

AUTHORITY™ 480 Herbicide

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1.0	31.07.2025	50000411	Date of first issue: 31.07.2025

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Product name AUTHORITY™ 480 Herbicide

Other means of identification

Product code 50000411

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 Chemicals (Pty) Ltd
Company Registration No.: 1988/001451/07
West End Office Park, Building C
Cnr. West Ave & Hall Street
Centurion
0014
South Africa
E-mail address: SDS-Info@fmc.com

Distributor addresses:

Polachem Investments (Private) Limited
12 Connaught Road
Avondale, Harare, Zimbabwe

Pivotal Agro-Services (Pvt) Ltd
Pivotal Agro House
37 Kenmark Crescent
Bluff Hill Industrial Park
Harare, Zimbabwe

1.4 Emergency telephone

For leak, fire, spill or accident emergencies, call:
South Africa: 080-001-4676 (CHEMTREC)

Medical emergency:
DaTIS (Drug and Toxicology Information Service)
+263 24 2933452 or
+263 24 2791631 - 11 extension 2172 (Business hours)
E-Mail: datis@medsch.uz.ac.zw, datis.zim23@gmail.com,
datiszim@gmail.com

Griffon Poison Information Centre (24 hrs): +27-(0)-82-446-8946

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SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 4	H332: Harmful if inhaled.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements**Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal Word : WARNING

Hazard Statements : H332 Harmful if inhaled.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs 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 mist or vapors.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P391 Collect spillage.

Disposal:

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

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Hazardous ingredients which must be listed on the label:

Sulfentrazone

Additional Labeling

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)
Sulfentrazone	122836-35-5	Acute Tox. 4; H332 STOT RE 2; H373 (hematopoietic system, Nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 30 - < 50
toluene	108-88-3 203-625-9 601-021-00-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system) STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 1 - < 2.5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : Move out of dangerous area.

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Show this material safety data sheet to the doctor in attendance.

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 if irritation develops and persists.
- In case of eye contact : Flush eyes with water as a precaution.
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.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : Harmful if inhaled.
Suspected of damaging fertility or the unborn child.
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.
Immediate medical attention is required in case of ingestion.
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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
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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.
Chlorinated compounds
Fluorinated compounds
Sulfur oxides
Nitrogen oxides (NO_x)
Carbon oxides
Hydrogen cyanide
Hydrogen chloride
Hydrogen fluoride

5.3 Advice for firefighters

- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : 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 : Use personal protective equipment.
Ensure adequate ventilation.
If it can be safely done, stop the leak.
Keep people away from and upwind of spill/leak.
Immediately evacuate personnel to safe areas.
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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

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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 aerosol.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
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.
- Hygiene measures : When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

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. Observe label precautions. 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. A warning sign reading "POISON" is recommended. 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.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

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

Substance name	End Use	Routes of exposure	Potential health effects	Value
			Systemic effects	0.014 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
	Water	1.9 µg/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 : Impervious clothing
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 : liquid
Color : off-white

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Odor	:	alcohol-like
pH	:	5.3 - 6
Melting point/freezing point	:	123 °C
Boiling point/boiling range	:	No data available
Flash point	:	> 94 °C Method: closed cup
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	1.206 (20 °C)
Solubility(ies)	:	
Water solubility	:	dispersible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

9.2 Other information

Flammability (liquids)	:	No data available
Particle size	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

To our knowledge, the product has no special reactivities.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	None known
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10.4 Conditions to avoid

Conditions to avoid	:	Protect from frost, heat and sunlight. Heating of the product will produce harmful and irritant vapours.
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10.5 Incompatible materials

Materials to avoid	:	Avoid strong acids, bases, and oxidizers.
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10.6 Hazardous decomposition products

No hazardous decomposition products are known.
See subsection 5.2.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Harmful if inhaled.

Product:

Acute oral toxicity	: LD50 (Rat): 2,084 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 2.72 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rat): > 2,000 mg/kg

Components:**Sulfentrazone:**

Acute oral toxicity	: LD50 (Rat, female): 2,689 mg/kg Symptoms: ataxia, clonic convulsions, Fatality GLP: yes
Acute inhalation toxicity	: LC50 (Rat, male and female): > 4.13 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: EPA OPP 81 - 3 Symptoms: ataxia, Breathing difficulties GLP: yes Remarks: no mortality
Acute dermal toxicity	: LD50 (Rabbit, male and female): > 2,000 mg/kg Method: EPA OPP 81-2 GLP: yes Assessment: The component/mixture is minimally toxic after single contact with skin.

toluene:

Acute oral toxicity	: LD50 (Rat): 5,580 mg/kg
Acute inhalation toxicity	: LC50 (Rat, male): 25.7 mg/l Exposure time: 4 h Test atmosphere: vapor LC50 (Rat, female): 30 mg/l Exposure time: 4 h

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Test atmosphere: vapor

Acute dermal toxicity : (Rabbit): 12,267 mg/kg

Skin corrosion/irritation

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

Product:

Result : No skin irritation
Remarks : Minimal effects that do not meet the threshold for classification.

