

## CALARIS

Version 8.0      Revision Date: 18.08.2021      SDS Number: S188509812      This version replaces all previous versions.

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

#### 1.1 Product identifier

Trade name : CALARIS  
Design code : A13726E  
Product Registration Number : PCS 02711  
Unique Formula Identifier (UFI) : 4P2F-ECN6-K00D-7FRX

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

Use of the Substance/Mixture : Herbicide  
Recommended restrictions on use : professional use

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

Company : Syngenta Ireland Limited  
Block 6 Cleaboy Business Park, Old Kilmeaden Road,  
Waterford  
Ireland  
Telephone : (051) 377203  
Telefax : (051) 354748  
E-mail address of person responsible for the SDS : cropsales.ie@syngenta.com

#### 1.4 Emergency telephone number

Emergency telephone number : Syngenta +44 1484 538444  
Poisons Information Centre of Ireland  
Members of Public: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)  
Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

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### SECTION 2: Hazards identification


#### 2.1 Classification of the substance or mixture

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

Acute toxicity, Category 4	H302: Harmful if swallowed.
<b>Reproductive toxicity, Category 2</b>	<b>H361d: Suspected of damaging the unborn child.</b>
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
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

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

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	H302 Harmful if swallowed. H373 May cause damage to organs through prolonged or repeated exposure. H361d Suspected of damaging the unborn child. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	P102 Keep out of reach of children. P270 Do not eat, drink or smoke when using this product.
		<b>Prevention:</b> P201 Obtain special instructions before use. P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ eye protection/ face protection. P264 Wash skin thoroughly after handling.
		<b>Response:</b> P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P391 Collect spillage.
		<b>Disposal:</b> P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

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### Hazardous components which must be listed on the label:

terbutylazine (ISO)  
C16-18 alcohols, ethoxylated  
mesotrione (ISO)  
phosphoric acid

### Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

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

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
terbutylazine (ISO)	5915-41-3 227-637-9 613-323-00-2	Acute Tox. 4; H302 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 30 - < 50
C16-18 alcohols, ethoxylated	68439-49-6 500-212-8	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 3 - < 10
mesotrione (ISO)	104206-82-8	Repr. 2; H361d	>= 3 - < 10

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	609-064-00-X	<b>STOT RE 2; H373</b> (Nervous system, Eyes) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	
phosphoric acid	7664-38-2 231-633-2 015-011-00-6 01-2119485924-24	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 <hr/> specific concentration limit Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 >= 10 - < 25 % Eye Irrit. 2; H319 >= 10 - < 25 %	>= 3 - < 5
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 01-2120761540-60	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 <b>Aquatic Chronic 2; H411</b> <hr/> M-Factor (Acute aquatic toxicity): 1 <hr/> specific concentration limit Skin Sens. 1; H317 >= 0,05 %	>= 0.0025 - < 0.025

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General advice : Have the product container, label or Safety Data Sheet with

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you when calling the emergency number, a poison control center or physician, or going for treatment.

- If inhaled : Move the victim to fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Keep patient warm and at rest.  
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off immediately with plenty of water.  
If skin irritation persists, call a physician.  
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Remove contact lenses.  
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.  
Do NOT induce vomiting.

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

- Symptoms : Nonspecific  
No symptoms known or expected.

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

- Treatment : There is no specific antidote available.  
Treat symptomatically.
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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
Extinguishing media - large fires  
Alcohol-resistant foam  
or  
Water spray
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

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

- Specific hazards during firefighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous

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products of combustion (see section 10).  
Exposure to decomposition products may be a hazard to health.

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.
- Further information : Do not allow run-off from fire fighting to enter drains or water courses.  
Cool closed containers exposed to fire with water spray.
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## SECTION 6: Accidental release measures

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

- Personal precautions : Refer to protective measures listed in sections 7 and 8.

### 6.2 Environmental precautions

- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Do not flush into surface water or sanitary sewer system.  
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 : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Clean contaminated surface thoroughly.  
Clean with detergents. Avoid solvents.  
Retain and dispose of contaminated wash water.

### 6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Advice on safe handling : No special protective measures against fire required.  
Avoid contact with skin and eyes.  
When using do not eat, drink or smoke.  
For personal protection see section 8.

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

- Requirements for storage areas and containers : No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and

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animal feedingstuffs.

