according to GB/T 16483 and GB/T 17519



Carfentrazone-ethyl 40 DF

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Carfentrazone-ethyl 40 DF

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

Company : FMC Corporation

Address : 2929 Walnut Street

Philadelphia PA 19104

USA

Telephone : +1 (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 Chemi-

cals)

Medical emergency: 86 532 8388 9090

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: powderColor: Off-white/tanOdor: Latex smell

Very toxic to aquatic life with long lasting effects.

GHS Classification

Short-term (acute) aquatic

:

hazard

Long-term (chronic) aquatic

Category 1

Category 1

hazard

GHS label elements

according to GB/T 16483 and GB/T 17519



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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	
Silicon dioxide	112926-00-8	>= 30 -< 50	
Bentonite	1302-78-9	>= 1 -< 10	
D-Glucopyranose, oligomeric, decyl octyl gly-	68515-73-1	>= 1 -< 2.5	
cosides			

4. FIRST AID MEASURES

General advice : Move out of dangerous area.

Show this material safety data sheet to the doctor in attend-

ance.

Do not leave the victim unattended.

If inhaled : Remove to fresh air.

according to GB/T 16483 and GB/T 17519



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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 ambu-

lance.

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.

Protection of first-aiders : First Aid responders should pay attention to self-protection

and use the recommended protective clothing

Avoid inhalation, ingestion and contact with skin and eyes. If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

Notes to physician : Treat symptomatically.

Immediate medical attention is required in case of ingestion.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Unsuitable extinguishing

media

Do not spread spilled material with high-pressure water

streams.

High volume water jet

Specific hazards during fire

fighting

Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod-

ucts

Fire may produce irritating, corrosive and/or toxic gases.

Nitrogen oxides (NOx)

according to GB/T 16483 and GB/T 17519



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> Carbon oxides Chlorine compounds Fluorine compounds

Fire may produce irritating, corrosive and/or toxic gases.

Nitrogen oxides (NOx)

Carbon oxides Fluorine compounds Hydrogen cyanide Hydrogen chloride Chlorinated compounds

Sulfur oxides

Specific extinguishing meth-

ods

Remove undamaged containers from fire area if it is safe to do

Use a water spray to cool fully closed containers.

Standard procedure for chemical fires.

Use extinguishing measures that are appropriate to local cir-

cumstances 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.

Special protective equipment :

for fire-fighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- :

tive equipment and emer-

gency procedures

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.

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.

Mark the contaminated area with signs and prevent access to

unauthorized personnel.

Only qualified personnel equipped with suitable protective

equipment may intervene.

according to GB/T 16483 and GB/T 17519



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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 ap-

plication 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.

Further information on stor-

age conditions

The product is stable under normal conditions of warehouse

storage.

Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. The room should only be used for storage of chemicals. Food, drink, feed and seed should not

be present. A hand wash station should be available.

Further information on stor-

age 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
Silicon dioxide	112926-00-8	PC-TWA (Total dust)	5 mg/m3	CN OEL
carfentrazone-ethyl (ISO)	128639-02-1	TWA (Inhal- able particu- late matter)	1 mg/m3	ACGIH
Bentonite	1302-78-9	PC-TWA (Total dust)	6 mg/m3	CN OEL

according to GB/T 16483 and GB/T 17519



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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 : 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.

Always have on hand a first-aid kit, together with proper in-

structions.

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 instruc-

tions for use.

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

Physical state : solid

Form : powder

Color : Off-white/tan

Odor : Latex smell

according to GB/T 16483 and GB/T 17519



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Odor Threshold : not determined

pH : 8.63 (23.9 °C)

Concentration: 1 %

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

Density : 0.716 g/cm3

Pour density

0.735 g/cm3 Tap density

Solubility(ies)

Water solubility : dispersible

Solubility in other solvents : No data available

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

according to GB/T 16483 and GB/T 17519



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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 reac-

tions

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.

Protect from frost, heat and sunlight.

Heating of the product will produce harmful and irritant va-

pours.

Incompatible materials : Avoid strong acids, bases, and oxidizers.

Hazardous decomposition

products

Stable under recommended storage conditions.

