

Product Name: Barricade® III Herbicide Specification ID#: 50003112

Barricade® III Herbicide is a combination package of two (2) individual products. Attached are the component product SDS which make up Barricade® III Herbicide:

Barricade® SG Herbicide PCP # 29544

SDS Date: **04/01/2024**

Specification ID#: 50000042

FMC Fluroxypyr 333 EC Herbicide PCP # 35620

SDS Date: 09/15/2025

Specification ID#: 50003089

Please read the SDS in order to have a complete understanding of all the risks associated with each product before use.

Manufacturer/Distributor:

FMC of Canada Limited 6755 Mississauga Road, Suite 204 Mississauga, ON L5N 7Y2 Canada

Telephone Numbers:

Product Information: 1-833-362-7722

Medical Emergency: 1-800-331-3148 (USA & Canada)

Preparation

Date: 09/23/2025

Member of CropLife Canada®/TM Registered trademarks/trademarks of FMC Corporation or an affiliate.

according to the Hazardous Products Regulations



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SECTION 1. IDENTIFICATION

Product identifier

Product name BARRICADE® SG

Other means of identification

Product code 50000042

Product Registration Num-

ber

PCP #29544

Recommended use of the chemical and restrictions on use

Recommended use Herbicide

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

Phone (AgHotline): 1-833-FMC-PPAC (1-833-362-7722),

Web: https://ag.fmc.com/ca/en

SDS-Info@fmc.com

<u>Supplier Address</u> FMC of Canada Limited

6755 Mississauga Road, Suite 204

Mississauga, ON L5N 7Y2

Canada

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 Hazardous Products Regulations

Skin sensitization : Category 1B

Specific target organ toxicity : Category 2 (Thyroid, Nervous system)

according to the Hazardous Products Regulations



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- repeated exposure

GHS label elements

Hazard pictograms





Signal Word : Warning

Hazard Statements : H317 May cause an allergic skin reaction.

H373 May cause damage to organs (Thyroid, Nervous system)

through prolonged or repeated exposure.

Precautionary Statements : Prevention:

P260 Do not breathe dust.

P264 Wash skin thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of

the workplace.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water. P314 Get medical advice/ attention if you feel unwell.

P333 + P313 If skin irritation or rash occurs: Get medical advice/

attention.

P337 + P313 If eye irritation persists: Get medical advice/ atten-

tion.

P362 + P364 Take off contaminated clothing and wash it before

reuse.

Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

Other hazards

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

	Common Name/Synonym	CAS-No.	Concentration (% w/w)
tribenuron-methyl (ISO)	tribenuron- methyl (ISO)	101200-48-0	25
1	thifensulfuron- methyl (ISO)	79277-27-3	25
sodium carbonate	sodium car-	497-19-8	>= 10 - < 30 *

according to the Hazardous Products Regulations



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	bonate		
Sodium phosphate tribasic dodecahydrate		10101-89-0	>= 5 - < 10 *
	drate		

Actual concentration or concentration range is withheld as a trade secret

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 immediately if irritation develops and

persists.

In case of eye contact : Immediately flush eye(s) with plenty of water.

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.

Rinse mouth with water.

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

May cause an allergic skin reaction.

May cause damage to organs through prolonged or repeated

exposure.

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.

according to the Hazardous Products Regulations



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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.

Carbon oxides Sulfur oxides

Nitrogen oxides (NOx) phosphorus oxides

Further information : Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

Special protective equipment:

for fire-fighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective 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.

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

Avoid dust formation.

Provide appropriate exhaust ventilation at places where dust

is formed.

according to the Hazardous Products Regulations



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Advice on safe handling : Avoid formation of respirable particles.

Do not breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Dispose of rinse water in accordance with local and national

regulations.

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

No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : 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

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

Wear face-shield and protective suit for abnormal processing

problems.

according to the Hazardous Products Regulations



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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 : When using do not eat or drink.

When using do not smoke.

Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : solid

Form : granular

Color : light brown

Odor : slight

Odor Threshold : not determined

pH : 9.4 (20 °C)

Concentration: 10 g/l 1 %

Melting point/freezing point : not determined

Boiling point/boiling range : Decomposition

Flash point : not determined

Evaporation rate : Not applicable

Flammability (solid, gas) : Not highly flammable, may be ignitable

Self-ignition : 387 °C

Upper explosion limit / Upper

flammability limit

not determined

according to the Hazardous Products Regulations



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Vapor pressure : Not available for this mixture.

Relative vapor density : not determined

Bulk density : ca. 707 kg/m3 packed

Solubility(ies)

Water solubility : soluble

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

Not available for this mixture.

Decomposition temperature : not determined

Viscosity

Viscosity, kinematic : not determined

Explosive properties : Not explosive

Oxidizing properties : The product is not 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 : Heat, flames and sparks.

Protect from frost, heat and sunlight.

Heating of the mixture may evolve 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

Acute toxicity

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

according to the Hazardous Products Regulations



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Product:

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

Method: Fixed Dose Method

GLP: yes

Remarks: Information source: Internal study report

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Components:

tribenuron-methyl (ISO):

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

Method: OECD Test Guideline 425

Acute inhalation toxicity : LC50 (Rat): > 5.14 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

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

Method: OECD Test Guideline 402

thifensulfuron-methyl (ISO):

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

Acute inhalation toxicity : LC50 (Rat): > 7.9 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

sodium carbonate:

Acute oral toxicity : LD50 (Rat, male and female): 2,800 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): 2.3 mg/l

Exposure time: 2 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Target Organs: Skin Symptoms: Erythema

Sodium phosphate tribasic dodecahydrate:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg

Method: OECD Test Guideline 420

according to the Hazardous Products Regulations



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Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 0.83 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Based on data from similar materials

no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg

Method: OECD Test Guideline 402

Remarks: Based on data from similar materials

no mortality

Skin corrosion/irritation

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

Components:

tribenuron-methyl (ISO):

Species : Rabbit

Assessment : Not classified as irritant
Method : OECD Test Guideline 404
Remarks : May cause mild irritation.