Components:

Sulfentrazone:

Species : Rabbit
Assessment : No skin irritation
Method : EPA OPP 81-5
Result : No skin irritation
GLP : yes

toluene:

Species : Rabbit
Assessment : Repeated exposure may cause skin dryness or cracking.
Result : Skin irritation

Serious eye damage/eye irritation

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

Product:

Result : No eye irritation

Components:

Sulfentrazone:

Species : Rabbit
Assessment : No eye irritation
Method : EPA OPP 81-4
Result : No eye irritation
GLP : yes

toluene:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitization

Skin sensitization

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

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Respiratory sensitization

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

Product:

Result : Not a skin sensitizer.

Components:**Sulfentrazone:**

Test Type : Maximization Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitization.

toluene:

Test Type : Maximization Test
Species : Guinea pig
Result : Not a skin sensitizer.

Germ cell mutagenicity

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

Components:**Sulfentrazone:**

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

Test Type: Mouse lymphoma assay
Test system: mouse lymphoma cells
Metabolic activation: Metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

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

toluene:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Species: Rat

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Result: negative

Carcinogenicity

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

Components:**Sulfentrazone:**

Species	: Rat, male and female
Application Route	: Ingestion
Exposure time	: 2 Years
Result	: negative

Species	: Mouse, male and female
Application Route	: Ingestion
Exposure time	: 18 month(s)
Result	: negative

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

Suspected of damaging fertility or the unborn child.

Product:

Reproductive toxicity - Assessment	: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.
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Components:**Sulfentrazone:**

Effects on fertility	: Test Type: Two-generation study Species: Rat, male and female Application Route: Oral General Toxicity Parent: NOEL: 13.7 - 16.2 mg/kg bw/day General Toxicity F1: NOEL: 13.7 - 16.2 mg/kg bw/day Symptoms: Maternal effects.
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Effects on fetal development	: Test Type: Embryo-fetal development Species: Rat Application Route: Oral General Toxicity Maternal: NOEL: 25 mg/kg bw/day Developmental Toxicity: NOEL: 10 mg/kg bw/day Method: EPA OPP 83-3
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	: Test Type: Embryo-fetal development Species: Rat Application Route: Oral General Toxicity Maternal: LOAEL: 50 mg/kg bw/day Developmental Toxicity: LOAEL F1: 25 mg/kg bw/day Symptoms: Skeletal malformations. Target Organs: spleen
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Method: EPA OPP 83-3

toluene:

Effects on fetal development : Species: Rat
Application Route: Inhalation
Result: Teratogenic effects.
Remarks: Adverse developmental effects were observed

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

STOT-single exposure

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

Components:

Sulfentrazone:

Remarks : No significant adverse effects were reported

toluene:

Assessment : May cause drowsiness or dizziness.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

Sulfentrazone:

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

toluene:

Routes of exposure : Inhalation
Target Organs : inner ear
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

Sulfentrazone:

Species : Rat, male
NOAEL : 19.9 mg/kg
LOAEL : 65.8 mg/kg
Application Route : Oral - feed
Exposure time : 90-days
GLP : yes

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Target Organs : hematopoietic system

Species : Mouse, male
NOAEL : 60 mg/kg
LOAEL : 108.4 mg/kg
Application Route : Oral - feed
Exposure time : 90-days
Target Organs : hematopoietic system

Species : Dog, male
NOAEL : 10 mg/kg
LOAEL : 28 mg/kg
Application Route : Oral - feed
Exposure time : 90-days
Target Organs : hematopoietic system, Liver

toluene:

Species : Rat
NOAEL : 625 mg/kg
Application Route : Oral
Symptoms : central nervous system effects

Species : Rat
NOAEL : 0.098 mg/l
Application Route : Inhalation
Test atmosphere : vapor

Species : Rat
LOAEL : 2.261 mg/l
Application Route : Inhalation
Test atmosphere : vapor

Aspiration toxicity

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

Components:

Sulfentrazone:

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

toluene:

May be fatal if swallowed and enters airways.

Neurological effects

Components:

Sulfentrazone:

Neurotoxicity observed in animals studies

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Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:**Sulfentrazone:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l
 Exposure time: 96 h
 Test Type: flow-through test
 Method: EPA OPP 72-1

LC50 (Lepomis macrochirus (Bluegill sunfish)): 93.8 mg/l
 Exposure time: 96 h
 Test Type: flow-through test
 Method: EPA OPP 72-1

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 60.4 mg/l
 Exposure time: 48 h
 Test Type: flow-through test

NOEC (Daphnia magna (Water flea)): 14.1 mg/l
 Exposure time: 48 h
 Test Type: flow-through test

Toxicity to algae/aquatic plants : EC50 (algae): 32.8 mg/l
 Exposure time: 72 h

EC50 (Pseudokirchneriella subcapitata (green algae)): 0.031 mg/l
 Exposure time: 120 h

