PENNANT®

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	01.04.2025	50000970	Date of first issue: 01.04.2025

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

1.1 Product identifier

Product name PENNANT®

Other means of identification

Product code 50000970

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

Use of the Substance/Mixture : Herbicide

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

1.3 Details of the supplier of the safety data sheet

Supplier Address

FMC Agro Limited
Rectors Lane, Pentre
Flintshire
CH5 2DH
United Kingdom

Telephone: + 44 1244 537370
E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:
England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency:
England and Wales: 111
Scotland: 84 54 24 2424

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)

Short-term (acute) aquatic hazard, Cate- H400: Very toxic to aquatic life.

gory 1

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 : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Response:

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container as hazardous waste in accordance with local regulations.

Additional Labelling

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

For special phrases (SP) and safety intervals, consult the label.

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.	Classification	Concentration (% w/w)

	Registration number		
thifensulfuron-methyl (ISO)	79277-27-3 016-096-00-2	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 30 - < 50
sodium carbonate	497-19-8 207-838-8 011-005-00-2	Eye Irrit. 2; H319	>= 10 - < 20
metsulfuron-methyl (ISO)	74223-64-6 613-139-00-2	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 1,000 M-Factor (Chronic aquatic toxicity): 1,000	>= 2.5 - < 10
Substances with a workplace exposure limit :			
β-D-Fructofuranosyl-α-D-glucopyranoside	57-50-1 200-334-9		>= 1 - < 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Do not leave the victim unattended.
Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.

In case of skin contact : If on clothes, remove clothes.
If on skin, rinse well with water.

Wash off with soap and plenty of water.
Get medical attention if irritation develops and persists.

In case of eye contact : If eye irritation persists, consult a specialist.
Keep eye wide open while rinsing.
Protect unharmed eye.
Remove contact lenses.
Flush eyes with water as a precaution.

If swallowed : Do not induce vomiting without medical advice.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Possibly irritation

4.3 Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

5.2 Special hazards arising from the substance or mixture

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

Hazardous combustion products : Fire may produce irritating, corrosive and/or toxic gases.
Sulphur oxides
Carbon oxides
Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Dispose of rinse water in accordance with local and national regulations.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.

Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene measures : Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

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

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

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

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
β-D-Fructofuranosyl-α-D-glucopyranoside	57-50-1	TWA	10 mg/m3	GB EH40
		STEL	20 mg/m3	GB EH40

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Tightly fitting safety goggles
Eye wash bottle with pure water

Hand protection
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place. Dust impervious protective suit
Respiratory protection	:	In case of dust exposure wear suitable personal respiratory protection and protective suit.
Protective measures	:	Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions. Wear suitable protective equipment. When using do not eat, drink or smoke. In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	solid
Form	:	granules
Colour	:	light brown
Odour	:	slight
Odour Threshold	:	not determined
pH	:	8.7 (25 °C) Concentration: 10 g/l 1 % (as a dispersion)
Melting point/freezing point	:	Not available for this mixture.
Boiling point/boiling range	:	Decomposition
Flash point	:	not determined
Evaporation rate	:	Not available for this mixture.
Flammability (solid, gas)	:	Not highly flammable, may be ignitable
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapour pressure	:	Not available for this mixture.
Relative vapour density	:	Not applicable
Relative density	:	
Bulk density	:	0.696 g/cm3 packed
Solubility(ies)		
Water solubility	:	Miscible
Solubility in other solvents	:	No data available

Partition coefficient: n-octanol/water	:	Not available for this mixture.
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available for this mixture.
Viscosity		
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The product is not oxidizing.