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

thifensulfuron-methyl (ISO):

Assessment : No skin irritation

Method : OECD Test Guideline 404

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

tion.

sodium carbonate:

Species : Rabbit Exposure time : 4 h

Method : OECD Test Guideline 404

Result : No skin irritation

Sodium phosphate tribasic dodecahydrate:

Species : Rabbit Result : Skin irritation

Serious eye damage/eye irritation

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

Product:

Species : Rabbit

Result : No eye irritation

Assessment : Not classified as irritant

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GLP : yes

Remarks : Based on data from a similar product.

Components:

tribenuron-methyl (ISO):

Species : Rabbit

Assessment : No eye irritation

Method : OECD Test Guideline 405 Remarks : May cause mild irritation.

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

thifensulfuron-methyl (ISO):

Result : No eye irritation

Method : OECD Test Guideline 405

sodium carbonate:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Sodium phosphate tribasic dodecahydrate:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Method : EPA OTS 798.4500

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

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

Product:

Species : Guinea pig

Assessment : The product is a skin sensitizer, sub-category 1B.

Result : Causes sensitization.

Remarks : Based on data from a similar product.

Components:

tribenuron-methyl (ISO):

Test Type : Maximization Test

Species : Guinea pig

Assessment : May cause sensitization by skin contact.

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

thifensulfuron-methyl (ISO):

Species : Guinea pig

according to the Hazardous Products Regulations



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Method : OECD Test Guideline 429

Result : Does not cause skin sensitization.

Sodium phosphate tribasic dodecahydrate:

Test Type : Local lymph node assay (LLNA)

Species : Mouse

Method : OECD Test Guideline 429

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.

Product:

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

mutagenic.

Components:

tribenuron-methyl (ISO):

Germ cell mutagenicity -

Assessment

: Did not show mutagenic effects in animal experiments.

thifensulfuron-methyl (ISO):

Genotoxicity in vitro : Test system: Chinese hamster ovary cells

Method: OECD Test Guideline 476

Result: negative

Remarks: In vitro tests did not show mutagenic effects

Germ cell mutagenicity -

Assessment

Weight of evidence does not support classification as a germ

cell mutagen.

sodium carbonate:

Genotoxicity in vitro : Test Type: reverse mutation assay

Method: Mutagenicity (Salmonella typhimurium - reverse mu-

tation assay) Result: negative

Remarks: Based on data from similar materials

Germ cell mutagenicity -

Assessment

Weight of evidence does not support classification as a germ

cell mutagen.

Sodium phosphate tribasic dodecahydrate:

Genotoxicity in vitro : Test Type: gene mutation test

Method: OECD Test Guideline 490

Result: negative

Remarks: Based on data from similar materials

Test Type: Micronucleus test Method: OECD Test Guideline 487

according to the Hazardous Products Regulations



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Result: negative

Germ cell mutagenicity -

Assessment

In vitro tests did not show mutagenic effects

Carcinogenicity

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

Product:

Remarks : The product contains no ingredients known to be carcinogen-

ic.

Components:

tribenuron-methyl (ISO):

Remarks : No significant adverse effects were reported

Carcinogenicity - Assess-

ment

Did not show carcinogenic effects in animal experiments.

thifensulfuron-methyl (ISO):

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Reproductive toxicity

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

Product:

Effects on fertility : Remarks: The product contains no ingredients found to have

adverse effects on reproduction.

Components:

tribenuron-methyl (ISO):

Reproductive toxicity - As-

No toxicity to reproduction

sessment

Animal testing did not show any effects on fetal development., Did not show teratogenic effects in animal experiments.

thifensulfuron-methyl (ISO):

Reproductive toxicity - As-

sessment

Did not show teratogenic effects in animal experiments.

sodium carbonate:

Effects on fetal development : Species: Rat

Application Route: Oral

Dose: 2.45, 11.4, 52.9, 245 milligram per kilogram

Duration of Single Treatment: 6 - 15 d

General Toxicity Maternal: NOAEL: > 245 mg/kg body weight

Teratogenicity: NOAEL: > 245 mg/kg body weight

according to the Hazardous Products Regulations



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Result: negative

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

Sodium phosphate tribasic dodecahydrate:

Effects on fertility : Species: Rat, male and female

Application Route: Oral Dose: 1000 mg/kg bw/day

General Toxicity Parent: NOAEL: 1,000 mg/kg bw/day General Toxicity F1: NOAEL: 1,000 mg/kg bw/day

Method: OECD Test Guideline 422

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development : Test Type: reproductive and developmental toxicity study

Species: Rat

Application Route: Oral

Dose: 4.1, 19, 88.3, 410 mg/kg bw/day Duration of Single Treatment: 20 d

General Toxicity Maternal: NOAEL: > 410 mg/kg bw/day Embryo-fetal toxicity.: NOAEL: > 410 mg/kg bw/day

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

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

Components:

tribenuron-methyl (ISO):

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

Sodium phosphate tribasic dodecahydrate:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs (Thyroid, Nervous system) through prolonged or repeated exposure.

Components:

tribenuron-methyl (ISO):

Target Organs : Thyroid, Nervous system

Assessment : May cause damage to organs through prolonged or repeated

exposure.

according to the Hazardous Products Regulations



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sodium carbonate:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

tribenuron-methyl (ISO):

Species : Rabbit LOAEL : 80 mg/kg

Target Organs : Thyroid, Nervous system

Assessment : The substance or mixture is classified as specific target organ

toxicant, repeated exposure, category 2.

