SAFETY DATA SHEETS

Hexythiazox 97%TC

No.: 121007
Version: 4
Date: April, 2022

SECTION 1: IDENTIFICATION

Product identifier	Hexythiazox 97%TC
Other means of identification	N/A
Recommended use	Acaricide
Supplier's details	Jiangsu Heben Biochemical Co., Ltd
Address	No 20, Second Haibin Road, Yangkou Chemical Area, Rudong, Jiangsu, P.R.China
Telephone No	+86-577-88797730; +86-577-88797721
Fax No.	+86-577-88797739
E-mail	info@hb-p.com
Emergency phone number	+86-513-68508048

SECTION 2: HAZARDS IDENTIFICATION

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

Physical hazards	None	None
Health hazards	Serous eye damage/eye irritation, Category 2B	H320
Environmental hazards	Acute aquatic toxicity, Category 1	H400
	Chronic aquatic toxicity, Category 1	H410

2.2 GHS label elements, including precautionary statements

Hazard pictograms

Signal word	Warning
Hazard statement (s)	
H320	Cause eye irritation.
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Prevention statements

P264	Wash hands and face thoroughly after handling.
P265	Do not touch eyes.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment

Response statements

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P317	If eye irritation persists: Get medical help.
P391	Collect spillage.

Storage statements

P403+P233	Store in a 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
Hexythiazox	(4RS,5RS)-5-(4-chlorophenyl)-N-cyclohexyl-4-methyl-2-oxo-1,3-thiazolidine-3-carboxamide (IUPAC)	CAS No.: 78587-05-0; EC No.: 616-638-3	⩾ 97%
Other non-hazardous ingredients			< 3%

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 affect 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 water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

May produce toxic fumes of carbon monoxide, chloride, oxysulfide and oxides of nitrogen, if burning.

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

In the event of major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including face mask, face shield and gauntlets. All skin areas should be covered. Though launder protective clothing before storage or re-use. Stop leak is safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labeled containers for recycling or salvage.

6.2 Environmental precautions

After spills, wash area, preventing runoff from entering drains.

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 no breathe dust. Do not breathe mists. Do no 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.

7.2 Conditions for safe storage, including any incompatibilities

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do

not store food, beverages or tobacco products in the storage area.

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	White
Odor	Odorless
Melting point / freezing point	Melting point: 108.0-108.5 ºC
Boiling point or initial boiling point and boiling range	222 °C (99.9 %)
Flammability	Not flammable (99.7 %)
Lower and upper explosion limit/ flammability limit	Not applicable to solids.
Flash point	Not applicable to solids.
Auto-ignition temperature	Not expected to self ignite
Decomposition temperature	> 300 °C (99.9 %)
pH value	5.0-8.0
Kinematic viscosity	Not applicable to solids.
Solubility	In water 0.5 mg/l (20 ºC). In chloroform 1379, xylene 362, methanol 206, acetone 160, acetonitrile 28.6, hexane 4 (all in

	g/l, 20 ºC).
Partition coefficient n-octanol/water (log value)	K_{OW} logP = 2.53
Vapour pressure	0.0034 mPa (20 ºC)
Density and/or relative density	Relative gravity: 1.31g/ml
Relative vapor density	Not applicable to solids.
Particle characteristics	No data available

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

No dangerous reactions known.

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

Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	Acute oral LD_{50} for rats > 5000 mg/kg (*BCPC, e-The Pesticide Manual, Thirteenth Edition*) Acute dermal LD_{50} for rats >5000 mg/kg (*BCPC, e-The Pesticide Manual, Thirteenth Edition*) Acute inhalation LC_{50} (4h) for rats >2.0mg/L (*BCPC, e-The Pesticide Manual, Thirteenth Edition*)
Skin corrosion/irritation	Not irritant to skin (Rabbit) (*BCPC, e-The Pesticide Manual, Thirteenth Edition*)
Serious eye damage/irritation	Mild irritant to eyes. (Rabbit) (*BCPC, e-The Pesticide Manual, Thirteenth Edition*)

Respiratory or skin sensitization	Not a skin sensitizer (Maximisation test) (*BCPC, e-The Pesticide Manual, Thirteenth Edition*)
Germ cell mutagenicity	The weight of evidence suggests that hexythiazox is not genotoxic. (*EFSA Journal 2010;8(10):1722*)
Carcinogenicity	The NOAEL for carcinogenicity was 430 ppm, equal to 23 mg/kg bw per day, on the basis of increases in mammary-gland fibroadenomas in males at 24 months (2 years) and in testicular interstitial-cell adenomas at 12 months relative to historical control incidences. (*Data from pubchem*)
Reproductive toxicity	No reproductive toxicological effects. (*EFSA Journal 2010;8(10):1722*)
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 LD_{50} for mallard ducks >2510 mg/kg bw (*EFSA Journal 2010;8(10):1722*)
Fish	LC_{50} (96 h) for rainbow trout >300, bluegill sunfish 11.6 mg/l. (The e-pesticide manual (Thirteenth Edition) Version 3.0)
Daphnia	LC_{50} (48 h) 1.2 mg/l. (The e-pesticide manual (Thirteenth Edition) Version 3.0)
Algae	EC_{50} (72 hours) for *Scenedesmus subspicatus* >0.4 mg/l. (Data from PPDB website)
Bees	Not toxic to bees. LD_{50} by topical application >200µg/bee (The e-pesticide manual (Thirteenth Edition) Version 3.0)

Worms LC_{50} (14 d) > 105 mg/kg (Data from PPDB website)

12.2 Persistence and degradability

DT_{50} in clay loam at 15 ºC, 8 d. In soil, undergoes oxidation to the corresponding hydroxy and carbonyl compounds. K_{oc} 6200.

12.3 Bio-accumulative potential

Following an EPA guideline study, a whole body BCF of 1,600 was reported for hexythiazox in bluegill fish (Lepomic macrochirus) exposed for 28 days(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is very high(SRC), provided the compound is not metabolized by the organism(SRC). (*Data from pubchem*)

12.4 Mobility in soil

The Koc of hexythiazox has been reported as 6,170 to 6,200(1,2). Batch equilibrium studies for hexythiazox determined Koc values of 2589, 3234, 5747, and 13,261(3) which have an average of 6,200(SRC). According to a classification scheme(4), this estimated Koc value suggests that hexythiazox is expected to be immobile in soil(SRC). (*Data from pubchem*)

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/IMO:

UN number: 3077

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (containing Hexythiazox 97%)

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: U (Unlikely to present acute hazard)
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.