9.2 Other information

Particle size	:	No data available
Particle Size Distribution	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

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

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

Stable under recommended storage conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: Fixed Dose Method
Remarks: (Data on the product itself)
Information source: Internal study report

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: (Data on the product itself)
Information source: Internal study report

Components:

thifensulfuron-methyl (ISO):

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

Acute inhalation toxicity : LC50 (Rat): > 5.03 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

sodium carbonate:

Acute oral toxicity : LD50 (Rat, male and female): 2,800 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): 2.3 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Target Organs: Skin
Symptoms: Erythema

metsulfuron-methyl (ISO):

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: US EPA Test Guideline OPP 81-1
Assessment: The substance or mixture has no acute oral toxicity

LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity
Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.11 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Breathing difficulties
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Symptoms: Irritation
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: no mortality

β-D-Fructofuranosyl-α-D-glucopyranoside:

Acute oral toxicity : LD50 (Rat): 29,700 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : (Data on the product itself)
Information source: Internal study report

Components:

thifensulfuron-methyl (ISO):

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

sodium carbonate:

Species : Rabbit
Exposure time : 4 h
Method : OECD Test Guideline 404
Result : No skin irritation

metsulfuron-methyl (ISO):

Species : Rabbit
Assessment : Not classified as irritant
Method : US EPA Test Guideline OPP 81-5
Result : No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species : Rabbit

Method : OECD Test Guideline 405
Result : No eye irritation
Remarks : (Data on the product itself)
Information source: Internal study report

Components:

thifensulfuron-methyl (ISO):

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

sodium carbonate:

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

metsulfuron-methyl (ISO):

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Animal test did not cause sensitization by skin contact.
Remarks : (Data on the product itself)
Information source: Internal study report

Components:

thifensulfuron-methyl (ISO):

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 429
Result : Does not cause skin sensitisation.

metsulfuron-methyl (ISO):

Test Type : Maximisation Test
Exposure routes : Skin contact

Species	:	Guinea pig
Method	:	US EPA Test Guideline OPPTS 870.2600
Result	:	Not a skin sensitizer.

Germ cell mutagenicity

Not classified based on available information.

Product:

Germ cell mutagenicity- Assessment	:	Contains no ingredient listed as a mutagen

Components:

thifensulfuron-methyl (ISO):

Genotoxicity in vitro	:	Test system: Chinese hamster ovary cells Method: OECD Test Guideline 476 Result: negative Remarks: In vitro tests did not show mutagenic effects
Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

sodium carbonate:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay) Result: negative Remarks: Based on data from similar materials
Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

metsulfuron-methyl (ISO):

Genotoxicity in vitro	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: yes Test Type: Chromosome aberration test in vitro Metabolic activation: Metabolic activation Result: positive GLP: yes
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Result: negative

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment	:	Contains no ingredient listed as a carcinogen

Components:

thifensulfuron-methyl (ISO):

Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

metsulfuron-methyl (ISO):

Species	:	Rat, male and female
Exposure time	:	104 weeks
NOAEL	:	500 ppm
Result	:	negative

Species	:	Mouse, male and female
Exposure time	:	18 month(s)
NOAEL	:	5,000 ppm
Result	:	negative

Reproductive toxicity

Not classified based on available information.

Product:

Reproductive toxicity - Assessment	:	Contains no ingredient listed as toxic to reproduction

Components:

thifensulfuron-methyl (ISO):

Reproductive toxicity - Assessment	:	Did not show teratogenic effects in animal experiments.

sodium carbonate:

Effects on foetal development	:	Species: Rat Application Route: Oral Dose: 2.45, 11.4, 52.9, 245 milligram per kilogram Duration of Single Treatment: 6 - 15 d General Toxicity Maternal: NOAEL: > 245 mg/kg body weight Teratogenicity: NOAEL: > 245 mg/kg body weight Result: negative
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

metsulfuron-methyl (ISO):

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rabbit, female Application Route: Ingestion Symptoms: Maternal effects Result: negative Test Type: Embryo-foetal development Species: Rat, female Application Route: Ingestion Symptoms: Maternal effects Result: negative

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Components:

sodium carbonate:

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

Repeated dose toxicity

Components:

thifensulfuron-methyl (ISO):

Species	:	Rat
LOAEL	:	ca. 200 mg/kg
Exposure time	:	90 d
Target Organs	:	No specific target organs noted
Symptoms	:	Reduced body weight

sodium carbonate:

Species	:	Rat, male and female
NOAEL	:	> 0.01 mg/kg
Application Route	:	inhalation (dust/mist/fume)
Test atmosphere	:	dust/mist

metsulfuron-methyl (ISO):

Species	:	Rat, male and female
NOEL	:	1000 ppm

Application Route	:	Oral - feed
Exposure time	:	90 days
Symptoms	:	Reduced body weight

Aspiration toxicity

Not classified based on available information.