Remarks : Increased mortality or reduced survival

thifensulfuron-methyl (ISO):

Species : Rat

LOAEL : ca. 200 mg/kg

Exposure time : 90 d

Target Organs : No specific target organs noted

Symptoms : Reduced body weight

sodium carbonate:

Species : Rat, male and female

NOAEL : > 0.01 mg/kg

Application Route : inhalation (dust/mist/fume)

Test atmosphere : dust/mist

Sodium phosphate tribasic dodecahydrate:

Species : Dog, female

NOAEL : 492.77 mg/kg bw/day LOAEL : 1433.56 mg/kg bw/day

Application Route : Oral - feed

Exposure time : 90 d

Dose : 129.31, 492.77, 1433.56 mg/kg bw/day

Target Organs : Kidney

Remarks : Based on data from similar materials

Species : Dog, male

NOAEL : 322.88 mg/kg bw/day LOAEL : 1107.12 mg/kg bw/day

Application Route : Oral - feed Exposure time : 90 d

Dose : 94.23, 322.88, 1107.12 mg/kg bw/day

Target Organs : Kidney

Remarks : Based on data from similar materials

Aspiration toxicity

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

according to the Hazardous Products Regulations



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Components:

tribenuron-methyl (ISO):

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

Further information

Product:

Remarks : Information presented in section 11 conforms to the require-

ments of the Hazardous Products Regulations (HPR) and WHMIS 2015. See Section 15 for applicable information conforming to the requirements of the Pest Management Regula-

tory Agency (PMRA).

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

tribenuron-methyl (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 738 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Crustaceans): > 320 mg/l

Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): > 894 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 0.0208

mg/l

Exposure time: 120 h

EC50 (Lemna gibba (duckweed)): 0.00424 mg/l

Exposure time: 14 d

Toxicity to fish (Chronic tox-

icity)

NOEC (Cyprinodon variegatus (sheepshead minnow)): 114

mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

NOEC (Oncorhynchus mykiss (rainbow trout)): 560 mg/l

Exposure time: 21 d

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 41 mg/l

Exposure time: 21 d

Toxicity to soil dwelling or- : NOEC (Eisenia fetida (earthworms)): 3.2 mg/kg

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Exposure time: 56 d ganisms

Toxicity to terrestrial organ-

isms

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

LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm

Remarks: Dietary

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

Remarks: Dietary

LD50 (Apis mellifera (bees)): > 98.4 µg/bee

Exposure time: 48 h

End point: Acute contact toxicity

LD50 (Apis mellifera (bees)): > 9.1 µg/bee

Exposure time: 48 h

End point: Acute oral toxicity

Ecotoxicology Assessment

Acute aquatic toxicity Very toxic to aquatic life.

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

thifensulfuron-methyl (ISO):

Toxicity to fish LC50 (Salmo gairdneri): 100 mg/l

Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): > 250 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 470 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

IC50 (green algae): 0.0159 mg/l

Exposure time: 72 h

ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1.4

Exposure time: 72 h

EC50 (Lemna minor (duckweed)): 1.3 µg/l

Toxicity to fish (Chronic tox-

icity)

NOEC (Salmo gairdneri): 250 mg/l

Exposure time: 28 d

NOEC (Oncorhynchus mykiss (rainbow trout)): 10.6 mg/l

Exposure time: 21 d

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 100 mg/l

Exposure time: 21 d

according to the Hazardous Products Regulations



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Toxicity to soil dwelling or-

ganisms

LC50 (Eisenia fetida (earthworms)): > 2,000 mg/kg

Toxicity to terrestrial organ-

isms

LD50 (Anas platyrhynchos (Mallard duck)): > 2,510 mg/kg

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

Remarks: Dietary

LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm

LD50 (Apis mellifera (bees)): > 7.1 µg/bee

End point: Acute oral toxicity

LD50 (Apis mellifera (bees)): > 100 µg/bee

End point: Acute contact toxicity

Ecotoxicology Assessment

Acute aquatic toxicity Very toxic to aquatic life.

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

sodium carbonate:

LC50 (Lepomis macrochirus (Bluegill sunfish)): 300 mg/l Toxicity to fish

> Exposure time: 96 h Test Type: static test

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Ceriodaphnia (water flea)): 200 mg/l

Exposure time: 48 h

Test Type: semi-static test

Sodium phosphate tribasic dodecahydrate:

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h

Method: EU Method C3

Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h Method: EU Method C3

Remarks: Based on data from similar materials

according to the Hazardous Products Regulations



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Toxicity to microorganisms : EC50 (activated sludge): 1,000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

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

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Toxicity to soil dwelling or-

ganisms

LC50 (Eisenia fetida (earthworms)): > 3,500 mg/kg

Exposure time: 14 d

Method: OECD Test Guideline 207

Remarks: Based on data from similar materials

Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.

Remarks: Estimation based on data obtained on active ingre-

dient.

Components:

tribenuron-methyl (ISO):

Biodegradability : Biodegradation: 29.4 %

Exposure time: 28 d

thifensulfuron-methyl (ISO):

Biodegradability : Remarks: Not readily biodegradable.

Primary degradation half-lives vary with circumstances, from a

few days to a few weeks in aerobic water and soil.

sodium carbonate:

Biodegradability : Remarks: The methods for determining biodegradability are

not applicable to inorganic substances.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not bioaccumulate.

Estimation based on data obtained on active ingredient.

Components:

tribenuron-methyl (ISO):

Bioaccumulation : Bioconcentration factor (BCF): < 1

Remarks: Does not bioaccumulate.

according to the Hazardous Products Regulations



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Partition coefficient: n-

octanol/water

log Pow: -0.38

thifensulfuron-methyl (ISO):

Bioaccumulation Bioconcentration factor (BCF): 1

Remarks: Does not bioaccumulate.

sodium carbonate:

Remarks: Does not bioaccumulate. Bioaccumulation

Mobility in soil

Product:

Distribution among environ-

mental compartments

Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a poten-

tial for leaching to groundwater.

