

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



Carfentrazone-ethyl 40 DF

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	2022/08/24	50000493	Date of first issue: 2018/03/07

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Carfentrazone-ethyl 40 DF

Other means of identification : 快灭灵 40DF
KUAIMIELING 40 DF
AURORA 40 DF
AFFINITY™ 40 DF
AIM 40WG
SHARK™ H20

Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Address : FMC Corporation
2929 WALNUT ST
PHILADELPHIA PA 19104
USA

Telephone : (215) 299-6000

E-mail address : SDS-Info@fmc.com

Emergency telephone : For leak, fire, spill or accident emergencies, call:
0086-0532 8388 9090 (National Registration Center for Chemicals)

Medical emergency:
86 532 8388 9090

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	: solid, powder
Color	: brown
Odor	: Slight musty

Very toxic to aquatic life with long lasting effects.

GHS Classification

Short-term (acute) aquatic : Category 1

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hazard

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :



Signal Word : Warning

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

Precautionary Statements : **Prevention:**
P273 Avoid release to the environment.
Response:
P391 Collect spillage.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Physical and chemical hazards

Not classified based on available information.

Health hazards

Not classified based on available information.

Environmental hazards

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

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
carfentrazone-ethyl (ISO)	128639-02-1	≥ 38 - ≤ 42
silica gel	112926-00-8	≥ 30 - < 50
Bentonite	1302-78-9	≥ 1 - < 10
D-Glucopyranose, oligomers, decyl octyl glycosides	68515-73-1	≥ 1 - < 2.5

4. FIRST AID MEASURES

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- | | |
|---|---|
| General advice | : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended. |
| If inhaled | : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician. |
| 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 | : 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.
Do not induce vomiting without medical advice. |
| Most important symptoms and effects, both acute and delayed | : None known. |
| Notes to physician | : Treat symptomatically. |

5. FIRE-FIGHTING MEASURES

- | | |
|---------------------------------------|---|
| Suitable extinguishing media | : Dry chemical, CO2, water spray or regular foam. |
| Unsuitable extinguishing media | : Do not spread spilled material with high-pressure water streams. |
| Specific hazards during fire fighting | : Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : Nitrogen oxides (NOx)
Carbon oxides
Chlorine compounds
Fluorine compounds |
| 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.
Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |

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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.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Use personal protective equipment.
If it can be safely done, stop the leak.
Do not touch or walk through the spilled material.
Avoid dust formation.

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.

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

Prevention of secondary hazards : Never return spills in original containers for re-use.
For disposal considerations see section 13.

7. HANDLING AND STORAGE

Handling

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

Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Avoid formation of respirable particles.

Avoidance of contact : Avoid strong acids, bases, and oxidizers.

Storage

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

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Further information on storage stability : Keep in a dry place.
No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
silica gel	112926-00-8	PC-TWA (Total dust)	5 mg/m ³	CN OEL
carfentrazone-ethyl (ISO)	128639-02-1	TWA (Inhalable particulate matter)	1 mg/m ³	ACGIH
Bentonite	1302-78-9	PC-TWA (Total dust)	6 mg/m ³	CN OEL

Personal protective equipment

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

Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Particulates type

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

Skin and body protection : Protective suit
Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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.

Protective measures : Plan first aid action before beginning work with this product.

Hygiene measures : General industrial hygiene practice.
Avoid contact with skin, eyes and clothing.
Do not breathe dust or spray mist.
Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : solid, powder

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Color	:	brown
Odor	:	Slight musty
Odor Threshold	:	not determined
pH	:	7.5 (25 °C) Concentration: 5.44 g/l (as a dispersion)
Melting point/freezing point	:	not determined
Boiling point/boiling range	:	not determined
Flash point	:	not determined
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Not highly flammable
Self-ignition	:	not determined
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapor pressure	:	Not available for this mixture.
Relative vapor density	:	not determined
Relative density	:	0.55
Solubility(ies) Water solubility	:	dispersible
Partition coefficient: n-octanol/water	:	Not available for this mixture.
Autoignition temperature	:	No data available
Decomposition temperature	:	not determined
Viscosity Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable

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Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Particle size	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Dust may form explosive mixture in air.
Conditions to avoid	:	Avoid extreme temperatures. Avoid dust formation. Heat, flames and sparks.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.18 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: no mortality Highest attainable concentration.
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402

Components:

carfentrazone-ethyl (ISO):

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: FIFRA 81.01
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Acute inhalation toxicity : LC50 (Rat): > 5.09 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg
Method: US EPA Test Guideline OPP 81-2
Assessment: The substance or mixture has no acute dermal toxicity

silica gel:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC0 (Rat, male and female): > 0.14 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: Based on data from similar materials
no mortality

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

Bentonite:

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

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

Acute inhalation toxicity : LC50 (Rat): > 5.27 mg/l
Test atmosphere: dust/mist
Method: OECD Test Guideline 436

D-Glucopyranose, oligomers, decyl octyl glycosides:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 423

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Not classified based on available information.

Product:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404

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Remarks : Minimal effects that do not meet the threshold for classification.

Components:

carfentrazone-ethyl (ISO):

Species : Rabbit
Method : US EPA Test Guideline OPP 81-5
Result : No skin irritation

silica gel:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

Bentonite:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

D-Glucopyranose, oligomers, decyl octyl glycosides:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species : Rabbit
Assessment : No eye irritation
Method : OECD Test Guideline 405
Remarks : Minimal effects that do not meet the threshold for classification.

Components:

carfentrazone-ethyl (ISO):

Species : Rabbit
Assessment : No eye irritation
Method : EPA OPP 81-4
Remarks : Minimal effects that do not meet the threshold for classification.

silica gel:

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

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Remarks : Based on data from similar materials

Bentonite:

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

D-Glucopyranose, oligomers, decyl octyl glycosides:

Species : Rabbit
Result : Irreversible effects on the eye
Method : OECD Test Guideline 405
Remarks : Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Method : OECD Test Guideline 429
Result : Does not cause skin sensitization.

Components:

carfentrazone-ethyl (ISO):

Species : Guinea pig
Method : US EPA Test Guideline OPP 81-6
Result : Does not cause skin sensitization.

Bentonite:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Method : OECD Test Guideline 429
Result : Does not cause skin sensitization.

D-Glucopyranose, oligomers, decyl octyl glycosides:

Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitization.
Remarks : Based on data from similar materials

Germ cell mutagenicity

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Components:

carfentrazone-ethyl (ISO):

Genotoxicity in vitro	:	Test Type: reverse mutation assay Result: negative Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells Metabolic activation: Metabolic activation Result: negative Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells Result: positive
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse (male and female) Result: negative
Germ cell mutagenicity - Assessment	:	No genotoxic potential.

silica gel:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Species: Rat (male) Application Route: Inhalation Result: negative Remarks: Based on data from similar materials

Bentonite:

Genotoxicity in vitro	:	Method: OECD Test Guideline 471 Result: negative Method: OECD Test Guideline 473 Result: negative Method: OECD Test Guideline 476 Result: negative
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D-Glucopyranose, oligomers, decyl octyl glycosides:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: Based on data from similar materials Test Type: gene mutation test Method: OECD Test Guideline 476 Result: negative
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Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

Species : Rat, male and female
Application Route : Oral
Exposure time : 104 weeks
NOAEL : 3 - 9 mg/kg bw/day
Result : negative

Species : Mouse, male and female
Application Route : Oral
Exposure time : 80 weeks
NOAEL : > 7,000 ppm
Result : negative

Species : Dog, male and female
Exposure time : 52 weeks
NOAEL : 150 mg/kg bw/day
Result : negative

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

silica gel:

Species : Rat
Application Route : Oral
Exposure time : 103 weeks
Method : OECD Test Guideline 453
Result : negative
Remarks : Based on data from similar materials

Bentonite:

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

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Reproductive toxicity

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

Effects on fertility	: Test Type: Multi-generation study Species: Rat, male and female Application Route: Ingestion Fertility: NOEL: 4,000 ppm Result: negative
Effects on fetal development	: Test Type: Embryo-fetal development Species: Rat, female Application Route: Oral General Toxicity Maternal: NOEL: 100 mg/kg bw/day Embryo-fetal toxicity.: NOEL: 600 mg/kg bw/day Result: negative Test Type: Embryo-fetal development Species: Rabbit, female Application Route: Oral General Toxicity Maternal: NOEL: 150 mg/kg bw/day Embryo-fetal toxicity.: NOEL: > 300 mg/kg bw/day Result: negative
Reproductive toxicity - Assessment	: Animal testing showed no reproductive toxicity.

