

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## CALLISTO

Version	Revision Date:	SDS Number:	Date of last issue: 26.11.2024
18.5	18.06.2025	S140538163	Date of first issue: 15.06.2017

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

#### 1.1 Product identifier

Trade name : CALLISTO

Design code : A12739A

Product Registration Number : MAPP 19756

Unique Formula Identifier (UFI) : 2NS9-J00M-6007-RPXT

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

Use of the Sub-stance/Mixture : Herbicide

Recommended restrictions on use : professional use

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

Company : Syngenta UK Limited  
Jealott's Hill International Research Centre  
Bracknell, Berkshire RG42 6EY  
United Kingdom

Telephone : +44 (0) 1223 883400

Telefax : -

E-mail address of person responsible for the SDS : MSDSenquiries.UK@syngenta.com

#### 1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Eye irritation, Category 2	H319: Causes serious eye irritation.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.

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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) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	H319 Causes serious eye irritation. H361 Suspected of damaging fertility or the unborn child. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	P102 Keep out of reach of children. <b>Prevention:</b> P201 Obtain special instructions before use. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. <b>Response:</b> P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P337 + P313 If eye irritation persists: 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 clean containers which can be disposed of as non-hazardous waste.

Hazardous components which must be listed on the label:

mesotrione (ISO)

### Additional Labelling

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

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### 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.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
alcohols, C9-11-iso-, C10-rich, ethoxylated	78330-20-8	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 20 - < 30
mesotrione (ISO)	104206-82-8 609-064-00-X	Repr. 2; H361d STOT RE 2; H373 (Nervous system, Eyes) Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 3 - < 10
octan-1-ol	111-87-5 203-917-6	Eye Irrit. 2; H319 Aquatic Chronic 3; H412	>= 2.5 - < 10
phosphoric acid	7664-38-2 231-633-2 015-011-00-6	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318  specific concentra- tion limit Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 10 - < 25 % Eye Irrit. 2; H319 10 - < 25 %	>= 1 - < 3

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Substances with a workplace exposure limit :			
silica	7631-86-9		≥ 1 - < 10
	231-545-4		

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 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.
- Risks : Causes serious eye irritation.  
Suspected of damaging the unborn child.

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

- Treatment : There is no specific antidote available.  
Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires

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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 fire-fighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).  
Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Sulphur oxides  
Oxides of phosphorus

### 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.

## 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.

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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.

## 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 animal feedingstuffs.

### 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
mesotrione (ISO)	104206-82-8	TWA	5 mg/m <sup>3</sup>	Syngenta
silica	7631-86-9	TWA (inhalable dust)	6 mg/m <sup>3</sup> (Silica)	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable			

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		ble dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
		TWA (Respirable dust)	2.4 mg/m <sup>3</sup> (Silica)	GB EH40
		Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
		TWA (Respirable dust)	0.1 mg/m <sup>3</sup>	2004/37/EC
		Further information: Carcinogens or mutagens		
phosphoric acid	7664-38-2	TWA	1 mg/m <sup>3</sup>	GB EH40
		STEL	2 mg/m <sup>3</sup>	GB EH40
		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		

### Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
octan-1-ol	Workers	Inhalation	Long-term systemic effects	176 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	106 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	50 mg/kg

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	Workers	Dermal	Long-term local effects	0.19 mg/cm <sup>2</sup>
	Consumers	Inhalation	Long-term systemic effects	43.5 mg/m <sup>3</sup>
	Consumers	Oral	Long-term systemic effects	12.5 mg/kg
	Consumers	Dermal	Long-term local effects	0.067 mg/cm <sup>2</sup>
	Consumers	Dermal	Long-term systemic effects	25 mg/kg
phosphoric acid	Workers	Inhalation	Long-term systemic effects	10.7 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	0.36 mg/m <sup>3</sup>
	Workers	Inhalation	Acute local effects	2 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects	4.57 mg/m <sup>3</sup>

### Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
octan-1-ol	Fresh water	0.1 mg/l
	Marine water	0.01 mg/l
	Fresh water sediment	1.6 mg/kg
	Marine sediment	0.16 mg/kg
	Soil	0.26 mg/kg
sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs.	Fresh water	0.2 mg/l
	Marine water	0.02 mg/l
	Fresh water sediment	1.141 mg/kg dry weight (d.w.)
	Marine sediment	1000 mg/kg dry weight (d.w.)

