according to the OSHA Hazard Communication Standard



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SECTION 1. IDENTIFICATION

Product identifier

Product name AFFINITY™ 40 DF

Other means of identification

Product code 50000493

Recommended use of the chemical and restrictions on use

Recommended use

Restrictions on useUse as recommended by the label.

Details of the supplier of the safety data sheet

<u>Manufacturer</u> FMC Corporation

2929 WALNUT ST

PHILADELPHIA PA 19104

USA

(215) 299-6000 SDS-Info@fmc.com

Supplier Address FMC Corporation

2929 Walnut Street Philadelphia PA 19104

USA

Emergency telephone

For leak, fire, spill or accident emergencies, call:

1 800 / 424-9300 (CHEMTREC - U.S.A.) 1 703 / 741-5970 (CHEMTREC - International) 1 703 / 527-3887 (CHEMTREC - Alternate)

Medical emergency:

U.S.A. & Canada: +1 800 / 331-3148

All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
carfentrazone-ethyl (ISO)	128639-02-1	40
Silicon dioxide	112926-00-8	>= 30 - < 50
D-Glucopyranose, oligomeric, decyl octyl glycosides	68515-73-1	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

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 : 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 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.

according to the OSHA Hazard Communication Standard



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Notes to physician : Treat symptomatically.

Immediate medical attention is required in case of ingestion.

SECTION 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 prod- :

ucts

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

Nitrogen oxides (NOx)

Carbon oxides

Chlorine compounds Fluorine compounds

Specific extinguishing meth-

ods

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

SO

Use a water spray to cool fully closed containers.

Further information : Standard procedure for chemical fires.

Use extinguishing measures that are appropriate to local 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.

SECTION 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.

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.

Environmental precautions : Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

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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.

SECTION 7. HANDLING AND STORAGE

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.

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.

SECTION 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	TWA	6 mg/m3	OSHA P0
		TWA (Dust)	20 Million parti- cles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA Z-3

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		TWA	6 mg/m3 (Silica)	NIOSH REL
carfentrazone-ethyl (ISO)	128639-02-1	TWA (Inhal- able particu- late matter)	1 mg/m3	ACGIH

Personal protective equipment

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

approved filter.

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

protectio

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.

Eye 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.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

according to the OSHA Hazard Communication Standard



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Physical state : solid

Form : powder

Color : brown

Odor : Latex smell

Odor Threshold : not determined

pH : 7.5 (77 °F / 25 °C)

Concentration: 5.44 g/l 1 %

(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

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

according to the OSHA Hazard Communication Standard



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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

Explosive properties : Not explosive

Oxidizing properties : Non-oxidizing

Particle size : No data available

SECTION 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.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

Acute toxicity

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

Product:

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

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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.

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: FIFRA 81.01 Symptoms: Tremors

GLP: yes

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

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 the OSHA Hazard Communication Standard



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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

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

Product:

Species : Rabbit

Assessment : No skin irritation

Method : OECD Test Guideline 404

Remarks : Minimal effects that do not meet the threshold for classifica-

tion.

Components:

carfentrazone-ethyl (ISO):

Species : Rabbit

Assessment : Not classified as irritant

Method : US EPA Test Guideline OPP 81-5

Result : No skin irritation

Silicon dioxide:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Serious eye damage/eye irritation

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

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

according to the OSHA Hazard Communication Standard



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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

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

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

Respiratory sensitization

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

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):

Test Type : Local lymph node assay (LLNA)

Species : Guinea pig

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

D-Glucopyranose, oligomeric, 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

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

Components:

carfentrazone-ethyl (ISO):

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Genotoxicity in vitro : Test Type: reverse mutation assay

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

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

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse (male and female)

Result: negative

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

D-Glucopyranose, oligomeric, 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

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.

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Carcinogenicity

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

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

Carcinogenicity - Assess-

ment

: Animal testing did not show any carcinogenic effects.