silica gel:

Effects on fetal development	: Test Type: Embryo-fetal development Species: Rat Application Route: Oral Result: negative Remarks: Based on data from similar materials
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Bentonite:

Reproductive toxicity - Assessment	: Weight of evidence does not support classification for reproductive toxicity
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D-Glucopyranose, oligomers, decyl octyl glycosides:

Effects on fertility	: Test Type: one-generation reproductive toxicity Species: Rat, male and female Application Route: Oral Dose: 0, 100, 300, 1000 mg/kg bw General Toxicity Parent: NOAEL: 1,000 mg/kg bw/day Method: OECD Test Guideline 421 Result: negative Remarks: Based on data from similar materials
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Effects on fetal development : Species: Rat, females
Application Route: Oral
Dose: 0, 100, 300, 1000 mg/kg bw
General Toxicity Maternal: NOAEL: 1,000 mg/kg bw/day
Developmental Toxicity: NOAEL: 1,000 mg/kg bw/day
Method: OECD Test Guideline 414
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.

Components:

carfentrazone-ethyl (ISO):

Remarks : No significant adverse effects were reported

Bentonite:

Remarks : No significant adverse effects were reported

STOT-repeated exposure

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

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

Bentonite:

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

D-Glucopyranose, oligomers, decyl octyl glycosides:

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

Repeated dose toxicity

Components:

carfentrazone-ethyl (ISO):

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

Species : Rat, male and female

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NOEL : 1000 ppm
Application Route : Dermal
Exposure time : 21 days

silica gel:

Species : Rat, male and female
NOAEL : 2,500 mg/kg
Application Route : Oral
Exposure time : 13 weeks
Method : OECD Test Guideline 408
Remarks : Based on data from similar materials

Species : Rat, male and female
NOAEL : 1.3 - 10 mg/l
LOAEL : 5.9 mg/l
Application Route : Inhalation
Exposure time : 13 weeks
Method : OECD Test Guideline 413
Remarks : Based on data from similar materials

D-Glucopyranose, oligomers, decyl octyl glycosides:

Species : Rat, male and female
NOAEL : 1000 mg/kg bw/day
Application Route : Oral
Exposure time : 90d
Dose : 0, 250, 500, 1000 mg/kg bw
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:

carfentrazone-ethyl (ISO):

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

Neurological effects

Components:

carfentrazone-ethyl (ISO):

No neurotoxicity observed in animal studies.

Further information

Product:

Remarks : No data available

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12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to algae/aquatic plants	: NOEC (algae): 0.0063 mg/l Exposure time: 72 h ErC50 (algae): 0.067 mg/l Exposure time: 72 h NOEC (Lemna gibba (gibbous duckweed)): 0.00158 µg/l Exposure time: 7 d Method: OECD Test Guideline 221 EC50 (Lemna gibba (gibbous duckweed)): 0.030 µg/l Exposure time: 7 d Method: OECD Test Guideline 221
Toxicity to soil dwelling organisms	: NOEC (Eisenia fetida (earthworms)): 45.9 mg/kg Method: OECD Test Guideline 222 LC50 (Eisenia fetida (earthworms)): > 45.9 mg/kg Method: OECD Test Guideline 222
Toxicity to terrestrial organisms	: LD50 (Apis mellifera (bees)): > 200 µg/bee Exposure time: 48 h End point: Acute oral toxicity Method: OECD Test Guideline 213

Components:

carfentrazone-ethyl (ISO):

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 1.6 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: LC50 (Daphnia magna (Water flea)): > 9.8 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: EC50 (Anabaena flos-aquae (cyanobacterium)): 0.012 mg/l Exposure time: 72 h NOEC (algae): 0.001 mg/l Exposure time: 96 h EC50 (Lemna gibba (gibbous duckweed)): 0.0057 mg/l Exposure time: 14 d
M-Factor (Acute aquatic toxicity)	: 10