Further information on storage stability : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

### 7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
terbutylazine (ISO)	5915-41-3	TWA	0.8 mg/m <sup>3</sup>	Syngenta
mesotrione (ISO)	104206-82-8	TWA	5 mg/m <sup>3</sup>	Syngenta
phosphoric acid	7664-38-2	TWA	1 mg/m <sup>3</sup>	2000/39/EC
	Further information: Indicative			
		STEL	2 mg/m <sup>3</sup>	2000/39/EC
	Further information: Indicative			
		OELV - 8 hrs (TWA)	1 mg/m <sup>3</sup>	IE OEL
		OELV - 15 min (STEL)	2 mg/m <sup>3</sup>	IE OEL

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

Substance name	End Use	Exposure routes	Potential health effects	Value
phosphoric acid	Workers	Inhalation	Long-term systemic effects	2.92 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	0.73 mg/m <sup>3</sup>
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m <sup>3</sup>
	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
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l

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	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 mg/l
	Soil	3 mg/kg

### 8.2 Exposure controls

#### Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.  
Where necessary, seek additional occupational hygiene advice.

#### Personal protective equipment

Eye protection : No special protective equipment required.  
Hand protection

Material : Nitrile rubber  
Break through time : > 480 min  
Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Remove and wash contaminated clothing before re-use.

Wear as appropriate:

Impervious clothing

Respiratory protection : No personal respiratory protective equipment normally required.



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Protective measures : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
: The use of technical measures should always have priority over the use of personal protective equipment.  
When selecting personal protective equipment, seek appropriate professional advice.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : liquid  
Colour : white to light brown  
  
Odour : characteristic  
Odour Threshold : No data available  
  
Melting point/range : No data available  
  
Boiling point/boiling range : No data available  
  
Flammability : No data available  
  
Upper explosion limit / Upper flammability limit : No data available  
  
Lower explosion limit / Lower flammability limit : No data available  
  
Flash point : Method: Seta closed cup  
does not flash  
  
Auto-ignition temperature : 450 °C  
  
Decomposition temperature : No data available  
  
pH : 2 - 5  
Concentration: 1 % w/v  
  
Viscosity  
Viscosity, dynamic : 109 - 238 mPa.s (40 °C)  
225 - 383 mPa.s (20 °C)  
  
Viscosity, kinematic : No data available  
  
Solubility(ies)  
Solubility in other solvents : No data available

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Partition coefficient: n-octanol/water : No data available  
Vapour pressure : No data available  
Density : 1.1 g/cm<sup>3</sup> (25 °C)  
Relative vapour density : No data available  
Particle characteristics  
Particle size : No data available

### 9.2 Other information

Explosives : Not explosive  
Oxidizing properties : The substance or mixture is not classified as oxidizing.  
Evaporation rate : No data available  
Miscibility with water : Miscible  
Surface tension : 35.4 mN/m, 0.1 %

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None reasonably foreseeable.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

### 10.5 Incompatible materials

Materials to avoid : None known.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

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### SECTION 11: Toxicological information

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure : Ingestion  
Inhalation  
Skin contact  
Eye contact

##### Acute toxicity

###### Product:

Acute oral toxicity : LD50 (Rat, female): 310 mg/kg  
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

###### Components:

###### **terbutylazine (ISO):**

Acute oral toxicity : LD50 (Rat, male and female): 1,590 mg/kg  
Acute inhalation toxicity : LC50 (Rat, male and female): > 5.3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity  
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

###### **C16-18 alcohols, ethoxylated:**

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

###### **mesotrione (ISO):**

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Acute inhalation toxicity : LC50 (Rat, male and female): > 4.75 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity  
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

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### **phosphoric acid:**

Acute oral toxicity : LD50 (Rat): 301 mg/kg  
Acute dermal toxicity : LD50 (Rabbit): 2,750 mg/kg

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

Acute oral toxicity : LD50 (Rat, male): 670 mg/kg  
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### **Skin corrosion/irritation**

#### **Product:**

Species : Rabbit  
Result : No skin irritation

#### **Components:**

##### **terbuthylazine (ISO):**

Species : Rabbit  
Result : No skin irritation

##### **mesotrione (ISO):**

Species : Rabbit  
Result : No skin irritation

### **phosphoric acid:**

Result : Corrosive after 3 minutes to 1 hour of exposure

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

Species : Rabbit  
Result : Mild skin irritation

### **Serious eye damage/eye irritation**

#### **Product:**

Species : Rabbit  
Result : No eye irritation

#### **Components:**

##### **terbuthylazine (ISO):**

Species : Rabbit  
Result : No eye irritation

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### **C16-18 alcohols, ethoxylated:**

Result : Irreversible effects on the eye

### **mesotrione (ISO):**

Species : Rabbit  
Result : No eye irritation

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

Species : Rabbit  
Result : Risk of serious damage to eyes.