Components:

tribenuron-methyl (ISO):

Distribution among environmental compartments

Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a poten-

tial for leaching to groundwater.

thifensulfuron-methyl (ISO):

Distribution among environmental compartments

Koc: 28.3, log Koc: 1.45

Remarks: Highly mobile in soils

Stability in soil

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.

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.

according to the Hazardous Products Regulations



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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

UNRTDG

UN number UN 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Thifensulfuron-methyl, Tribenuron-methyl)

Class

Subsidiary risk ENVIRONM.

Packing group Ш

9 (ENVIRONM.) Labels

Environmentally hazardous yes

IATA-DGR

UN 3077 UN/ID No.

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

(Thifensulfuron-methyl, Tribenuron-methyl)

Class 9 Ш Packing group

Labels Miscellaneous

Packing instruction (cargo 956

aircraft)

Packing instruction (passen-

ger aircraft)

956

Environmentally hazardous

yes

IMDG-Code

UN number UN 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

(Thifensulfuron-methyl, Tribenuron-methyl)

Class 9 Packing group Ш 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

TDG

Not regulated as a dangerous good

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

according to the Hazardous Products Regulations



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Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

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

TCSI : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not

on the Canadian DSL nor NDSL.

TBM 500 SG

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Not in compliance with the inventory

NZIoC : Not in compliance with the inventory

TECI: Not in compliance with the inventory

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

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

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

Disclaimer

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FMC Corporation

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End of Material Safety Data Sheet

according to the Hazardous Products Regulations



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SECTION 1. IDENTIFICATION

Product identifier

Product name FMC Fluroxypyr 333 EC Herbicide

Other means of identification

Product code 50003089

Product Registration Num-

ber

PCP #35620

Recommended use of the chemical and restrictions on use

Recommended use

Can be used as herbicide only.

Restrictions on useUse as recommended by the label.

Manufacturer or supplier's details

<u>Manufacturer</u> FMC Corporation

2929 WALNUT ST

PHILADELPHIA PA 19104

USA

Web: https://ag.fmc.com/ca/en

SDS-Info@fmc.com

<u>Supplier Address</u> FMC of Canada Limited

6755 Mississauga Road, Suite 204

Mississauga, ON L5N 7Y2

Canada

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 Hazardous Products Regulations

Flammable liquids : Category 4

Reproductive toxicity : Category 1B

according to the Hazardous Products Regulations



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Aspiration hazard : Category 1

GHS label elements

Hazard pictograms

Signal Word : DANGER

Hazard Statements : H227 Combustible liquid.

H304 May be fatal if swallowed and enters airways. H360 May damage fertility or the unborn child.

Precautionary Statements : Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read

and understood.

P210 Keep away from heat, hot surfaces, sparks, open flames

and other ignition sources. No smoking.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P301 + P310 IF SWALLOWED: Immediately call a POISON

CENTER.

P331 Do NOT induce vomiting.

P370 + P378 In case of fire: Use dry powder or dry sand for

extinction.

P370 + P378 In case of fire: Use carbon dioxide to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container

tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

Other hazards

Very toxic to aquatic life with long lasting effects.

May be harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

according to the Hazardous Products Regulations



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Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
fluroxypyr-meptyl (ISO)	Fluroxypyr- meptyl	81406-37-3	>= 40 - <= 50 *
Solvent naphtha (petro- leum), heavy arom.; Kerosine — unspeci- fied	Aromatic hydro- carbons	64742-94-5	>= 10 - < 20 *
N-methyl-2-pyrrolidone	N-Methyl-2- pyrrolidone	872-50-4	>= 10 - < 20 *
Castor oil, ethoxylated	Castor oil, eth- oxylated	61791-12-6	>= 5 - <= 10 *
Solvent naphtha (petro- leum), light arom.; Low boiling point naphtha - unspecified	Solvent naphtha (petroleum), light aromatic	64742-95-6	>= 5 - < 10 *
calcium dodecylben- zenesulphonate	Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	>= 3 - < 5 *
alpha-Hydro-omega- [tris(1- phe- nylethyl)phenoxy]poly(oxyethylene)	Poly(oxy-1,2- ethanediyl), .alpha[tris(1- phe- nylethyl)phenyl]- .omega hydroxy-	99734-09-5	>= 1 - <= 5 *

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

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

ance.

Symptoms of poisoning may appear several hours later.

Do not leave the victim unattended. Immediate medical attention is required.

If inhaled : Move to fresh air.

Consult a physician after significant exposure.

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.

Administer oxygen if breathing is difficult or cyanosis is ob-

served.

according to the Hazardous Products Regulations



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In case of skin contact : If on skin, rinse well with water.

Wash off immediately with plenty of water for at least 15

minutes.

If on clothes, remove clothes. Wash clothing before reuse.

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 induce vomiting.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician. Take victim immediately to hospital.

Most important symptoms

and effects, both acute and

delayed

Inhalation may result in difficulty breathing.

Disorientation

Cough

wheezing

May be fatal if swallowed and enters airways. May damage fertility or the unborn child.

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 : The product contains petroleum distillates which may pose an

aspiration pneumonia hazard.

Treat symptomatically.

SECTION 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

High volume water jet

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.

Cool closed containers exposed to fire with water spray. Exposure to decomposition products may be a hazard to

health.

according to the Hazardous Products Regulations



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Hazardous combustion prod-

ucts

Fluorinated compounds
Nitrogen oxides (NOx)

Carbon oxides

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

Sulfur oxides

Further information : Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

For safety reasons in case of fire, cans should be stored sepa-

rately in closed containments.