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Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.11 mg/l
Exposure time: 28 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Crustaceans): 0.22 mg/l
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 100

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 820 mg/kg

Toxicity to terrestrial organisms : LD50 (Anas platyrhynchos (Mallard duck)): > 5,620 ppm
End point: Acute oral toxicity
Remarks: Dietary

LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm
End point: Acute oral toxicity
Remarks: Dietary

LD50 (Apis mellifera (bees)): > 200 µg/bee
End point: Acute oral toxicity

LD50 (Apis mellifera (bees)): > 200 µg/bee
End point: Acute contact toxicity

silica gel:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : NOELR (Desmodesmus subspicatus (green algae)): 10,000 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Ecotoxicology Assessment

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

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

Bentonite:

Toxicity to fish : LC50 (Salmo gairdneri): 8,000 mg/l
Exposure time: 96 h

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LC50 (Oncorhynchus mykiss (rainbow trout)): 16,000 mg/l
Exposure time: 96 h

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

Toxicity to algae/aquatic plants : EC50 (algae): > 100 mg/l
Exposure time: 72 h

D-Glucopyranose, oligomers, decyl octyl glycosides:

Toxicity to fish : LC0 (Danio rerio (zebra fish)): 59.3 mg/l
Exposure time: 96 h
Test Type: semi-static test

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

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 21 mg/l
Exposure time: 72 h
Test Type: static test

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 1.8 mg/l
Exposure time: 28 d
Method: OECD Test Guideline 204
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : LOEC (Daphnia magna (Water flea)): 2 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 560 mg/l
Exposure time: 6 h
Test Type: Growth inhibition

Toxicity to soil dwelling organisms : LC0 (Eisenia fetida (earthworms)): >= 654 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207
Remarks: Based on data from similar materials

Persistence and degradability

Components:

carfentrazone-ethyl (ISO):

Biodegradability : Result: Not readily biodegradable.

silica gel:

Biodegradability : Result: Not biodegradable

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Remarks: Based on data from similar materials

Bentonite:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

D-Glucopyranose, oligomers, decyl octyl glycosides:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Readily biodegradable.
Method: OECD Test Guideline 301E

Bioaccumulative potential

Product:

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

Components:

carfentrazone-ethyl (ISO):

Biodegradability : Species: Fish
Bioconcentration factor (BCF): 176
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 3.36 (20 °C)

silica gel:

Biodegradability : Bioconcentration factor (BCF): 3.16
Remarks: Based on data from similar materials

D-Glucopyranose, oligomers, decyl octyl glycosides:

Partition coefficient: n-octanol/water : log Pow: 1.72 (40 °C)
pH: 6.5
Remarks: Based on data from similar materials

Mobility in soil

Product:

Distribution among environmental compartments : Remarks: No data is available on the product itself.

Components:

carfentrazone-ethyl (ISO):

Distribution among environmental compartments : Remarks: Mobile in soils

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Other adverse effects

Product:

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.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Carfentrazone-ethyl)
Class : 9
Subsidiary risk : ENVIRONM.
Packing group : III
Labels : 9 (ENVIRONM.)

IATA-DGR

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(Carfentrazone-ethyl)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3077

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Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Carfentrazone-ethyl)

Class : 9

Packing group : III

Labels : 9

EmS Code : F-A, S-F

Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

GB 6944/12268

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Carfentrazone-ethyl)

Class : 9

Packing group : III

Labels : 9

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.

15. REGULATORY INFORMATION

National regulatory information

Law on the Prevention and Control of Occupational Diseases

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

TCSI : On the inventory, or 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.

ETHYL (RS)-2-CHLORO-3-{2-CHLORO-5-[4-(DIFLUOROMETHYL)-4,5-DIHYDRO-3-METHYL-5-OXO-1H-1,2,4-TRIAZOL-1-YL]-4-FLUOROPHENYL}PROPIONATE

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

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

16. OTHER INFORMATION

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Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
CN OEL	: Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA	: 8-hour, time-weighted average
CN OEL / PC-TWA	: Permissible concentration - time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recom-

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mendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Disclaimer

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