BIPLAY® SX®

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	10.02.2025	50000913	Date of first issue: 09.01.2019

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

1.1 Product identifier

Product name BIPLAY® SX®

Other means of identification

Product code 50000913

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 : 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)

Specific target organ toxicity - repeated H373: May cause damage to organs through pro-

exposure, Category 2	longed or repeated exposure.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

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

Hazard pictograms :

Signal word : Warning

Hazard statements : H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P260 Do not breathe dust or spray.
P273 Avoid release to the environment.

Response:

P314 Get medical advice/ attention if you feel unwell.
P391 Collect spillage.

Disposal:

P501 Dispose of contents/container in accordance with local regulation.

Hazardous components which must be listed on the label:
tribenuron-methyl (ISO)

Additional Labelling

EUH208	Contains tribenuron-methyl (ISO). May produce an allergic reaction.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

2.3 Other hazards

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
tribenuron-methyl (ISO)	101200-48-0 401-190-1 607-177-00-9	Skin Sens. 1; H317 STOT RE 2; H373 (Thyroid, Nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 20 - < 25
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	>= 10 - < 20
sodium carbonate	497-19-8 207-838-8 011-005-00-2	Eye Irrit. 2; H319	>= 1 - < 10
Phosphoric acid, trisodium salt, do-decahydrate	10101-89-0	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory sys-tem)	>= 1 - < 10
Substances with a workplace exposure limit :			
sucrose	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 : Remove victim from exposure and then have him lie down in the recovery position.
Call a physician immediately.
Show this safety data sheet to the doctor in attendance.
Keep at rest.
Keep warm and in a quiet place.
Do not leave the victim unattended.

Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.

If inhaled : Remove to fresh air.
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 immediately if irritation develops and persists.

In case of eye contact : Rinse immediately with plenty of water for at least 15 minutes.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

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.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks : May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

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.
Nitrogen oxides (NOx)
Sulphur oxides
Carbon oxides
Oxides of phosphorus

5.3 Advice for firefighters

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

Wear self-contained breathing apparatus for firefighting if necessary.

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

Further information : Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Pick up and arrange disposal without creating dust.

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 : Avoid formation of respirable particles.
Do not breathe vapours/dust.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

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

Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene measures : General industrial hygiene practice. Avoid contact with skin, eyes and clothing. Do not breathe dust or spray mist.

When using do not eat or drink. When using do not smoke. 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 : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : The product is stable under normal conditions of warehouse storage. 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.

Recommended storage temperature : 5 - 30 °C

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

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
sucrose	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
Phosphoric acid, trisodium salt, dodecahydrate	Workers	Inhalation	Long-term systemic effects	4.07 mg/m3

	Consumers	Inhalation	Long-term systemic effects	3.04 mg/m3

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
Phosphoric acid, trisodium salt, dodecahydrate	Sewage treatment plant	50 mg/l

8.2 Exposure controls

Personal protective equipment

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

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 : Protective suit

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

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	:	extruded granules
Colour	:	brown
Odour	:	slightly sour
pH	:	9.7 Concentration: 10 g/l 1 % (as aqueous solution)
Melting point/freezing point	:	not determined

Boiling point/boiling range	:	Decomposition
Flash point	:	not determined
Flammability (solid, gas)	:	The product may be combustible., Based on available information, the classification criteria for flammability hazard are not met.
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Relative vapour density	:	not determined
Density	:	No data available
Bulk density	:	0.690 g/m3 packed
Solubility(ies)		
Water solubility	:	Miscible
Auto-ignition temperature	:	387 °C
Viscosity		
Viscosity, kinematic	:	not determined
Explosive properties	:	Not explosive
Oxidizing properties	:	The product is not oxidizing.

9.2 Other information

Particle size	:	No data available
Self-ignition	:	387 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Dust may form explosive mixture in air.

No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.
Avoid dust formation.