Use a water spray to cool fully closed containers.

Special protective equipment :

for fire-fighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Remove all sources of ignition.

If it can be safely done, stop the leak. Evacuate personnel to safe areas. Use personal protective equipment.

Ensure adequate ventilation.

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.

For disposal considerations see section 13.

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

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local

/ national regulations (see section 13).

Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against :

fire and explosion

Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of

ignition.

Advice on safe handling : Avoid formation of aerosol.

Do not breathe vapors/dust.

according to the Hazardous Products Regulations



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Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national

regulations.

Conditions for safe storage : No smoking.

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. Observe label precautions.

Electrical installations / working materials must comply with

the technological safety standards.

Further information on stor-

age stability

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
N-methyl-2-pyrrolidone	872-50-4	TWA	400 mg/m3	CA ON OEL
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	TWA	200 mg/m3 (total hydrocarbon vapor)	CA AB OEL
		TWAEV	200 mg/m3	CA QC OEL
		TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH
2-ethylhexan-1-ol	104-76-7	TWA	5 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
N-methyl-2-pyrrolidone	872-50-4	5-Hydroxy- N-methyl-2- pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ACGIH BEI

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally re-

according to the Hazardous Products Regulations



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quired.

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 : Impervious clothing

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.

Ensure that eye flushing systems and safety showers are

located close to the working place. Wear suitable protective equipment.

Hygiene measures : When using do not eat or drink.

When using do not smoke.

Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Color : light yellow

Odor : Aromatic

Odor Threshold : No data available

pH : 5.07

Melting point/freezing point : No data available

Initial boiling point and boiling :

range

No data available

Flash point : 60.5 °C

according to the Hazardous Products Regulations



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Evaporation rate : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : 1.071

Density : 1.071 g/cm3

Bulk density : No data available

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : 22.4 - 23.4 mPa.s (20 °C)

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : 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.

Vapors may form explosive mixture with air.

Conditions to avoid : Heat, flames and sparks.

according to the Hazardous Products Regulations



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

Hazardous decomposition

products

: Carbon oxides

Hydrogen chloride gas Hydrogen fluoride Nitrogen oxides (NOx)

No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

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

Product:

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.93 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Dermal (Rat): > 2,000 mg/kg

Components:

fluroxypyr-meptyl (ISO):

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 1.16 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: Highest attainable concentration.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

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 : LC50 (Rat): > 4.688 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Assessment: The substance or mixture has no acute inhala-

tion toxicity

according to the Hazardous Products Regulations



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Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

N-methyl-2-pyrrolidone:

Acute oral toxicity : LD50 (Rat): 4,150 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC0 (Rat): > 5.1 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

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

Method: OECD Test Guideline 402

Castor oil, ethoxylated:

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

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Remarks: Based on data from similar materials

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Acute oral toxicity : LD50 (Rat, female): 3,492 mg/kg

Method: OECD Test Guideline 401

LD50 (Rat, male): 6,984 mg/kg Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 6.193 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3,160 mg/kg

Assessment: The component/mixture is minimally toxic after

single contact with skin.

calcium dodecylbenzenesulphonate:

Acute oral toxicity : LD50 (Rat, male and female): 1,300 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: Not classified

Acute dermal toxicity : LD50 (Rat, male and female): > 2000 milligram per kilogram

according to the Hazardous Products Regulations



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Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Based on data from similar materials

alpha-Hydro-omega-[tris(1-phenylethyl)phenoxy]poly(oxyethylene):

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 dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

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

Product:

Species : Rabbit

Assessment : Not classified as irritant
Method : OECD Test Guideline 404

Result : No skin irritation

Components:

fluroxypyr-meptyl (ISO):

Species : Rabbit

Assessment : Not classified as irritant

Result : No skin irritation

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species : Rabbit

Assessment : Repeated exposure may cause skin dryness or cracking.

Result : No skin irritation

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

tion.

Based on data from similar materials

N-methyl-2-pyrrolidone:

Species : Rabbit

Method : OECD Test Guideline 404

Result : irritating

Castor oil, ethoxylated:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

according to the Hazardous Products Regulations



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Remarks : Based on data from similar materials

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Mild skin irritation

calcium dodecylbenzenesulphonate:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Skin irritation

alpha-Hydro-omega-[tris(1-phenylethyl)phenoxy]poly(oxyethylene):

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 : Rat

Result : No eye irritation

Assessment : Not classified as irritant
Method : OECD Test Guideline 405

Remarks : Vapors may cause irritation to the eyes, respiratory system

and the skin.

Components:

fluroxypyr-meptyl (ISO):

Species : Rabbit

Assessment : No eye irritation

Method : OECD Test Guideline 405

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

tion.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species : Rabbit

Assessment : No eye irritation

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

tion

Based on data from similar materials

N-methyl-2-pyrrolidone:

Species : Rabbit Result : irritating

according to the Hazardous Products Regulations



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Method : OECD Test Guideline 405

Castor oil, ethoxylated:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species : Rabbit

Result : No eye irritation

calcium dodecylbenzenesulphonate:

Species : Rabbit

Result : Irreversible effects on the eye Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

Species : Rabbit

Result : Irreversible effects on the eye Method : OECD Test Guideline 405

alpha-Hydro-omega-[tris(1-phenylethyl)phenoxy]poly(oxyethylene):

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

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:

Species : Guinea pig

Assessment : Not a skin sensitizer.

Method : OECD Test Guideline 406

Result : Not a skin sensitizer.

Components:

fluroxypyr-meptyl (ISO):

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitization.

according to the Hazardous Products Regulations



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Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Test Type : Maximization Test

Species : Guinea pig

Result : Not a skin sensitizer.

Remarks : Based on data from similar materials

N-methyl-2-pyrrolidone:

Method : OECD Test Guideline 429
Result : Not a skin sensitizer.