### **Respiratory or skin sensitisation**

#### **Product:**

Test Type : Buehler Test  
Species : Guinea pig  
Result : Did not cause sensitisation on laboratory animals.

#### **Components:**

##### **terbuthylazine (ISO):**

Species : Guinea pig  
Result : Did not cause sensitisation on laboratory animals.

##### **mesotrione (ISO):**

Species : Guinea pig  
Result : Does not cause skin sensitisation.

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

Result : Probability or evidence of skin sensitisation in humans

### **Germ cell mutagenicity**

#### **Components:**

##### **terbuthylazine (ISO):**

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

##### **mesotrione (ISO):**

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

##### **phosphoric acid:**

Germ cell mutagenicity-Assessment : In vitro tests did not show mutagenic effects

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

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

### **Carcinogenicity**

#### **Components:**

#### **terbuthylazine (ISO):**

Carcinogenicity -  
Assessment : No evidence of carcinogenicity in animal studies.

#### **mesotrione (ISO):**

Carcinogenicity -  
Assessment : Animal testing did not show any carcinogenic effects.

### **Reproductive toxicity**

#### **Components:**

#### **terbuthylazine (ISO):**

Reproductive toxicity -  
Assessment : No toxicity to reproduction

#### **mesotrione (ISO):**

Reproductive toxicity -  
Assessment : Animal testing did not show any effects on fertility.

#### **phosphoric acid:**

Reproductive toxicity -  
Assessment : No toxicity to reproduction

### **STOT - repeated exposure**

#### **Components:**

#### **terbuthylazine (ISO):**

Target Organs : hematopoietic system  
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

### **Repeated dose toxicity**

#### **Components:**

#### **mesotrione (ISO):**

Remarks : No adverse effect has been observed in chronic toxicity tests.

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### 11.2 Information on other hazards

#### Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 6.7 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 53 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.087 mg/l  
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.0039 mg/l  
End point: Growth rate  
Exposure time: 72 h

EC50 (Lemna gibba (gibbous duckweed)): 0.114 mg/l  
Exposure time: 7 d

NOEC (Lemna gibba (gibbous duckweed)): 0.063 mg/l  
Exposure time: 7 h

**Components:**

**terbuthylazine (ISO):**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Americamysis): 0.092 mg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 0.03 mg/l  
Exposure time: 72 h

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NOEC (Desmodesmus subspicatus (green algae)): 0.0011 mg/l

End point: Growth rate

Exposure time: 72 h

ErC50 (Microcystis aeruginosa (blue-green algae)): 0.018 mg/l

Exposure time: 96 h

NOEC (Microcystis aeruginosa (blue-green algae)): 0.0037 mg/l

End point: Growth rate

Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.045 mg/l  
Exposure time: 90 d  
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.019 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 10

### mesotrione (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l  
Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): > 97.1 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 900 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 12 mg/l  
Exposure time: 96 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.75 mg/l

End point: Growth rate

Exposure time: 96 h

ErC50 (Lemna gibba (gibbous duckweed)): 0.0301 mg/l  
Exposure time: 7 d



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EC10 (Lemna gibba (gibbous duckweed)): 0.00187 mg/l  
End point: Growth rate  
Exposure time: 7 d

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC: 12.5 mg/l  
Exposure time: 36 d  
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 180 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 10

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

### phosphoric acid:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 3 - 3.25 mg/l  
Exposure time: 96 h

### Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

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

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.18 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.94 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.15 mg/l  
Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.04 mg/l  
End point: Growth rate  
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic) : NOEC: 0.3 mg/l

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toxicity)      Exposure time: 28 d  
Species: *Oncorhynchus mykiss* (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1.7 mg/l  
Exposure time: 21 d  
Species: *Daphnia* (water flea)

### 12.2 Persistence and degradability

#### Components:

##### **terbuthylazine (ISO):**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 6 d  
Remarks: Product is not persistent.