Neurological effects

Components:

metsulfuron-methyl (ISO):

No neurotoxicity observed in animal studies

Further information

Product:

Remarks	:	No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 130 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: (Data on the product itself) Information source: Internal study report
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): > 130 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: (Data on the product itself) Information source: Internal study report
Toxicity to algae/aquatic plants	:	EbC50 (Pseudokirchneriella subcapitata (green algae)): 0.609 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: (Data on the product itself) Information source: Internal study report EbC50 (Lemna gibba (duckweed)): 0.026 mg/l Exposure time: 336 h Method: US EPA Test Guideline OPPTS 850.4400 Remarks: (Data on the product itself) Information source: Internal study report
Toxicity to soil dwelling or-	:	LC50: > 1,000 mg/kg

ganisms		Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes Remarks: (Data on the product itself) Information source: Internal study report
Toxicity to terrestrial organisms	:	LD50: > 0.100 mg/kg Exposure time: 48 h Species: Apis mellifera (bees) Method: OECD Test Guideline 213 Remarks: Information source: Internal study report (Data on the product itself)

Components:

thifensulfuron-methyl (ISO):

Toxicity to fish	:	LC50 (Salmo gairdneri): 100 mg/l Exposure time: 96 h LC50 (Oncorhynchus mykiss (rainbow trout)): > 250 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 120 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (green algae): 0.0159 mg/l Exposure time: 72 h ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1.4 mg/l Exposure time: 72 h EC50 (Lemna minor (duckweed)): 1.3 µg/l
M-Factor (Acute aquatic toxicity)	:	100
Toxicity to fish (Chronic toxicity)	:	NOEC: 250 mg/l Exposure time: 28 d Species: Salmo gairdneri NOEC: 10.6 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 100 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic	:	100

toxicity)

Toxicity to soil dwelling organisms	:	LC50: > 2,000 mg/kg Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: > 2,510 mg/kg Species: Anas platyrhynchos (Mallard duck) LD50: > 5,620 ppm Species: Anas platyrhynchos (Mallard duck) Remarks: Dietary LD50: > 5,620 ppm Species: Colinus virginianus (Bobwhite quail) LD50: > 7.1 µg/bee End point: Acute oral toxicity Species: Apis mellifera (bees) LD50: > 100 µg/bee End point: Acute contact toxicity Species: Apis mellifera (bees)

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

sodium carbonate:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 300 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia (water flea)): 200 mg/l Exposure time: 48 h Test Type: semi-static test

metsulfuron-methyl (ISO):

Toxicity to fish	:	LC50 (Poecilia reticulata (guppy)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 120 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 EC50 (Daphnia magna (Water flea)): 43.1 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test

		Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Anabaena flos-aquae (cyanobacterium)): 65.7 µg/l Exposure time: 96 h Method: OPPTS 850.5400 GLP: yes NOEC (Anabaena flos-aquae (cyanobacterium)): 45 µg/l Exposure time: 96 h Method: OPPTS 850.5400 GLP: yes ErC50 (Selenastrum capricornutum (green algae)): 157 µg/l Exposure time: 72 h GLP: yes NOEC (Selenastrum capricornutum (green algae)): 50 µg/l Exposure time: 72 h GLP: yes
M-Factor (Acute aquatic toxicity)	:	1,000
Toxicity to fish (Chronic toxicity)	:	NOEC: 68 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout) NOEC: 10 mg/l End point: reproduction Exposure time: 21 d Species: Pimephales promelas (fathead minnow) Method: OECD Test Guideline 229 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 3.13 mg/l End point: reproduction Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Method: OECD Test Guideline 211 NOEC: 0.5 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	1,000
Toxicity to soil dwelling organisms	:	NOEC: 6 mg/kg Exposure time: 56 d Species: Eisenia fetida (earthworms)

NOEC: 5.6 mg/kg
End point: reproduction
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 222
GLP:yes

Method: OECD Test Guideline 216
Remarks: No significant adverse effect on nitrogen mineralization.