Castor oil, ethoxylated:

Test Type : Maximization Test Routes of exposure : Skin contact Species : Guinea pig

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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig

Method : OECD Test Guideline 406
Result : Not a skin sensitizer.

calcium dodecylbenzenesulphonate:

Test Type : Maximization Test

Species : Guinea pig

Method : OECD Test Guideline 406
Result : Not a skin sensitizer.

Remarks : Based on data from similar materials

Germ cell mutagenicity

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

Components:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

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 : Test Type: Bone marrow chromosome aberration.

Species: Rat

Application Route: inhalation (vapor)

Result: negative

N-methyl-2-pyrrolidone:

according to the Hazardous Products Regulations



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Genotoxicity in vitro Test Type: Ames test

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: unscheduled DNA synthesis assay

Result: negative

Test Type: Micronucleus test Genotoxicity in vivo

Species: Mouse

Method: OECD Test Guideline 474

Result: negative

Castor oil, ethoxylated:

Genotoxicity in vitro Test Type: gene mutation test

Test system: Salmonella typhimurium Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Test Type: reverse mutation assay Test system: Escherichia coli Method: OECD Test Guideline 472

Result: negative

Remarks: Based on data from similar materials

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

Result: negative

Remarks: Based on data from similar materials

Test Type: gene mutation test

Test system: Chinese hamster ovary cells Method: OECD Test Guideline 476

Result: positive

Remarks: Based on data from similar materials

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

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Genotoxicity in vitro Test Type: in vitro DNA damage and/or repair study

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Result: negative

according to the Hazardous Products Regulations



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Test Type: reverse mutation assay

Metabolic activation: with and without metabolic activation

Result: negative

Genotoxicity in vivo : Test Type: Bone marrow chromosome aberration.

Species: Rat (male and female)
Application Route: Inhalation

Result: negative

calcium dodecylbenzenesulphonate:

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 : Test Type: chromosome aberration assay

Species: Rat (male and female)

Application Route: Oral Exposure time: 90 d Result: negative

Remarks: Based on data from similar materials

Germ cell mutagenicity -

Assessment

Weight of evidence does not support classification as a germ

cell mutagen.

alpha-Hydro-omega-[tris(1-phenylethyl)phenoxy]poly(oxyethylene):

Genotoxicity in vitro : Test Type: reverse mutation assay

Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo : Remarks: No data available

Carcinogenicity

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

Components:

fluroxypyr-meptyl (ISO):

Species : Rat

Method : OECD Test Guideline 451

Result : negative

Species : Mouse

Method : OECD Test Guideline 453

Result : negative

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species : Rat, male and female Application Route : inhalation (vapor)

according to the Hazardous Products Regulations



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Exposure time 12 month(s) NOAEC 1.8 mg/l Result negative

Remarks Based on data from similar materials

Carcinogenicity - Assess-

ment

Not classifiable as a human carcinogen.

N-methyl-2-pyrrolidone:

Species Rat, male and female

Application Route Oral

NOAEL 207 - 283 mg/kg bw/day

Result negative

Rat, male **Species Application Route** Inhalation **NOAEC** 0.04 mg/l Result negative

Species Mouse, male

Application Route Oral

NOAEL 89 mg/kg body weight Method **OECD Test Guideline 451**

Result negative

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Carcinogenicity - Assess-

ment

: Limited evidence of carcinogenicity in animal studies

calcium dodecylbenzenesulphonate:

Species Rat, male and female

Application Route Oral 720 d Exposure time

NOAEL 250 mg/kg body weight

Result negative

Remarks Based on data from similar materials

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Reproductive toxicity

May damage fertility or the unborn child.

Components:

fluroxypyr-meptyl (ISO):

Effects on fertility Method: OECD Test Guideline 416

Result: negative

Effects on fetal development Method: OECD Test Guideline 414

according to the Hazardous Products Regulations



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Result: negative

N-methyl-2-pyrrolidone:

Effects on fertility : Test Type: Two-generation study

Species: Rat, male and female

Application Route: Oral

Method: OECD Test Guideline 416

Result: positive

Effects on fetal development : Test Type: Pre-natal

Species: Rat

Application Route: Oral

Method: OECD Test Guideline 414

Result: positive

Reproductive toxicity - As-

sessment

Clear evidence of adverse effects on sexual function and fertil-

ity, and/or on development, based on animal experiments

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Effects on fertility : Test Type: Three-generation study

Species: Rat

Application Route: inhalation (vapor)
Fertility: NOAEC Mating/Fertility: 7.5 mg/l

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development : Species: Mouse

Application Route: inhalation (vapor)

General Toxicity Maternal: LOAEC: 500 part per million

Symptoms: Maternal effects.

calcium dodecylbenzenesulphonate:

Effects on fertility : Test Type: Fertility/early embryonic development

Species: Rat, male and female Application Route: Ingestion

General Toxicity Parent: NOAEL: 400 mg/kg body weight

Method: OECD Test Guideline 422

Result: negative

Effects on fetal development : Test Type: reproductive and developmental toxicity study

Species: Rat

Application Route: Ingestion

General Toxicity Maternal: NOAEL: 300 mg/kg body weight Developmental Toxicity: NOAEL: 600 mg/kg body weight

Method: OECD Test Guideline 422

Result: negative

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

according to the Hazardous Products Regulations



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STOT-single exposure

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

Components:

N-methyl-2-pyrrolidone:

Assessment : May cause respiratory irritation.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Assessment : May cause respiratory irritation., May cause drowsiness or

dizziness.