EC50 (Lemna gibba (duckweed)): 0.0288 mg/l
 Exposure time: 14 d

EC50 (Navicula pelliculosa (Diatom)): 0.042 mg/l
 Exposure time: 120 h

Toxicity to fish (Chronic toxicity) : NOEC: 5.9 mg/l
 Exposure time: 21 d
 Species: Fish

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.51 mg/l
 Exposure time: 21 d
 Species: Crustaceans

Toxicity to terrestrial organisms : LD50: > 5,620 ppm
 End point: Acute oral toxicity

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Species: *Anas platyrhynchos* (Mallard duck)

NOEL: 3,160 ppm

End point: Acute oral toxicity

Species: *Anas platyrhynchos* (Mallard duck)

LD50: > 5,620 ppm

End point: Acute oral toxicity

Species: *Colinus virginianus* (Bobwhite quail)

NOEL: 5,620 ppm

End point: Acute oral toxicity

Species: *Colinus virginianus* (Bobwhite quail)

NOEL: > 100 ppm

End point: Reproduction Test

Species: *Colinus virginianus* (Bobwhite quail)

NOEL: > 100 ppm

End point: Reproduction Test

Species: *Anas platyrhynchos* (Mallard duck)

LD50: > 25 µg/bee

End point: Acute oral toxicity

Species: *Apis mellifera* (bees)

LD50: > 200 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.

toluene:

Toxicity to fish : LC50 (Fish): 5.5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 : 3.78 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (*Skeletonema costatum* (marine diatom)): 10 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Bacteria): 134 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 1.4 mg/l
Species: *Oncorhynchus kisutch* (coho salmon)

Toxicity to daphnia and other : NOEC: 0.74 mg/l

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aquatic invertebrates (Chronic toxicity)

Exposure time: 7 d
Species: Ceriodaphnia sp.

12.2 Persistence and degradability**Product:**

Biodegradability : Remarks: Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

Components:**Sulfentrazone:**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 2.22 - 9.56 h

Photodegradation : Remarks: Decomposes rapidly in contact with light.

toluene:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential**Components:****Sulfentrazone:**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
GLP: yes
Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : Pow: 1.49
pH: 5

toluene:

Bioaccumulation : Bioconcentration factor (BCF): 90

Partition coefficient: n-octanol/water : log Pow: 2.73 (20 °C)

12.4 Mobility in soil**Components:****Sulfentrazone:**

Mobility : Medium: Water
Remarks: Predicted distribution to environmental compartments

Distribution among environ- : Koc: 43 ml/g, log Koc: 1.63

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mental compartments Remarks: Highly mobile in soils

Stability in soil : Remarks: Very persistent 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 poten- : The substance/mixture does not contain components consid-
tial ered 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 infor- : An environmental hazard cannot be excluded in the event of
mation unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

Global warming potential

Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) of the United Nations Framework Convention on Climate Change (UNFCCC)

Components:**octamethylcyclotetrasiloxane [D4]:**

20-year global warming potential: 2.66
100-year global warming potential: 0.739
500-year global warming potential: 0.211
Atmospheric lifetime: 0.027 yr
Radiative efficiency: 0.12 Wm²ppb
Further information: Miscellaneous compounds

decamethylcyclopentasiloxane:

20-year global warming potential: 1.04
100-year global warming potential: 0.289
500-year global warming potential: 0.082
Atmospheric lifetime: 0.016 yr
Radiative efficiency: 0.098 Wm²ppb
Further information: Miscellaneous compounds

dodecamethylcyclohexasiloxane:

20-year global warming potential: 0.51
100-year global warming potential: 0.142
500-year global warming potential: 0.04
Atmospheric lifetime: 0.011 yr

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Radiative efficiency: 0.086 Wm2ppb
Further information: Miscellaneous compounds

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. Triple rinse containers. 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

UNRTDG	: UN 3082
IMDG	: UN 3082
IATA	: UN 3082

14.2 UN proper shipping name

UNRTDG	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Sulfentrazone)
IMDG	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Sulfentrazone)
IATA	: Environmentally hazardous substance, liquid, n.o.s. (Sulfentrazone)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
UNRTDG	: 9	
IMDG	: 9	
IATA	: 9	

14.4 Packing group

UNRTDG

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Packing group : III
Labels : 9

IMDG

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

IATA (Cargo)

Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

UNRTDG

Environmentally hazardous : yes

IMDG

Marine pollutant : 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

The ingredients 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.
AIIIC : Not in compliance with the inventory
DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

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Sulfentrazone

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**

H225	:	Highly flammable liquid and vapor.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H332	:	Harmful if inhaled.
H336	:	May cause drowsiness or dizziness.
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
Asp. Tox.	:	Aspiration hazard
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration

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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

Other information :

Classification of the mixture:

Acute Tox. 4	H332
Repr. 2	H361
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

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

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