

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



CALLISTO

Version	Revision Date:	SDS Number:	Date of last issue: 05.02.2024
19.1	24.12.2024	S140538163	Date of first issue: 12.06.2017

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 : PCS 06547

Unique Formula Identifier (UFI) : V1RK-XD99-1000-VQCK

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 : -

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)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2 H319: Causes serious eye irritation.

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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

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : 

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs (Eyes, Nervous system) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

Storage:
P405 Store locked up.

Disposal:
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.

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 instruc-

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tions 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)
alcohols, C9-11-iso-, C10-rich, ethoxylated	78330-20-8	Acute Tox. 4; H302 Eye Dam. 1; H318 Acute toxicity estimate Acute oral toxicity: 300.03 mg/kg	>= 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 01-2119486978-10- xxxx	Eye Irrit. 2; H319 Aquatic Chronic 3; H412	>= 2.5 - < 10
phosphoric acid	7664-38-2 231-633-2	Met. Corr. 1; H290 Acute Tox. 4; H302	>= 1 - < 3

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	015-011-00-6 01-2119485924-24- xxxx	Skin Corr. 1B; H314 Eye Dam. 1; H318	
		specific concentration limit Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 >= 10 - < 25 % Eye Irrit. 2; H319 >= 10 - < 25 %	
		Acute toxicity estimate	
		Acute oral toxicity: 301 mg/kg	
Substances with a workplace exposure limit :			
silica	7631-86-9 231-545-4 01-2119379499-16- xxxx		>= 1 - < 10

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.

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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.

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 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_x)
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.

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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.

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.

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
mesotrione (ISO)	104206-82-8	TWA	5 mg/m ³	Syngenta
silica	7631-86-9	TWA (Respirable)	0.1 mg/m ³	2004/37/EC

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		dust)		
	Further information: Carcinogens or mutagens			
		OELV - 8 hrs (TWA) (Respirable dust)	0.1 mg/m ³ (Silica)	IE OEL
	Further information: Carcinogenic, see List of Carcinogenic Substances, Mixtures and Processes			
		OELV - 8 hrs (TWA) (Respirable dust)	2.4 mg/m ³ (Silica)	IE OEL
		OELV - 8 hrs (TWA) (inhalable dust)	6 mg/m ³ (Silica)	IE OEL
phosphoric acid	7664-38-2	TWA	1 mg/m ³	2000/39/EC
	Further information: Indicative			
		STEL	2 mg/m ³	2000/39/EC
	Further information: Indicative			
		OELV - 8 hrs (TWA)	1 mg/m ³	IE OEL
		OELV - 15 min (STEL)	2 mg/m ³	IE OEL

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

Substance name	End Use	Exposure routes	Potential health effects	Value
octan-1-ol	Workers	Inhalation	Long-term systemic effects	176 mg/m ³
	Workers	Inhalation	Long-term local effects	106 mg/m ³
	Workers	Dermal	Long-term systemic effects	50 mg/kg
	Workers	Dermal	Long-term local effects	0.19 mg/cm ²
	Consumers	Inhalation	Long-term systemic effects	43.5 mg/m ³
	Consumers	Oral	Long-term systemic effects	12.5 mg/kg
	Consumers	Dermal	Long-term local effects	0.067 mg/cm ²
	Consumers	Dermal	Long-term systemic effects	25 mg/kg
phosphoric acid	Workers	Inhalation	Long-term systemic effects	10.7 mg/m ³
	Consumers	Inhalation	Long-term local effects	0.36 mg/m ³
	Workers	Inhalation	Acute local effects	2 mg/m ³
	Workers	Inhalation	Long-term local effects	1 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	4.57 mg/m ³

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

Substance name	Environmental Compartment	Value
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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.)
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

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.
Equipment should conform to EN 166

Hand protection

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.

Environmental exposure controls

Water : 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.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	yellow brown to brown
Odour	:	like octanol
Odour Threshold	:	No data available
Melting point/freezing point	:	< -5 °C
Initial boiling point and boiling range	:	> 100 °C
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: Pensky-Martens closed cup does not flash
Auto-ignition temperature	:	420 °C
Decomposition temperature	:	No data available
pH	:	2 - 6 (20 °C) Concentration: 1 %w/v
Viscosity	:	
Viscosity, dynamic	:	1,990 mPa.s (20 °C) 1,060 mPa.s (40 °C)
Viscosity, kinematic	:	No data available
Solubility(ies)	:	
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available

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Density : 1.09 g/cm³ (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

Surface tension : 29.1 mN/m, 1 % w/v, 21 °C

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

No hazardous decomposition products are known.

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): > 2,000 mg/kg

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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

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

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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

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
Result : No skin irritation

Serious eye damage/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):

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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

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.

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

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:

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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

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

Components:

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

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

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.

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STOT - repeated exposure

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.

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.

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 aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 49 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 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

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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

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

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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

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.

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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).

octan-1-ol:

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

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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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. (MESOTRIONE)
RID : 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
ADR	: 9	
RID	: 9	
IMDG	: 9	
IATA	: 9	

14.4 Packing group

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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)

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.

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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 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 3
Banned and/or restricted

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. E1 ENVIRONMENTAL HAZARDS

Other regulations:

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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.

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 list of indicative occupational exposure limit values
2004/37/EC	: Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
IE OEL	: Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
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
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)
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

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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:

Eye Irrit. 2	H319
Repr. 2	H361d
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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