STOT-repeated exposure

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

Repeated dose toxicity

Components:

fluroxypyr-meptyl (ISO):

Species : Rat

NOAEL : 80 mg/kg

Exposure time : 90 d

Method : OECD Test Guideline 408

Target Organs : Kidney

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species : Rat, male and female

NOAEC : 0.9 - 1.8 mg/l Application Route : inhalation (vapor)

Exposure time : 12 Months

N-methyl-2-pyrrolidone:

Species : Rat, male NOAEL : 169 mg/kg Application Route : Oral

Species : Mouse, male NOAEL : 89 mg/kg

Application Route : Oral

Method : OECD Test Guideline 408

Target Organs : Liver

Species : Rabbit NOAEL : 826 mg/kg Application Route : Dermal

Species : Rat, male

3 mg/l

Application Route : inhalation (vapor)

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Target Organs : Testes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species : Rat, male and female

NOAEC : 0.8 - 0.9 mg/l Application Route : Inhalation Test atmosphere : vapor

Remarks : Based on data from similar materials

Species : Rat, male
NOAEL : 600 mg/kg
Application Route : Oral

Remarks : Based on data from similar materials

calcium dodecylbenzenesulphonate:

Species : Rat, male and female

NOAEL : 85 mg/kg
LOAEL : 145 mg/kg
Application Route : Oral
Exposure time : 9 Months

Remarks : Based on data from similar materials

Species : Rat, male
LOAEL : 286 mg/kg
Application Route : Skin contact
Exposure time : 15 Days

Remarks : Based on data from similar materials

Species : Rat, male and female NOAEL : 100 mg/kg bw/day LOAEL : 200 mg/kg bw/day Application Route : Oral - gavage Exposure time : 28 - 54 Days

Method : OECD Test Guideline 422

Remarks : Based on data from similar materials

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

May be fatal if swallowed and enters airways.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

May be fatal if swallowed and enters airways.

according to the Hazardous Products Regulations



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Experience with human exposure

Components:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Skin contact : Symptoms: Repeated exposure may cause skin dryness or

cracking.

Further information

Product:

Remarks : Solvents may degrease the skin.

Components:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Remarks : Vapour concentrations above recommended exposure levels

are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

fluroxypyr-meptyl (ISO):

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): > 0.63 mg/l

Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.2 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 0.183 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): > 1.41

mg/

Exposure time: 72 h

LC50 (Scenedesmus subspicatus): > 0.5 mg/l

Exposure time: 72 h

Toxicity to fish (Chronic tox-

icity)

NOEC (Oncorhynchus mykiss (rainbow trout)): 0.2 mg/l

Exposure time: 21 d

according to the Hazardous Products Regulations



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Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.06 mg/l

Exposure time: 21 d

Toxicity to soil dwelling or-

ganisms

LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg

Exposure time: 14 d

Toxicity to terrestrial organ-

isms

LD50 (Anas platyrhynchos (Mallard duck)): > 2,000 mg/kg

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

LD50 (Apis mellifera (bees)): > 100 µg/bee

Exposure time: 48 h

End point: Acute oral toxicity

LD50 (Apis mellifera (bees)): > 100 µg/bee

Exposure time: 48 h

End point: Acute contact toxicity

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): 1.4 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EL50 (Pseudokirchneriella subcapitata (green algae)): 1 - 3

ma/l

Exposure time: 24 h

Method: OECD Test Guideline 201

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

EL50 (Daphnia magna (Water flea)): 0.89 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms : LL50 (Tetrahymena pyriformis): 677.9 mg/l

Exposure time: 72 h

Test Type: Growth inhibition

N-methyl-2-pyrrolidone:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 1,000 mg/l

Exposure time: 24 h

LC50 (Palaeomonetes vulgaris (Grass shrimp)): 1,107 mg/l

Exposure time: 96 h

according to the Hazardous Products Regulations



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Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): 600.5 mg/l

Exposure time: 72 h

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 12.5 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50 (activated sludge): 100 mg/l

Exposure time: 48 h

EC50 (activated sludge): > 600 mg/l

Exposure time: 30 min

Castor oil, ethoxylated:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): > 100 mg/l

Exposure time: 48 h

Test Type: flow-through test

Toxicity to fish (Chronic tox-

icity)

Remarks: No data available

Toxicity to microorganisms : EC50 (Vibrio fischerii (Bacteria)): 1,000 mg/l

Exposure time: 5 min

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Toxicity to fish : NOEC (Oncorhynchus mykiss (rainbow trout)): 4.5 mg/l

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

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

LL50 (Pimephales promelas (fathead minnow)): 8.2 mg/l

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

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): 4.5 mg/l

Exposure time: 48 h
Test Type: static test

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EL50 (Pseudokirchneriella subcapitata (microalgae)): 3.1 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox-

icity)

NOELR (Pimephales promelas (fathead minnow)): 2.6 mg/l

Exposure time: 14 d

according to the Hazardous Products Regulations



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Method: OECD Test Guideline 204

Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (ChronNOELR (Daphnia magna (Water flea)): 2.6 mg/l Exposure time: 21 d

ic toxicity)

Method: OECD Test Guideline 211

EC50 (Tetrahymena pyriformis): 15.41 mg/l Toxicity to microorganisms

Exposure time: 40 h

Test Type: Growth inhibition

Remarks: The value is given based on a SAR/AAR approach

using OECD Toolbox, DEREK, VEGA QSAR models

(CAESAR models), etc.

Ecotoxicology Assessment

Acute aquatic toxicity Toxic to aquatic life.

