

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** TIZCA™ 500 SC

**Other means of identification**

**Product code** 50000004

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub- : Fungicide  
stance/Mixture

Recommended restrictions : Use as recommended by the label.  
on use

#### 1.3 Details of the supplier of the safety data sheet

**Supplier Address**

FMC Chemicals (Pty) Ltd  
Company Registration No.: 1988/001451/07  
West End Office Park, Building C  
Cnr. West Ave & Hall Street  
Centurion  
0014  
South Africa  
E-mail address: SDS-Info@fmc.com

**Distributor address:**

Polachem Investments (Private) Limited  
12 Connaught Road  
Avondale, Harare, Zimbabwe

#### 1.4 Emergency telephone

For leak, fire, spill or accident emergencies, call:  
South Africa: 080-001-4676 (CHEMTREC)

Medical emergency:  
DaTIS (Drug and Toxicology Information Service)  
+263 24 2933452 or  
+263 24 2791631 - 11 extension 2172 (Business hours)  
E-Mail: datis@medsch.uz.ac.zw, datis.zim23@gmail.com,  
datiszim@gmail.com

Griffon Poison Information Centre (24 hrs): +27-(0)-82-446-8946

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Skin sensitization, Sub-category 1B	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : WARNING

Hazard Statements :  
H317 May cause an allergic skin reaction.  
H361d Suspected of damaging the unborn child.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :  
**Prevention:**  
P201 Obtain special instructions before use.  
P261 Avoid breathing mist or vapors.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P391 Collect spillage.  
**Disposal:**  
P501 Dispose of contents/container as hazardous waste in accordance with local regulations.

Hazardous ingredients which must be listed on the label:

fluazinam (ISO)  
1,2-benzisothiazol-3(2H)-one

##### Additional Labeling

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version 1.0      Revision Date: 06.08.2025      SDS Number: 50000004      Date of last issue: -  
Date of first issue: 06.08.2025

### 2.3 Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
fluazinam (ISO)	79622-59-6 612-287-00-5	Acute Tox. 4; H332 Eye Dam. 1; H318 Skin Sens. 1A; H317 Repr. 2; H361d Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 30 - < 50
Residues, petroleum, catalytic re- former fractionator, sulfonated, poly- mers with formaldehyde, sodium salts	68425-94-5	Eye Irrit. 2; H319 Aquatic Chronic 3; H412	>= 1 - < 2.5
Alcohols, C13-15, branched and linear, ethoxylated	157627-86-6	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 1 - < 2.5
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic	>= 0.0025 - < 0.025

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

		aquatic toxicity): 1	
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For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first-aid measures

- |                            |   |
|----------------------------|---|
| General advice             | : Move out of dangerous area.<br>Consult a physician.<br>Show this material safety data sheet to the doctor in attendance.<br>Do not leave the victim unattended.   |
| Protection of first-aiders | : Avoid inhalation, ingestion and contact with skin and eyes.   |
| If inhaled                 | : Remove to fresh air.<br>If unconscious, place in recovery position and seek medical advice.<br>If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.   |
| In case of skin contact    | : If on clothes, remove clothes.<br>If on skin, rinse well with water.<br>Wash off with soap and plenty of water.<br>Get medical attention immediately if irritation develops and persists.<br>Wash contaminated clothing before re-use.  |
| In case of eye contact     | : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.<br>In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.<br>Continue rinsing eyes during transport to hospital.<br>Remove contact lenses.<br>Protect unharmed eye.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist. |
| If swallowed               | : Keep respiratory tract clear.<br>Do NOT induce vomiting.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.<br>Take victim immediately to hospital.  |

#### 4.2 Most important symptoms and effects, both acute and delayed

- |          |   |
|----------|---|
| Symptoms | : Exposure to skin may result in mild symptoms include itching, |
|----------|---|

## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

hives or rash, and skin redness. More severe symptoms include sneezing, itchy watery eyes, and difficulty breathing.

Risks : May cause an allergic skin reaction.  
Suspected of damaging the unborn child.

**4.3 Indication of any immediate medical attention and special treatment needed**

Treatment : Treat symptomatically.  
Immediate medical attention is required in case of ingestion.

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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Dry chemical, CO<sub>2</sub>, water spray or regular foam.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : Do not spread spilled material with high-pressure water streams.  
High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Fire may produce irritating, corrosive and/or toxic gases.  
Halogenated compounds  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides  
Ammonia

**5.3 Advice for firefighters**

Special protective equipment for fire-fighters : Firefighters should wear protective clothing and self-contained breathing apparatus.

Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.  
Use a water spray to cool fully closed containers.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.  
Do not touch or walk through the spilled material.  
If it can be safely done, stop the leak.  
Use personal protective equipment.  
Never return spills in original containers for re-use.  
Mark the contaminated area with signs and prevent access to unauthorized personnel.  
Only qualified personnel equipped with suitable protective equipment may intervene.

### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Never return spills in original containers for re-use.  
Collect as much of the spill as possible with a suitable absorbent material.  
Pick up and transfer to properly labeled containers.  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapors/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
To avoid spills during handling keep bottle on a metal tray.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against : Normal measures for preventive fire protection.

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version 1.0      Revision Date: 06.08.2025      SDS Number: 50000004      Date of last issue: -  
Date of first issue: 06.08.2025

fire and explosion

Hygiene measures : Avoid contact with skin, eyes and clothing. Do not inhale aerosol. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : The product is stable under normal conditions of warehouse storage. Protect from heat and direct sunlight. Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

Recommended storage temperature : 5 - 30 °C

Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label approved by country-specific regulatory authorities.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Routes of exposure	Potential health effects	Value
urea	Workers	Inhalation	Long-term systemic effects	292 mg/m3
	Workers	Inhalation	Acute systemic effects	292 mg/m3
	Workers	Dermal	Long-term systemic effects	580 mg/kg bw/day
	Workers	Dermal	Acute systemic effects	580 mg/kg

## SAFETY DATA SHEET



## TIZCA™ 500 SC

Version 1.0      Revision Date: 06.08.2025      SDS Number: 50000004      Date of last issue: -  
Date of first issue: 06.08.2025

			fects	bw/day
	Consumers	Inhalation	Long-term systemic effects	125 mg/m3
	Consumers	Inhalation	Acute systemic effects	125 mg/m3
	Consumers	Dermal	Long-term systemic effects	580 mg/kg bw/day
	Consumers	Dermal	Acute systemic effects	580 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	42 mg/kg bw/day
	Consumers	Oral	Acute systemic effects	42 mg/kg bw/day
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m3
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006**

Substance name	Environmental Compartment	Value
urea	Fresh water	0.47 mg/l
	Sea water	0.047 mg/l
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Sea water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/l
	Sea sediment	0.00499 mg/l

**8.2 Exposure controls**
**Personal protective equipment**

- Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.
- Hand protection  
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

Protective measures : Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions.  
Wear suitable protective equipment.  
When using do not eat, drink or smoke.  
In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Physical state	: liquid
Color	: light yellow, yellowish-brown, beige
Odor	: odorless, Aromatic
Odor Threshold	: No data available
pH	: 7.5 - 8.3
	Concentration: 1 %
Melting point/ range	: not determined
Boiling point/boiling range	: No data available
Flash point	: > 103 °C
	Method: Pensky-Martens closed cup - PMCC
Evaporation rate	: No data available
Upper explosion limit / Upper flammability limit	: not determined
Lower explosion limit / Lower flammability limit	: not determined
Vapor pressure	: 0.0011 Pa (20 °C)
Relative vapor density	: not determined
Relative density	: 1.28 (20 °C)
Density	: 1.28 g/cm3 (20 °C)
Solubility(ies)	
Water solubility	: No data available
Partition coefficient: n-octanol/water	: Not available for this mixture.
Autoignition temperature	: No data available
Decomposition temperature	: not determined
Viscosity	
Viscosity, dynamic	: 15.5 mPa.s (20 °C)
Viscosity, kinematic	: 1094 - 1406 mm2/s
Explosive properties	: Not explosive
Oxidizing properties	: Non-oxidizing

**9.2 Other information**

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

Flammability (liquids)	:	The product may be combustible.
Molecular weight	:	Not applicable
Particle size	:	Not applicable
Particle Size Distribution	:	Not applicable
Self-ignition	:	> 400 °C

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No decomposition if stored and applied as directed.

#### 10.2 Chemical stability

No decomposition if stored and applied as directed.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

#### 10.4 Conditions to avoid

Conditions to avoid : Avoid extreme temperatures.  
Avoid formation of aerosol.  
Heat, flames and sparks.  
Heating of the mixture may evolve harmful and irritant vapours.