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

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

OSHANo component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

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

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

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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:

Effects on fertility : Species: Rat

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

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

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

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STOT-single exposure

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

Components:

carfentrazone-ethyl (ISO):

Remarks : No significant adverse effects were reported

STOT-repeated exposure

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

Components:

carfentrazone-ethyl (ISO):

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 and female

NOAEL : 1000 ppm LOAEL : 4000 ppm Application Route : Oral Exposure time : 90 days Target Organs : Blood

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 : yes : Blood

Silicon dioxide:

Species : Rat, male and female

NOAEL : 2,500 mg/kg

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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

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

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to algae/aquatic : NOEC (algae): 0.0063 mg/l

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plants 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

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 9.8 mg/l

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 (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

EC50 (Selenastrum capricornutum (green algae)): 0.0133

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

according to the OSHA Hazard Communication Standard



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NOEC (Selenastrum capricornutum (green algae)): 0.00933

mg/

End point: Growth rate Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

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

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

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.

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

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

End point: Acute oral toxicity

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 the OSHA Hazard Communication Standard



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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.

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-

icity)

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 (Chron-

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

according to the OSHA Hazard Communication Standard



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Method: OECD Test Guideline 207

Remarks: Based on data from similar materials

Persistence and degradability

Product:

Biodegradability : Remarks: Product contains minor amounts of not readily bio-

degradable components, which may not be degradable in

waste water treatment plants.

Components:

carfentrazone-ethyl (ISO):

Biodegradability : Result: Not readily biodegradable.

Silicon dioxide:

Biodegradability : Result: Not biodegradable

Remarks: Based on data from similar materials

D-Glucopyranose, oligomeric, 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):

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 (68 °F / 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 (104 °F / 40 °C)

octanol/water pH: 6.5

Remarks: Based on data from similar materials

according to the OSHA Hazard Communication Standard



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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: The substance/mixture and its soil metabolites have a potential for being mobile, but were not detected in a field

leaching study.

Koc: 866, log Koc: 2.93

Other adverse effects

Product:

Ozone-Depletion Potential Regulation: 40 CFR Protection of Environment; Part 82 Pro-

tection of Stratospheric Ozone - CAA Section 602 Class I

Substances

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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.

SECTION 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.

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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

according to the OSHA Hazard Communication Standard



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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.)

Environmentally hazardous : yes

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)

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.

956

(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

49 CFR Road

UN/ID/NA number : UN 3077

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

(Carfentrazone-ethyl)

Class : 9
Packing group : III
Labels : CLASS 9

ERG Code : 171

Marine pollutant : yes(Carfentrazone-ethyl)

Remarks : Shipment by ground under DOT is non-regulated; however it

may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

Remarks : 49CFR: no dangerous good in non-bulk packaging

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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.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)

Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

Silicon dioxide 112926-00-8

Pennsylvania Right To Know

Silicon dioxide 112926-00-8 carfentrazone-ethyl (ISO) 128639-02-1 Sodium lignosulfonate 8061-51-6 Bentonite 1302-78-9

according to the OSHA Hazard Communication Standard



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Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Permissible Exposure Limits for Chemical Contaminants

Silicon dioxide 112926-00-8

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

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

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

FIFRA information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution

according to the OSHA Hazard Communication Standard



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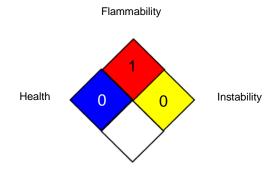
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Harmful if swallowed, Harmful if inhaled, Harmful if absorbed through the skin., Causes eye irritation, This product is very toxic to algae and moderately toxic to fish.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Special hazard

0 No health threat, **1** Slightly Hazardous, **2** Hazardous, **3** Extreme danger, **4** Deadly

HMIS® IV:

HEALTH	1	0
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated

values)

OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Min-

eral Dusts

ACGIH / TWA : 8-hour, time-weighted average

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

OSHA P0 / TWA : 8-hour time weighted average OSHA Z-3 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dan-

according to the OSHA Hazard Communication Standard



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gerous 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ -Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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End of Material Safety Data Sheet