Chronic aquatic toxicity Toxic to aquatic life with long lasting effects.

calcium dodecylbenzenesulphonate:

Toxicity to fish LC50 (Danio rerio (zebra fish)): 10 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

LC50 (Pimephales promelas (fathead minnow)): 4.6 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 3.5 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

NOEC (Pseudokirchneriella subcapitata (green algae)): 7.9

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

EC50 (Pseudokirchneriella subcapitata (green algae)): 65.4

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

NOEC (Daphnia magna (Water flea)): 1.65 mg/l

Toxicity to daphnia and other : aquatic invertebrates (Chron-

Exposure time: 21 d

ic toxicity)

Remarks: Based on data from similar materials

NOEC (Daphnia magna (Water flea)): 1.18 mg/l

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Exposure time: 21 d

Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): 500 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Toxicity to soil dwelling or-

ganisms

LC50 (Eisenia fetida (earthworms)): 1,000 mg/kg

Exposure time: 14 d

Method: OECD Test Guideline 207

Toxicity to terrestrial organ-

isms

LD50 (Colinus virginianus (Bobwhite quail)): 1,356 mg/kg

Exposure time: 14 d

Method: OECD Test Guideline 223

alpha-Hydro-omega-[tris(1-phenylethyl)phenoxy]poly(oxyethylene):

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 21 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to microorganisms : Remarks: No data available

Persistence and degradability

Components:

fluroxypyr-meptyl (ISO):

Biodegradability : Remarks: Not readily biodegradable.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 58.6 % Exposure time: 28 d

Method: OECD Test Guideline 301F

Remarks: Based on data from similar materials

N-methyl-2-pyrrolidone:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 73 % Exposure time: 28 d

Castor oil, ethoxylated:

Biodegradability : Result: Not readily biodegradable.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Biodegradability : Concentration: 49.2 mg/l

Result: Inherently biodegradable.

Biodegradation: 77.05 %

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Exposure time: 28 d

Method: OECD Test Guideline 301F

calcium dodecylbenzenesulphonate:

Biodegradability : Result: Readily biodegradable.

Method: OECD Test Guideline 301E

alpha-Hydro-omega-[tris(1-phenylethyl)phenoxy]poly(oxyethylene):

Biodegradability : Result: Not readily biodegradable.

Biodegradation: 8 % Exposure time: 28 d

Method: OECD Test Guideline 301

Bioaccumulative potential

Components:

fluroxypyr-meptyl (ISO):

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)

Bioconcentration factor (BCF): 26 Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 4.5 (25 °C)

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Bioaccumulation : Remarks: The product/substance has a potential to bioaccu-

mulate.

Partition coefficient: n-

octanol/water

log Pow: 3.72 Method: QSAR

N-methyl-2-pyrrolidone:

Partition coefficient: n-

octanol/water

log Pow: -0.46 (25 °C)

calcium dodecylbenzenesulphonate:

Bioaccumulation : Species: Fish

Bioconcentration factor (BCF): 70.79

Method: QSAR

Partition coefficient: n-

octanol/water

log Pow: 4.77 (25 °C)

alpha-Hydro-omega-[tris(1-phenylethyl)phenoxy]poly(oxyethylene):

Partition coefficient: n-

octanol/water

: Remarks: No data available

according to the Hazardous Products Regulations



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Mobility in soil

Components:

fluroxypyr-meptyl (ISO):

Distribution among environ-Koc: 6200 - 43000

mental compartments Remarks: The product is not expected to be mobile in soils.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Distribution among environ-

Remarks: Expected to partition to sediment and wastewater

mental compartments solids. Moderately volatile.

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.

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.

> Dispose of as unused product. Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number UN 3082

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Fluroxypyr-meptyl, Solvent naphtha (petroleum), heavy

arom.)

Class 9 Ш Packing group Labels 9 Environmentally hazardous yes

IATA-DGR

according to the Hazardous Products Regulations



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UN/ID No. UN 3082

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

(Fluroxypyr-meptyl, Solvent naphtha (petroleum), heavy

964

964

Class 9 Packing group Ш

Miscellaneous Labels

Packing instruction (cargo

aircraft)

Packing instruction (passen-

ger aircraft)

Environmentally hazardous ves

IMDG-Code

UN number UN 3082

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Fluroxypyr-meptyl, Solvent naphtha (petroleum), heavy

arom.)

Class 9 Packing group Ш 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

TDG

UN number UN 3082

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Fluroxypyr-meptyl, Solvent naphtha (petroleum), heavy

arom.)

Class 9 Ш Packing group Labels 9 **ERG Code** 171

yes(Fluroxypyr-meptyl, Solvent naphtha (petroleum), heavy Marine pollutant

arom.)

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.

SECTION 15. REGULATORY INFORMATION

NPRI Components N-methyl-2-pyrrolidone

Solvent naphtha (petroleum), heavy arom.; Kerosine — un-

specified

according to the Hazardous Products Regulations



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Solvent naphtha (petroleum), light arom.; Low boiling point

naphtha -unspecified

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 chemical substance(s) exempt from

CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control

product.

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI: Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Not in compliance with the inventory

NZIoC : Not in compliance with the inventory

TECI: Not in compliance with the inventory

Canadian lists

No substances are subject to a Significant New Activity Notification.

PMRA/PCPA Information

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:, Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product

CAUTION

Avoid contact with skin, eyes and clothing., Avoid breathing dust or spray mist., Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet., Wear long-sleeved shirt and long pants, socks, shoes, and chemical resistant gloves when handling., Harmful if swallowed, Harmful if inhaled, Harmful if absorbed through the skin.

according to the Hazardous Products Regulations



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SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table

2: OEL)

CA ON OEL : Ontario Table of Occupational Exposure Limits made under

the Occupational Health and Safety Act.

CA QC OEL : Québec. Regulation respecting occupational health and safe-

ty, Schedule 1, Part 1: Permissible exposure values for air-

borne contaminants

ACGIH / TWA : 8-hour, time-weighted average
CA AB OEL / TWA : 8-hour Occupational exposure limit
CA ON OEL / TWA : Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV : Time-weighted average exposure value

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

according to the Hazardous Products Regulations



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End of Safety Data Sheet