#### 10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers.

#### 10.6 Hazardous decomposition products

Stable under recommended storage conditions.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

##### Product:

Acute oral toxicity	:	LD50 Oral (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 425 Symptoms: Diarrhea GLP: yes Assessment: The component/mixture is minimally toxic after single ingestion. Remarks: no mortality
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 3.56 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Breathing difficulties, piloerection, sneezing

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

GLP: yes  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: no mortality  
Highest attainable concentration.

Acute dermal toxicity : LD50 Dermal (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The component/mixture is minimally toxic after single contact with skin.  
Remarks: no mortality

### **Components:**

#### **fluazinam (ISO):**

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg  
Method: OECD Test Guideline 425  
Symptoms: Diarrhea  
GLP: yes  
Assessment: The component/mixture is minimally toxic after single ingestion.  
Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male): 1.32 - 2.13 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Symptoms: Fatality, Breathing difficulties, ataxia  
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Assessment: The component/mixture is minimally toxic after single contact with skin.  
Remarks: no mortality

#### **Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

#### **Alcohols, C13-15, branched and linear, ethoxylated:**

Acute oral toxicity : LD50 (Rat): 500 - 2,000 mg/kg

#### **1,2-benzisothiazol-3(2H)-one:**

Acute oral toxicity : Acute toxicity estimate: 450 mg/kg  
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute inhalation toxicity : Acute toxicity estimate: 0.21 mg/l  
Test atmosphere: dust/mist

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### Skin corrosion/irritation

#### Product:

Species : Rabbit  
Assessment : Not classified as irritant  
Method : OECD Test Guideline 404  
GLP : yes  
Remarks : Minimal effects that do not meet the threshold for classification.

#### Components:

##### **fluazinam (ISO):**

Species : Rabbit  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
GLP : yes  
Remarks : Minimal effects that do not meet the threshold for classification.

##### **Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:**

Remarks : No data available

##### **Alcohols, C13-15, branched and linear, ethoxylated:**

Result : No skin irritation

##### **1,2-benzisothiazol-3(2H)-one:**

Species : Rabbit  
Exposure time : 72 h  
Method : OECD Test Guideline 404  
Result : No skin irritation

### Serious eye damage/eye irritation

#### Product:

Species : Rabbit  
Assessment : No eye irritation  
Method : OECD Test Guideline 405  
Remarks : Minimal effects that do not meet the threshold for classification.

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

### Components:

#### **fluazinam (ISO):**

Assessment	:	Risk of serious damage to eyes.
Remarks	:	Based on EU Harmonised classification - Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

Species	:	Rabbit
Assessment	:	Irritating to eyes.
Method	:	OECD Test Guideline 405
GLP	:	yes

#### **Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:**

Result	:	Eye irritation
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#### **Alcohols, C13-15, branched and linear, ethoxylated:**

Result	:	Irreversible effects on the eye
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#### **1,2-benzisothiazol-3(2H)-one:**

Species	:	Bovine cornea
Method	:	OECD Test Guideline 437
Result	:	No eye irritation

Species	:	Rabbit
Method	:	EPA OPP 81-4
Result	:	Irreversible effects on the eye

### **Respiratory or skin sensitization**

#### Product:

Test Type	:	Local lymph node assay (LLNA)
Assessment	:	The product is a skin sensitizer, sub-category 1B.
Method	:	OECD Test Guideline 429
Result	:	Causes skin sensitization.
GLP	:	yes

### Components:

#### **fluazinam (ISO):**

Test Type	:	Local lymph node assay (LLNA)
Routes of exposure	:	Skin contact
Species	:	Mouse
Assessment	:	The product is a skin sensitizer, sub-category 1A.
Method	:	OECD Test Guideline 429
Result	:	May cause sensitization by skin contact.
GLP	:	yes

#### **1,2-benzisothiazol-3(2H)-one:**

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

Test Type : Maximization Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : May cause sensitization by skin contact.

Species : Guinea pig  
Method : FIFRA 81.06  
Result : May cause sensitization by skin contact.

### Germ cell mutagenicity

#### Product:

Genotoxicity in vitro : Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Result: negative

#### Components:

##### **fluazinam (ISO):**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Result: negative

Germ cell mutagenicity- Assessment : No genotoxic potential.

