritation	Not irritant to eyes. (Rabbit) (<i>Data From EFSA Scientific Report (2007) 110, 1-85)</i>
Respiratory or skin sensitization	Not a skin sensitizer (Maximisation test) (<i>Data From EFSA Scientific Report (2007) 110, 1-85)</i>
Germ cell mutagenicity	No genotoxic potential (<i>Data From EFSA Scientific Report (2007) 110, 1-85)</i>
Carcinogenicity	No carcinogenic potential (<i>Data From EFSA Scientific Report (2007) 110, 1-85)</i>
Reproductive toxicity	The maternal NOEL in this study was 8.2 mg/kg bw/day. (<i>Data From EFSA Scientific Report (2007) 110, 1-85)</i>
STOT-single exposure	No available data.
STOT-repeated exposure	No available data.
Aspiration hazard	No available data.
Further information	No available data.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Eco-toxicity

Birds	Acute oral LD50 for mallard ducks and bobwhite quail >2000 mg/kg. LC50 for mallard ducks and bobwhite quail >5200 ppm.
Fish	LC50 (96 h) for bluegill sunfish 0.31, catfish 0.63, common carp 1.5, rainbow trout 0.5 mg/l.
Daphnia	LC50 (48 h) 1.1 mg/l.
Algae	EC50 (72 h) for <i>Scenedesmus subspicatus</i> 0.93 mg/l; (120 h) for <i>Selenastrum</i>

capricornutum 0.092 mg/l.

Bees Non-toxic; LD50 (48 h, oral) >329 µg/bee; LC50 (48 h, contact) >101 µg/bee.

Worms LC50 (14 d) for Eisenia foetida >1000 mg/kg soil.

(BCPC, e-The Pesticide Manual, Thirteenth Edition)

12.2 Persistence and degradability

DT50 (lab.) 140-350 d, (field) 10-25 d.

(BCPC, e-The Pesticide Manual, Thirteenth Edition)

12.3 Bio-accumulative potential

BCF = 366L/kg

12.4 Mobility in soil

In leaching and adsorption/desorption experiments, the compound proved to be immobile in soil.

(BCPC, e-The Pesticide Manual, Thirteenth Edition)

12.5 Other adverse effects

None

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Product

The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

13.2 Contaminated packaging

Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: TRANSPORT INFORMATION

IMDG:

UN number: 3077

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S
(Fludioxonil)

Transport hazard class: 9

Packing group: III

Environmental hazards: Marine pollutant

Special precautions for user: None.

Transport in bulk according to IMO instruments: Not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the product in question

WHO-classification: III (Slightly hazardous)

This product is not subject to any prohibitions or restrictions in China.

SECTION 16: OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.