No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Routes of exposure : Inhalation

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 inhala-

tion toxicity

Remarks: no mortality

Highest attainable concentration.

according to GB/T 16483 and GB/T 17519



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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, female): 5,143 mg/kg

Method: US EPA Test Guideline OPP 81-1

Symptoms: Tremors

GLP: yes

LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425

GLP: yes

Assessment: The substance or mixture has no acute oral tox-

icity

Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.09 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: EPA OPP 81 - 3

Symptoms: Tremors, chromodacryorrhea, nasal discharge

GLP: yes

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg

Method: US EPA Test Guideline OPP 81-2

GLP: ves

Assessment: The component/mixture is minimally toxic after

single contact with skin. Remarks: no mortality

Silicon dioxide:

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

according to GB/T 16483 and GB/T 17519



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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 tox-

icity

Acute inhalation toxicity : LC50 (Rat): > 5.27 mg/l

Test atmosphere: dust/mist

Method: OECD Test Guideline 436

D-Glucopyranose, oligomeric, 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

Method : OECD Test Guideline 404

Result : slight irritation

Components:

carfentrazone-ethyl (ISO):

Species : Rabbit

Assessment : Not classified as irritant

Method : US EPA Test Guideline OPP 81-5

Result : slight irritation

GLP : yes

Silicon dioxide:

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, oligomeric, decyl octyl glycosides:

Species : Rabbit

Method : OECD Test Guideline 404

according to GB/T 16483 and GB/T 17519



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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 classifica-

tion.

Components:

carfentrazone-ethyl (ISO):

Species : Rabbit

Result : slight irritation

Assessment : Not classified as irritant

Method : EPA OPP 81-4

GLP : yes

Silicon dioxide:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

Bentonite:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

D-Glucopyranose, oligomeric, 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

according to GB/T 16483 and GB/T 17519



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Result Does not cause skin sensitization.

Components:

carfentrazone-ethyl (ISO):

Routes of exposure Skin contact Species Guinea pig

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

GLP

Test Type Local lymph node assay (LLNA)

Species Mouse

Method **OECD Test Guideline 429**

Result Does not cause skin sensitization.

GLP yes

Bentonite:

Test Type Local lymph node assay (LLNA)

Species Mouse

Method **OECD Test Guideline 429**

Does not cause skin sensitization. Result

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Species Guinea pig

OECD Test Guideline 406 Method

Result Does not cause skin sensitization. Remarks Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

Genotoxicity in vitro Test Type: reverse mutation assay

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

GLP: yes

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

GLP: yes

Test Type: Ames test

Metabolic activation: with and without metabolic activation

Method: U.S. EPA 84-2

according to GB/T 16483 and GB/T 17519



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Result: negative GLP: yes

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 Test system: Chinese hamster ovary cells

Matabal's actions literate Utary Cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse (male and female)

Result: negative GLP: yes

Test Type: unscheduled DNA synthesis assay

Species: Rat (male) Result: negative

GLP: yes

Germ cell mutagenicity -

Assessment

No genotoxic potential.

Silicon dioxide:

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

D-Glucopyranose, oligomeric, decyl octyl glycosides:

according to GB/T 16483 and GB/T 17519



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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

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, female
Application Route : Ingestion
Exposure time : 2 Years

NOAEL : 3 mg/kg bw/day LOAEL : 12 mg/kg bw/day Method : U.S. EPA 83-5

Result : no increase in tumors observed

Target Organs : Liver GLP : yes

Species : Mouse, female
Application Route : Ingestion
Exposure time : 80 weeks

NOAEL : 10 mg/kg bw/day LOAEL : 110 mg/kg bw/day Method : U.S. EPA 83-5

Result : no increase in tumors observed

Target Organs : Liver GLP : yes

Carcinogenicity - Assess-

ment

Animal testing did not show any carcinogenic effects.

according to GB/T 16483 and GB/T 17519



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Silicon dioxide:

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 - Assess-

Weight of evidence does not support classification as a car-

ment cinogen

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 - As-

sessment

Animal testing showed no reproductive toxicity.

Silicon dioxide:

Species: Rat Effects on fertility

General Toxicity Parent: NOAEL: 1.5 mg/kg bw/day

Fertility: NOAEL: > 6.9 mg/kg body weight

Effects on fetal development Test Type: Embryo-fetal development

Species: Rat

Application Route: Oral

General Toxicity Maternal: NOAEL: 2 mg/kg bw/day Embryo-fetal toxicity.: NOAEL: 2 mg/kg bw/day

according to GB/T 16483 and GB/T 17519



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Symptoms: Reduced fetal weight., Reduced number of viable

fetuses.