##### **1,2-benzisothiazol-3(2H)-one:**

Genotoxicity in vitro : Test Type: gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay  
Species: Rat (male)  
Cell type: Liver cells

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

Application Route: Ingestion  
Exposure time: 4 h  
Method: OECD Test Guideline 486  
Result: negative

Test Type: Micronucleus test  
Species: Mouse  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

### Carcinogenicity

#### Components:

##### **fluazinam (ISO):**

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

### Reproductive toxicity

#### Product:

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

#### Components:

##### **fluazinam (ISO):**

Effects on fetal development : Species: Rat  
Symptoms: Fetal effects., placental abnormalities, fused or incompletely ossified sternebrae, abnormalities of the head bones, not developed renal papillae and distended ureter  
Result: Embryotoxic effects and adverse effects on the offspring were detected.

Species: Rat  
Symptoms: Fetal effects., Skeletal and visceral variations .  
Result: Embryotoxic effects and adverse effects on the offspring were detected.

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility., Some evidence of adverse effects on development, based on animal experiments.

##### **1,2-benzisothiazol-3(2H)-one:**

Effects on fertility : Species: Rat, male  
Application Route: Ingestion  
General Toxicity Parent: NOAEL: 18.5 mg/kg body weight  
General Toxicity F1: NOAEL: 48 mg/kg body weight

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

Fertility: NOAEL: 112 mg/kg bw/day  
Symptoms: No effects on reproduction parameters.  
Method: OPPTS 870.3800  
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

### STOT-single exposure

#### Components:

##### **fluazinam (ISO):**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

### STOT-repeated exposure

#### Components:

##### **1,2-benzisothiazol-3(2H)-one:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

##### **fluazinam (ISO):**

Species : Rat  
LOAEL : 41 mg/kg, 500 ppm  
Application Route : Ingestion  
Exposure time : 90 days  
Target Organs : Liver  
Symptoms : Reduced body weight, increased liver weight

##### **1,2-benzisothiazol-3(2H)-one:**

Species : Rat, male and female  
NOAEL : 15 mg/kg  
Application Route : Ingestion  
Exposure time : 28 d  
Method : OECD Test Guideline 407  
Symptoms : Irritation

Species : Rat, male and female  
NOAEL : 69 mg/kg  
Application Route : Ingestion  
Exposure time : 90 d  
Symptoms : Irritation, Reduced body weight



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

**Aspiration toxicity****Components:****fluazinam (ISO):**

The substance does not have properties associated with aspiration hazard potential.

**Experience with human exposure****Components:****fluazinam (ISO):**

Skin contact : Symptoms: irritant effects, sensitizing effects

**SECTION 12: Ecological information****12.1 Toxicity****Product:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.11 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.23 mg/l Exposure time: 48 h  EC50 (Daphnia similis (Water flea)): 179.09 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 0.13 mg/l Exposure time: 96 h  ErC50 (Lemna gibba (duckweed)): 0.57 mg/l Exposure time: 7 d  NOEC (Lemna gibba (duckweed)): 0.094 mg/l Exposure time: 7 d  EC50 (Selenastrum capricornutum (green algae)): > 0.2 mg/l Exposure time: 96 h
Toxicity to soil dwelling organisms	:	LC50: > 1,000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: > 100 µg/bee Exposure time: 48 h End point: Acute oral toxicity Species: Apis mellifera (bees)  LD50: > 100 µg/bee Exposure time: 48 h

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version 1.0	Revision Date: 06.08.2025	SDS Number: 50000004	Date of last issue: - Date of first issue: 06.08.2025
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End point: Acute contact toxicity  
Species: Apis mellifera (bees)

LD50: > 2,000 mg/kg  
Species: Coturnix japonica (Japanese quail)

LD50: > 4.190 mg/kg  
Species: Anas platyrhynchos (Mallard duck)

LD50: > 1.782 mg/kg  
Species: Colinus virginianus (Bobwhite quail)

### Components:

#### **fluazinam (ISO):**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.11 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.19 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (Selenastrum capricornutum (green algae)): > 0.2 mg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC50 (activated sludge): 75 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.012 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: < 0.0125 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	LC50: > 1,000 mg/kg Exposure time: 28 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: > 4,190 mg/kg Species: Anas platyrhynchos (Mallard duck)  LD50: 1,782 mg/kg Species: Colinus virginianus (Bobwhite quail)

**Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:**

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

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- Toxicity to fish : LC50 (Zebra fish): > 10 - 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials
- EC10 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: > 10 - 100 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

### Alcohols, C13-15, branched and linear, ethoxylated:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 1 - 10 mg/l  
Exposure time: 48 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 (Scenedesmus subspicatus): > 1 - 10 mg/l  
Exposure time: 72 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 0.1 - 1 mg/l

### 1,2-benzisothiazol-3(2H)-one:

- Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 16.7 mg/l  
Exposure time: 96 h  
Test Type: static test
- LC50 (Oncorhynchus mykiss (rainbow trout)): 2.15 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

---

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.9 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.070 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): 24 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

EC50 (activated sludge): 12.8 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

M-Factor (Chronic aquatic toxicity) : 1

### 12.2 Persistence and degradability

#### **Product:**

Biodegradability : Result: Not biodegradable

#### **Components:**

##### **fluazinam (ISO):**

Biodegradability : Result: Not readily biodegradable.

##### **Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:**

Biodegradability : Result: Not readily biodegradable.  
Remarks: Based on data from similar materials

##### **Alcohols, C13-15, branched and linear, ethoxylated:**

Biodegradability : Result: Readily biodegradable.

##### **1,2-benzisothiazol-3(2H)-one:**

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

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Biodegradability : Result: rapidly biodegradable  
Method: OECD Test Guideline 301C

### 12.3 Bioaccumulative potential

#### Components:

##### **fluazinam (ISO):**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 500 - 800  
Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : log Pow: 4.67 (21 °C)  
pH: 7  
  
log Pow: 3.34 (22 °C)  
pH: 9

##### **Alcohols, C13-15, branched and linear, ethoxylated:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

##### **1,2-benzisothiazol-3(2H)-one:**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Exposure time: 56 d  
Bioconcentration factor (BCF): 6.62  
Method: OECD Test Guideline 305  
Remarks: Substance is not persistent, bioaccumulative, and toxic (PBT).

Partition coefficient: n-octanol/water : log Pow: 0.7 (20 °C)  
pH: 7  
  
log Pow: 0.99 (20 °C)  
pH: 5

### 12.4 Mobility in soil

#### Product:

Distribution among environmental compartments : Remarks: immobile

#### Components:

##### **fluazinam (ISO):**

Distribution among environmental compartments : Remarks: Low mobility in soil.

##### **1,2-benzisothiazol-3(2H)-one:**

Distribution among environmental compartments : Koc: 9.33 ml/g, log Koc: 0.97  
Method: OECD Test Guideline 121

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

Remarks: Highly mobile in soils

### 12.5 Results of PBT and vPvB assessment

Not relevant

### 12.6 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

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.
Contaminated packaging	: Empty remaining contents. Triple rinse containers. Do not re-use empty containers. Packaging that is not properly emptied must be disposed of as the unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

### 14.1 UN number

UNRTDG	: UN 3082
IMDG	: UN 3082
IATA	: UN 3082

### 14.2 UN proper shipping name

UNRTDG	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fluazinam)
IMDG	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fluazinam)
IATA	: Environmentally hazardous substance, liquid, n.o.s. (Fluazinam)

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
UNRTDG	: 9	
IMDG	: 9	

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

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**IATA** : 9

### 14.4 Packing group

#### **UNRTDG**

Packing group : III  
Labels : 9

#### **IMDG**

Packing group : III  
Labels : 9  
EmS Code : F-A, S-F

#### **IATA (Cargo)**

Packing instruction (cargo aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

#### **IATA (Passenger)**

Packing instruction (passenger aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

### 14.5 Environmental hazards

#### **UNRTDG**

Environmentally hazardous : yes

#### **IMDG**

Marine pollutant : yes

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**The ingredients of this product are reported in the following inventories:**

TCSI : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL.  fluazinam (ISO) mixture of polyorganosiloxanes and fillers Alcohols, C13-15, branched and linear, ethoxylated
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

### 15.2 Chemical Safety Assessment

A chemical safety assessment is not required for this product (mixture).

## SECTION 16: Other information

### Full text of H-Statements

H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H332	:	Harmful if inhaled.
H361d	:	Suspected of damaging the unborn child.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitization

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by



# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Skin Sens. 1B	H317
Repr. 2	H361d
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment

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# SAFETY DATA SHEET



## TIZCA™ 500 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06.08.2025	50000004	Date of first issue: 06.08.2025

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