## 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/face protection : Tightly fitting safety goggles  
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Hand protection

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Remarks	:	No special protective equipment required.
Skin and body protection	:	No special protective equipment required. Select skin and body protection based on the physical job requirements.
Respiratory protection	:	No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Protective measures	:	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

Appearance	:	liquid
Colour	:	yellow brown to brown
Odour	:	like octanol
Odour Threshold	:	No data available
pH	:	2 - 6 (20 °C) Concentration: 1 %w/v
Melting point/freezing point	:	< -5 °C
Initial boiling point and boiling range	:	> 100 °C
Flash point	:	Method: Pensky-Martens closed cup does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.09 g/cm <sup>3</sup> (25 °C)
Solubility(ies)	:	
Water solubility	:	No data available



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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

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

##### Acute toxicity

Not classified due to lack of data.

##### Product:

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

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

##### Components:

##### **alcohols, C9-11-iso-, C10-rich, ethoxylated:**

Acute oral toxicity : LD50 (Rat): > 300 - 2,000 mg/kg

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

##### **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

##### **octan-1-ol:**

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

Acute inhalation toxicity : LC50 (Rat): > 5.6 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

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Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### **phosphoric acid:**

Acute oral toxicity : LD50 (Rat): 301 mg/kg

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

### **silica:**

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.01 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

### **Skin corrosion/irritation**

Based on available data, the classification criteria are not met.

### **Product:**

Species : Rabbit  
Result : No skin irritation

### **Components:**

#### **alcohols, C9-11-iso-, C10-rich, ethoxylated:**

Species : Rabbit  
Result : No skin irritation

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

Species : Rabbit  
Result : No skin irritation

#### **octan-1-ol:**

Species : Rabbit  
Result : No skin irritation

#### **phosphoric acid:**

Result : Corrosive after 3 minutes to 1 hour of exposure

#### **silica:**

Species : Rabbit

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Result : No skin irritation

### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Product:

Species : Rabbit  
Result : Eye irritation

#### Components:

##### alcohols, C9-11-iso-, C10-rich, ethoxylated:

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

##### mesotrione (ISO):

Species : Rabbit  
Result : No eye irritation

##### octan-1-ol:

Species : Rabbit  
Result : Irritation to eyes, reversing within 21 days

##### silica:

Species : Rabbit  
Result : No eye irritation

### Respiratory or skin sensitisation

#### Skin sensitisation

Based on available data, the classification criteria are not met.

#### Respiratory sensitisation

Not classified due to lack of data.

#### Product:

Test Type : Buehler Test  
Species : Guinea pig  
Result : Does not cause skin sensitisation.

#### Components:

##### alcohols, C9-11-iso-, C10-rich, ethoxylated:

Result : Does not cause skin sensitisation.

##### mesotrione (ISO):

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

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### octan-1-ol:

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

### silica:

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Result : Not a skin sensitizer.

### Germ cell mutagenicity

Not classified due to lack of data.

#### Components:

#### alcohols, C9-11-iso-, C10-rich, ethoxylated:

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.

#### octan-1-ol:

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

#### silica:

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

### Carcinogenicity

Not classified due to lack of data.

#### Components:

#### mesotrione (ISO):

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

#### octan-1-ol:

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

### Reproductive toxicity

Suspected of damaging the unborn child.

#### Components:

#### alcohols, C9-11-iso-, C10-rich, ethoxylated:

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Reproductive toxicity - Assessment : No toxicity to reproduction

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

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

### **octan-1-ol:**

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation

### **phosphoric acid:**

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation

### **STOT - single exposure**

Not classified due to lack of data.

### **Components:**

#### **alcohols, C9-11-iso-, C10-rich, ethoxylated:**

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

#### **octan-1-ol:**

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

### **STOT - repeated exposure**

Not classified due to lack of data.