Test Type: Embryo-fetal development

Species: Rabbit Application Route: Oral

General Toxicity Maternal: NOAEL: 500 mg/kg bw/day Embryo-fetal toxicity.: NOAEL: 500 mg/kg bw/day

Symptoms: Reduced fetal weight., fused or incompletely ossi-

fied sternebrae

Bentonite:

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

D-Glucopyranose, oligomeric, 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

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 - As-

sessment

Weight of evidence does not support classification for repro-

ductive 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.

according to GB/T 16483 and GB/T 17519



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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, oligomeric, 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 : Mouse, male
NOAEL : 143 mg/kg
LOAEL : 571 mg/kg
Application Route : Oral
Exposure time : 90 days
Method : EPA 82-1
GLP : yes

Target Organs : Blood, Liver

Species : Dog, male and female

NOEL : 150 mg/kg LOAEL : 500 mg/kg Application Route : Oral Exposure time : 90 days Target Organs : Blood

Species : Dog, male and female

NOEL : 50 mg/kg
NOAEL : 150 mg/kg
LOAEL : 500 mg/kg
Application Route : Oral
Exposure time : 12 months
GLP : yes
Target Organs : Blood

Species : Rat, male NOAEL : 58 mg/kg Exposure time : 90 d Method : EPA 82-1 GLP : yes

Silicon dioxide:

according to GB/T 16483 and GB/T 17519



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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, oligomeric, 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

according to GB/T 16483 and GB/T 17519



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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 or-

ganisms

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 organ-

isms

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)): 2.55 mg/l

Exposure time: 96 h
Test Type: semi-static test

Method: OECD Test Guideline 203

LC50 (Menidia beryllina (Silverside)): 1.14 mg/l

Exposure time: 96 h

Test Type: flow-through test

LC50 (Oncorhynchus mykiss (rainbow trout)): 1.6 mg/l

Exposure time: 96 h Test Type: flow-through test Method: EPA OPP 72-1

LC50 (Lepomis macrochirus (Bluegill sunfish)): 2 mg/l

Exposure time: 96 h

Test Type: flow-through test

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 9.8 mg/l

according to GB/T 16483 and GB/T 17519



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aquatic invertebrates End point: Immobilization

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: No toxicity at the limit of solubility.

Toxicity to algae/aquatic

plants

EC50 (Selenastrum capricornutum (green algae)): 0.0133

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 0.00933

mg/l

End point: Growth rate Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

EbC50 (Selenastrum capricornutum (green algae)): 16 μg/l

Exposure time: 120 h

EC50 (Navicula pelliculosa (Diatom)): 12 µg/l

Exposure time: 72 h Test Type: static test

EC50 (Skeletonema costatum (Diatom)): 15 μg/l

Exposure time: 72 h

GLP: yes

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to fish (Chronic tox-

icity)

NOEC (Oncorhynchus mykiss (rainbow trout)): 22 μg/l

Exposure time: 89 d

Test Type: Early Life-Stage

Method: OECD Test Guideline 210

GLP: yes

NOEC (Oncorhynchus mykiss (rainbow trout)): 0.118 mg/l

Exposure time: 102 d Test Type: flow-through test

Method: US EPA Test Guideline OPP 72-4

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.309 mg/l

End point: Growth Exposure time: 21 d

Method: OECD Test Guideline 202

NOEC (Daphnia magna (Water flea)): 0.316 mg/l

End point: Growth Exposure time: 21 d

Method: OECD Test Guideline 202

according to GB/T 16483 and GB/T 17519



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NOEC (Daphnia): 35 mg/l End point: reproduction Exposure time: 21 d

Method: US EPA Test Guideline OPPTS 850.1300

Remarks: Information given is based on data obtained from

similar product.

M-Factor (Chronic aquatic

toxicity)

10

Toxicity to microorganisms : NOEC (activated sludge): 1,000 mg/l

Test Type: Respiration inhibition Method: OECD Test Guideline 209

Toxicity to soil dwelling or-

ganisms

NOEC (Eisenia fetida (earthworms)): 820 mg/kg

Method: OECD Test Guideline 216

Remarks: No significant adverse effect on Nitrogen minerali-

zation.