Toxicity to terrestrial organisms : LD50: > 50 µg/bee
Exposure time: 48 h
End point: Acute contact toxicity
Species: Apis mellifera (bees)
Method: OEPP/EPPO Test Guideline 170

LD50: > 50 µg/bee
Exposure time: 48 h
End point: Acute oral toxicity
Species: Apis mellifera (bees)
Method: OEPP/EPPO Test Guideline 170

LD50: > 2,510 mg/kg
Species: Anas platyrhynchos (Mallard duck)

NOEC: 1,000 mg/kg
End point: Reproduction Test
Species: Colinius virginianus

NOEC: 1,000 ppm
End point: Reproduction Test
Species: Anas platyrhynchos (Mallard duck)
Method: OECD Test Guideline 206

β-D-Fructofuranosyl-α-D-glucopyranoside:

Toxicity to fish : Remarks: No data available

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data is available on the product itself.
Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

Components:

thifensulfuron-methyl (ISO):

Biodegradability : Remarks: Not readily biodegradable.
Primary degradation half-lives vary with circumstances, from a few days to a few weeks in aerobic water and soil.

sodium carbonate:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

metsulfuron-methyl (ISO):

Biodegradability : Result: Not readily biodegradable.
Remarks: Primary degradation half-lives vary with circumstances, from a few weeks to a few months in aerobic soil and water.

β-D-Fructofuranosyl-α-D-glucopyranoside:

Biodegradability : Remarks: No data available

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data is available on the product itself.

Components:

thifensulfuron-methyl (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 1
Remarks: Does not bioaccumulate.

sodium carbonate:

Bioaccumulation : Remarks: Does not bioaccumulate.

metsulfuron-methyl (ISO):

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 28 d
Bioconcentration factor (BCF): < 1
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : Pow: 0.018 (25 °C)
log Pow: -1.7 (25 °C)
pH: 7

12.4 Mobility in soil

Product:

Distribution among environ- : Remarks: No data is available on the product itself.

mental compartments

Components:

thifensulfuron-methyl (ISO):

Distribution among environmental compartments	:	Koc: 28.3, log Koc: 1.45 Remarks: Highly mobile in soils
Stability in soil	:	

metsulfuron-methyl (ISO):

Distribution among environmental compartments	:	Remarks: Under normal conditions the substance/mixture is mobile in soil.

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.

12.6 Other adverse effects

Product:

Endocrine disrupting potential	:	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.
Additional ecological information	:	Very toxic to aquatic life with long lasting effects. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Do not re-use empty containers. Packaging that is not properly emptied must be disposed of as

the unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

ADN	:	UN 3077
ADR	:	UN 3077
RID	:	UN 3077
IMDG	:	UN 3077
IATA	:	UN 3077

14.2 UN proper shipping name

ADN	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Metsulfuron-methyl)
ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Metsulfuron-methyl)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Metsulfuron-methyl)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Metsulfuron-methyl)
IATA	:	Environmentally hazardous substance, solid, n.o.s. (Thifensulfuron-methyl, Metsulfuron-methyl)

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	9	
ADR	:	9	
RID	:	9	
IMDG	:	9	
IATA	:	9	

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90

Labels : 9

ADR
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

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

IATA (Cargo)
Packing instruction (cargo aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

IATA (Passenger)
Packing instruction (passenger aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

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 Alcohols, C10-16 (Number on list 3)
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
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial and livestock rearing emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: < 0.01 %

The components of this product are reported in the following inventories:

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. MEM 20 SG TIM 50 SG
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory

KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of H-Statements

H319	:	Causes serious eye irritation.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Irrit.	:	Eye irritation
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

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

Other information :

Classification of the mixture:		**Classification procedure:**
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Calculation method

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