### **Components:**

#### **alcohols, C9-11-iso-, C10-rich, ethoxylated:**

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

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

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

#### **octan-1-ol:**

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

#### **silica:**

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

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### Aspiration toxicity

Not classified due to lack of data.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 71 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 49 mg/l  
aquatic invertebrates : Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Raphidocelis subcapitata (freshwater green alga)): >  
plants : 100 mg/l  
Exposure time: 96 h

EC10 (Raphidocelis subcapitata (freshwater green alga)): 5.8  
mg/l  
End point: Growth rate  
Exposure time: 96 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 10  
mg/l  
End point: Growth rate  
Exposure time: 96 h

ErC50 (Lemna gibba (gibbous duckweed)): 0.279 mg/l  
Exposure time: 7 d

EC10 (Lemna gibba (gibbous duckweed)): 0.023 mg/l  
End point: Growth rate  
Exposure time: 7 d

NOEC (Lemna gibba (gibbous duckweed)): 0.011 mg/l  
End point: Growth rate  
Exposure time: 7 d

#### **Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

#### Components:

##### **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

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- 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
- 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
- octan-1-ol:**
- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 13.3 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 20 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 14 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)
- phosphoric acid:**
- Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 3 - 3.25 mg/l  
Exposure time: 96 h

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### Ecotoxicology Assessment

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

### 12.2 Persistence and degradability

#### Components:

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

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

##### **octan-1-ol:**

Biodegradability : Result: Readily biodegradable.

### 12.3 Bioaccumulative potential

#### Components:

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

Bioaccumulation : Remarks: Low bioaccumulation potential.

### 12.4 Mobility in soil

#### Components:

##### **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:

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

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).  
Substance is not very persistent and very bioaccumulative (vPvB).  
Remarks: Weight of Evidence

##### **octan-1-ol:**

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).

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Substance is not very persistent and very bioaccumulative (vPvB).

### phosphoric acid:

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).  
Substance is not very persistent and very bioaccumulative (vPvB).

### 12.6 Other adverse effects Product:

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

### Components:

#### mesotrione (ISO):

Endocrine disrupting potential : Substance does not have endocrine disrupting properties.  
Weight of Evidence

## 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.

## SECTION 14: Transport information

### 14.1 UN number

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

### 14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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**RID** : N.O.S.  
(MESOTRIONE)  
: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(MESOTRIONE)

**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(MESOTRIONE)

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

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
<b>ADR</b>	: 9	
<b>RID</b>	: 9	
<b>IMDG</b>	: 9	
<b>IATA</b>	: 9	

### 14.4 Packing group

**ADR**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (-)  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

**RID**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

**IMDG**  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

### IATA (Cargo)

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Packing instruction (cargo aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

### IATA (Passenger)

Packing instruction (passenger aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

### 14.5 Environmental hazards

#### ADR

Environmentally hazardous : yes

#### RID

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes

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

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17) : Conditions of restriction for the following entries should be considered:  
Number on list 3

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UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation : Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain) : Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer : Not applicable

UK REACH List of substances subject to authorisation (Annex XIV) : Not applicable

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation : Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) E1 ENVIRONMENTAL HAZARDS

### Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

### 15.2 Chemical safety assessment

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

## 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.

H318 : Causes serious eye damage.

H319 : Causes serious eye irritation.

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.

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

Met. Corr. : Corrosive to metals

Repr. : Reproductive toxicity

Skin Corr. : Skin corrosion

STOT RE : Specific target organ toxicity - repeated exposure

2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first

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2004/37/EC : list of indicative occupational exposure limit values  
: Europe. Directive 2004/37/EC on the protection of workers  
from the risks related to exposure to carcinogens, mutagens  
or reprotoxic substances at work - Annex III

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

Syngenta : Syngenta Occupational Exposure Limit

2000/39/EC / TWA : Limit Value - eight hours

2000/39/EC / STEL : Short term exposure limit

2004/37/EC / TWA : Long term exposure limit

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

Syngenta / TWA : Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - 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; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Eye Irrit. 2	H319
Repr. 2	H361
Aquatic Acute 1	H400

#### Classification procedure:

Based on product data or assessment
Calculation method
Based on product data or assessment

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Aquatic Chronic 1

H410

Based on product data or assessment

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GB / 6N