Method: OECD Test Guideline 217

Remarks: No significant adverse effect on Carbon mineraliza-

tion.

Toxicity to terrestrial organ-

isms

LD50 (Anas platyrhynchos (Mallard duck)): > 5,620 ppm

End point: Acute oral toxicity

Remarks: Dietary

LC50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm

End point: Acute oral toxicity

Remarks: Dietary

LD50 (Colinus virginianus (Bobwhite quail)): > 2,000 mg/kg

End point: Acute oral toxicity Method: EPA OPP 71-1

LD50 (Colinus virginianus (Bobwhite quail)): > 2,250 mg/kg

End point: Acute oral toxicity Method: EPA OPP 71-1

NOEL (Colinus virginianus (Bobwhite quail)): 1000 ppm

End point: Reproduction Test

LD50 (Apis mellifera (bees)): > 200 μg/bee

End point: Acute oral toxicity

LD50 (Apis mellifera (bees)): > 200 µg/bee

End point: Acute contact toxicity

Ecotoxicology Assessment

Toxicity Data on Soil : Harmful to the soil environment.

according to GB/T 16483 and GB/T 17519



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Silicon dioxide:

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

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, oligomeric, 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 tox- : NOEC (Danio rerio (zebra fish)): 1.8 mg/l

according to GB/T 16483 and GB/T 17519



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icity) Exposure time: 28 d

Method: OECD Test Guideline 204

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

aqualic inverteb

ic 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 or-

ganisms

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.

Biodegradation: 3.9 % Exposure time: 28 d

Method: OECD Test Guideline 301B

Stability in water : Degradation half life: 3.6 h pH: 9

Degradation half life: 8.6 d pH: 7

Photodegradation :

Silicon dioxide:

Biodegradability : Result: Not biodegradable

Remarks: Based on data from similar materials

Bentonite:

Biodegradability : Remarks: The methods for determining the biological degra-

dability are not applicable to inorganic substances.

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Biodegradability : Inoculum: activated sludge, non-adapted

Result: Readily biodegradable. Method: OECD Test Guideline 301E

according to GB/T 16483 and GB/T 17519



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Bioaccumulative potential

Product:

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

Components:

carfentrazone-ethyl (ISO):

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)

Bioconcentration factor (BCF): 176

Exposure time: 28 d

Method: OECD Test Guideline 305E Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 3.7 (20 °C)

Silicon dioxide:

Bioaccumulation : Bioconcentration factor (BCF): 3.16

Remarks: Based on data from similar materials

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Partition coefficient: n- : log Pow: 1.72 (40 °C)

octanol/water pH: 6.5

Remarks: Based on data from similar materials

Mobility in soil

Product:

Distribution among environ-

mental compartments

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

Components:

carfentrazone-ethyl (ISO):

Distribution among environ-

mental compartments

Remarks: Mobile in soils

Other adverse effects

Product:

Additional ecological infor-

mation

: An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

according to GB/T 16483 and GB/T 17519



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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 chemi-

cal 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 han-

dling 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 Ш

9 (ENVIRONM.) Labels

Environmentally hazardous yes

IATA-DGR

UN/ID No. UN 3077

Environmentally hazardous substance, solid, n.o.s. Proper shipping name

(Carfentrazone-ethyl)

Class 9 Ш Packing group

Labels Miscellaneous

Packing instruction (cargo

aircraft)

956

Packing instruction (passen-

956

ger aircraft)

Environmentally hazardous yes

IMDG-Code

UN number UN 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Carfentrazone-ethyl)

Class 9 Ш Packing group

according to GB/T 16483 and GB/T 17519



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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
Marine pollutant : yes

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

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : applicable

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218): Not listed

Hazardous Chemicals for Priority Management under SAWS: Not listed

Regulations on Occupational Labor Protection in the at workplaces where Toxic Substances Are Used

Catalogue of Highly Toxic Chemicals: Not listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export : Not listed

Yangtze River Protection Law

This product does not contain any dangerous chemicals prohibited for inland river transport.

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.

according to GB/T 16483 and GB/T 17519



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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

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

Revision Date : 2025/08/15

Date format : yyyy/mm/dd

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 Chemi-

according to GB/T 16483 and GB/T 17519



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

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