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 inhalation toxicity	:	Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: yes Remarks: (Data on the product itself) Information source: Internal study report

Components:

tribenuron-methyl (ISO):

Acute oral toxicity	:	LD50: > 5,000 mg/kg Method: OECD Test Guideline 425
Acute inhalation toxicity	:	LC50 (Rat): > 5.14 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 402

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

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

Phosphoric acid, trisodium salt, dodecahydrate:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 420
Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 0.83 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials
no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

no mortality

sucrose:

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:

tribenuron-methyl (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Remarks	:	May cause mild irritation. Based on available data, the classification criteria are not met.

metsulfuron-methyl (ISO):

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

sodium carbonate:

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

Phosphoric acid, trisodium salt, dodecahydrate:

Species	:	Rabbit
Result	:	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:

tribenuron-methyl (ISO):

Species : Rabbit
Assessment : No eye irritation
Method : OECD Test Guideline 405
Remarks : May cause mild irritation.
Based on available data, the classification criteria are not met.

metsulfuron-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

Phosphoric acid, trisodium salt, dodecahydrate:

Species : Rabbit
Method : EPA OTS 798.4500
Result : Irritation to eyes, reversing within 21 days

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 : Not a skin sensitizer.
Remarks : (Data on the product itself)
Information source: Internal study report

Components:

tribenuron-methyl (ISO):

Test Type : Maximisation Test
Species : Guinea pig
Assessment : May cause sensitisation by skin contact.

Method	:	OECD Test Guideline 406
Result	:	Causes skin sensitization.

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.

Phosphoric acid, trisodium salt, dodecahydrate:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.
Remarks	:	Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Product:

Genotoxicity in vitro	:	Remarks: The product contains no ingredients known to be mutagenic.

Components:

tribenuron-methyl (ISO):

Germ cell mutagenicity- Assessment	:	Did not show mutagenic effects in animal experiments.

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

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.

Phosphoric acid, trisodium salt, dodecahydrate:

Genotoxicity in vitro : Test Type: gene mutation test
Method: OECD Test Guideline 490
Result: negative
Remarks: Based on data from similar materials

Test Type: Micronucleus test
Method: OECD Test Guideline 487
Result: negative

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

Carcinogenicity

Not classified based on available information.

Product:

Remarks : The product contains no ingredients known to be carcinogenic.

Components:

tribenuron-methyl (ISO):

Remarks : No significant adverse effects were reported

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

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:

Effects on fertility : Remarks: The product contains no ingredients found to have adverse effects on reproduction.

Components:

tribenuron-methyl (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction
Animal testing did not show any effects on foetal development., Did not show teratogenic effects in animal experiments.

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

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

Phosphoric acid, trisodium salt, dodecahydrate:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Dose: 1000 mg/kg bw/day
General Toxicity - Parent: NOAEL: 1,000 mg/kg bw/day

General Toxicity F1: NOAEL: 1,000 mg/kg bw/day
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral
Dose: 4.1, 19, 88.3, 410 mg/kg bw/day
Duration of Single Treatment: 20 d
General Toxicity Maternal: NOAEL: > 410 mg/kg bw/day
Embryo-foetal toxicity: NOAEL: > 410 mg/kg bw/day
Result: negative
Remarks: Based on data from similar materials

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

STOT - single exposure

Not classified based on available information.

Product:

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

Components:

tribenuron-methyl (ISO):

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

Phosphoric acid, trisodium salt, dodecahydrate:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Product:

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

Components:

tribenuron-methyl (ISO):

Target Organs : Thyroid, Nervous system
Assessment : May cause damage to organs through prolonged or repeated exposure.

sodium carbonate:

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

Repeated dose toxicity

Components:

tribenuron-methyl (ISO):

Species : Rabbit
LOAEL : 80 mg/kg
Target Organs : Thyroid, Nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
Remarks : Increased mortality or reduced survival

metsulfuron-methyl (ISO):

Species : Rat, male and female
NOEL : 1000 ppm
Application Route : Oral - feed
Exposure time : 90 days
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

Phosphoric acid, trisodium salt, dodecahydrate:

Species : Dog, female
NOAEL : 492.77 mg/kg bw/day
LOAEL : 1433.56 mg/kg bw/day
Application Route : Oral - feed
Exposure time : 90 d
Dose : 129.31, 492.77, 1433.56 mg/kg bw/day
Target Organs : Kidney
Remarks : Based on data from similar materials

Species : Dog, male
NOAEL : 322.88 mg/kg bw/day
LOAEL : 1107.12 mg/kg bw/day
Application Route : Oral - feed
Exposure time : 90 d
Dose : 94.23, 322.88, 1107.12 mg/kg bw/day
Target Organs : Kidney
Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Product:

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

Components:

tribenuron-methyl (ISO):