##### **mesotrione (ISO):**

Stability in water : Degradation half life: > 30 d (25 °C)  
Remarks: Persistent in water.

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

Biodegradability : Result: rapidly degradable

### 12.3 Bioaccumulative potential

#### Components:

##### **terbuthylazine (ISO):**

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.4 (25 °C)

##### **mesotrione (ISO):**

Bioaccumulation : Remarks: Low bioaccumulation potential.

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

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

### 12.4 Mobility in soil

#### Components:

##### **terbuthylazine (ISO):**

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil : Dissipation time: 77 - 169 d  
Percentage dissipation: 50 % (DT50)

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Remarks: Product is not persistent.

### **mesotrione (ISO):**

Distribution among environmental compartments : Remarks: Highly mobile in soils  
Stability in soil : Dissipation time: 6 - 105 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

### 12.5 Results of PBT and vPvB assessment

#### **Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### **Components:**

##### **terbuthylazine (ISO):**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

##### **mesotrione (ISO):**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

##### **phosphoric acid:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

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

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

### 12.6 Endocrine disrupting properties

#### **Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation

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(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

- Product : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Where possible recycling is preferred to disposal or incineration.  
If recycling is not practicable, dispose of in compliance with local regulations.
- Contaminated packaging : Empty remaining contents.  
Triple rinse containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.
- Waste Code : uncleaned packagings  
15 01 10, packaging containing residues of or contaminated by hazardous substances
- 

## SECTION 14: Transport information

### 14.1 UN number or ID number

- ADR : UN 3082  
RID : UN 3082  
IMDG : UN 3082  
IATA : UN 3082

### 14.2 UN proper shipping name

- ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(TERBUTHYLAZINE)  
RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(TERBUTHYLAZINE)  
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(TERBUTHYLAZINE)

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**IATA** : Environmentally hazardous substance, liquid, n.o.s.  
(TERBUTHYLAZINE)

### 14.3 Transport hazard class(es)

**ADR** : 9  
**RID** : 9  
**IMDG** : 9  
**IATA** : 9

### 14.4 Packing group

**ADR**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (-)

**RID**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
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

**ADR**  
Environmentally hazardous : yes

**RID**  
Environmentally hazardous : yes

**IMDG**  
Marine pollutant : yes

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### IATA (Passenger)

Environmentally hazardous : yes

### IATA (Cargo)

Environmentally hazardous : 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 Maritime transport in bulk according to IMO instruments

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

- REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable
- REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable
- Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
- Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable
- Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
- REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
- Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

#### Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.  
Use plant protection products safely. Always read the label and product information before use.  
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.  
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

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### SECTION 16: Other information

#### Full text of H-Statements

H290 : May be corrosive to metals.  
H302 : Harmful if swallowed.  
H314 : Causes severe skin burns and eye damage.  
H315 : Causes skin irritation.  
H317 : May cause an allergic skin reaction.  
H318 : Causes serious eye damage.  
H361d : Suspected of damaging the unborn child.  
H373 : May cause damage to organs through prolonged or repeated exposure.  
  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.  
H411 : Toxic 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  
Met. Corr. : Corrosive to metals  
Repr. : Reproductive toxicity  
Skin Corr. : Skin corrosion  
Skin Irrit. : Skin irritation  
Skin Sens. : Skin sensitisation  
STOT RE : Specific target organ toxicity - repeated exposure  
2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values  
  
IE OEL : Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1  
  
2000/39/EC / TWA : Limit Value - eight hours  
2000/39/EC / STEL : Short term exposure limit  
IE OEL / OELV - 8 hrs (TWA) : Occupational exposure limit value (8-hour reference period)  
IE OEL / OELV - 15 min (STEL) : Occupational exposure limit value (15-minute reference period)

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

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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:

Acute Tox. 4      H302

**Repr. 2**      **H361d**

STOT RE 2      H373

Aquatic Acute 1      H400

Aquatic Chronic 1      H410

#### Classification procedure:

Based on product data or assessment

**Calculation method**

Calculation method

Based on product data or assessment

Based on product data or assessment

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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