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

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)): > 120 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes Remarks: (Data on the product itself) Information source: Internal study report
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 GLP: yes Remarks: (Data on the product itself) Information source: Internal study report
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (microalgae)): 0.0213 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes

Remarks: (Data on the product itself)
Information source: Internal study report

Toxicity to soil dwelling organisms : LC50: > 1,000 mg/kg
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: > 0.110 mg/kg
Exposure time: 48 h
End point: Acute oral toxicity
Species: Apis mellifera (bees)
Method: OECD Test Guideline 213
GLP:yes
Remarks: (Data on the product itself)
Information source: Internal study report

LD50: > 0.100 mg/kg
Exposure time: 48 h
End point: Acute contact toxicity
Species: Apis mellifera (bees)
Method: OECD Test Guideline 214
GLP:yes
Remarks: (Data on the product itself)
Information source: Internal study report

Components:

tribenuron-methyl (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 738 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Crustaceans): > 320 mg/l
Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): > 894 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.068 mg/l
Exposure time: 72 h

ErC50 (Lemna gibba (duckweed)): 0.0047 mg/l
Exposure time: 7 d

NOEC (Lemna gibba (duckweed)): 0.001 mg/l
Exposure time: 7 d

M-Factor (Acute aquatic toxicity)	:	100
Toxicity to fish (Chronic toxicity)	:	NOEC: 114 mg/l Exposure time: 21 d Species: Cyprinodon variegatus (sheepshead minnow) Method: OECD Test Guideline 211 NOEC: 560 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 41 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	100
Toxicity to soil dwelling organisms	:	NOEC: 3.2 mg/kg Exposure time: 56 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: > 2,250 mg/kg Species: Colinus virginianus (Bobwhite quail) LD50: > 5,620 ppm Species: Colinus virginianus (Bobwhite quail) Remarks: Dietary LD50: > 5,620 ppm Species: Anas platyrhynchos (Mallard duck) Remarks: Dietary LD50: > 98.4 µg/bee Exposure time: 48 h End point: Acute contact toxicity Species: Apis mellifera (bees) LD50: > 9.1 µg/bee Exposure time: 48 h End point: Acute oral 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.

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

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

Phosphoric acid, trisodium salt, dodecahydrate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: EU Method C3
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: EU Method C3
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

NOEC (activated sludge): 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Toxicity to soil dwelling organisms : LC50: > 3,500 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
Remarks: Based on data from similar materials

sucrose:

Toxicity to fish : Remarks: No data available

12.2 Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.

Remarks: Estimation based on data obtained on active ingredient.
Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

Components:

tribenuron-methyl (ISO):

Biodegradability : Result: Not readily biodegradable.
Remarks: The product/substance is not persistent in the environment.
Primary degradation half-lives vary with circumstances, from a few days to a few weeks in aerobic water and soil.
Metabolites are considered as persistent.
According to the results of tests of biodegradability this product is not readily biodegradable.

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.

sodium carbonate:

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

sucrose:

Biodegradability : Remarks: No data available

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not bioaccumulate.
Estimation based on data obtained on active ingredient.

Components:

tribenuron-methyl (ISO):

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

Partition coefficient: n-octanol/water : log Pow: -0.38

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

sodium carbonate:

Bioaccumulation	:	Remarks: Does not bioaccumulate.

12.4 Mobility in soil

Components:

tribenuron-methyl (ISO):

Distribution among environmental compartments	:	Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a potential for leaching to groundwater.

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

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.
(Tribenuron-methyl, Metsulfuron-methyl)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Tribenuron-methyl, Metsulfuron-methyl)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Tribenuron-methyl, Metsulfuron-methyl)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Tribenuron-methyl, Metsulfuron-methyl)

IATA : Environmentally hazardous substance, solid, n.o.s.
(Tribenuron-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

Regulation (EC) on substances that deplete the ozone layer : Not applicable

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

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

TCSI : Not applicable

TSCA : Not applicable

AIIC : Not applicable

DSL : Not applicable

ENCS : Not applicable

ISHL : Not applicable

KECI : Not applicable

PICCS : Not applicable

IECSC : Not applicable

NZIoC : Not applicable

TECI : Not applicable

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

H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H335	:	May cause respiratory irritation.
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.

Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
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 sub-

stance; 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:**
STOT RE 2	H373	Based on product data or assessment
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Calculation method

Disclaimer

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