

SAFETY DATA SHEET

FLOTILLA HERBICIDE



Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	16.08.2023	50001559	Date of first issue: 30.07.2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : FLOTILLA HERBICIDE

Other means of identification : FLUROXYPYR-MEPTYL 400 EC
FLUROXYPYR-MEPTYL 569 EC

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as herbicide only.

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Australasia Pty Ltd

Address : Building B, Level 2, 12 Julius Avenue,
North Ryde NSW 2113
Australia

Telephone : 1 800 066 355

Telefax : (02) 9923 6011

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

Emergency telephone number : For leak, fire, spill or accident emergencies, call:
1800 033 111 (Ixm)

Medical emergency:
1 800 033 111 (Transport and 24 h Medical information)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 1

Carcinogenicity : Category 2

Reproductive toxicity : Category 1B

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Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

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.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
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.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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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 disposal plant.

Other hazards which do not result in classification

Toxic to aquatic life with long lasting effects.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Fluroxypyr methyl ester	69184-17-4	≥ 40 -< 60
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	≥ 20 -< 30
N-methyl-2-pyrrolidone	872-50-4	≥ 0.3 -< 10
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	≥ 3 -< 10
2-ethylhexan-1-ol	104-76-7	< 10

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.
- If inhaled : Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
- 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.
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.

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Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
May damage fertility or the unborn child.

Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Dry chemical
Water
Foam
Carbon dioxide (CO₂)

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Thermal decomposition can lead to release of irritating gases and vapours.
Nitrogen oxides (NO_x)
Carbon oxides
Chlorine compounds
Fluorine compounds

Specific extinguishing methods : 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 firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Hazchem Code : •3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.

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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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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.
- Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Container may be opened only under exhaust ventilation hood.
Dispose of rinse water in accordance with local and national regulations.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.
- 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.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	TWA	200 mg/m ³ (total hydrocarbon vapor)	ACGIH
N-methyl-2-pyrrolidone	872-50-4	STEL	75 ppm 309 mg/m ³	AU OEL
Further information: Skin absorption				
		TWA	25 ppm 103 mg/m ³	AU OEL
Further information: Skin absorption				
2-ethylhexan-1-ol	104-76-7	TWA	5 ppm	ACGIH

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Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling 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 : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
- 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.
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : liquid
- Form : liquid
- Colour : amber
- Odour : solvent-like
- pH : 5 - 8
(1% solution in water)
- Boiling point/boiling range : 200 °C
(100 kPa)
- Self-ignition : No data available

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Vapour pressure	: 0.00002 hPa (20 °C)
Relative density	: 1.075 - 1.095
Solubility(ies) Water solubility	: dispersible
Partition coefficient: n-octanol/water	: log Pow: 4.53 pH: 5
Viscosity Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Non-oxidizing

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 reactions	: No decomposition if stored and applied as directed.
Conditions to avoid	: Protect from frost, heat and sunlight.
Incompatible materials	: Strong acids Strong bases Strong oxidizing agents
Hazardous decomposition products	: Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute inhalation toxicity	: Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
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Components:

Fluroxypyr methyl ester:

Acute oral toxicity	: LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 401
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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

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, male and female): > 5.28 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

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: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

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 : LD50 (Rat, male and female): > 1.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 4,000 mg/kg
Remarks: Based on data from similar materials

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2-ethylhexan-1-ol:

Acute oral toxicity	: LD50 (Rat, male): 2,047 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 4.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rat, male and female): > 3,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks	: May cause skin irritation in susceptible persons.
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Components:

Fluroxypyr methyl ester:

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

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

Species	: Rabbit
Result	: No skin irritation

Assessment	: Repeated exposure may cause skin dryness or cracking.
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N-methyl-2-pyrrolidone:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: irritating

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

Assessment	: Irritating to skin.
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2-ethylhexan-1-ol:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks	: May cause irreversible eye damage.
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Components:

Fluroxypyr methyl ester:

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

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

Species	:	Rabbit
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

N-methyl-2-pyrrolidone:

Species	:	Rabbit
Result	:	irritating
Method	:	OECD Test Guideline 405

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

Assessment	:	Risk of serious damage to eyes.
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2-ethylhexan-1-ol:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Fluroxypyr methyl ester:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	Directive 67/548/EEC, Annex V, B.6.
Result	:	Not a skin sensitizer.

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

Test Type	:	Buehler Test
Species	:	Guinea pig
Result	:	Does not cause skin sensitisation.
Remarks	:	Based on data from similar materials

N-methyl-2-pyrrolidone:

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

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Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

Test Type	: Buehler Test
Species	: Guinea pig
Result	: Not a skin sensitizer.
Remarks	: Based on data from similar materials

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Components:

Fluroxypyr methyl ester:

Genotoxicity in vitro	: Test Type: gene mutation test Test system: Chinese hamster ovary cells Result: negative
Genotoxicity in vivo	: Test Type: Bone marrow chromosome aberration Species: Chinese hamster Application Route: Oral Result: negative

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

Genotoxicity in vitro	: Test Type: reverse mutation assay Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	: Test Type: sister chromatid exchange assay Species: Mouse Application Route: Intraperitoneal injection Result: negative Remarks: Based on data from similar materials

N-methyl-2-pyrrolidone:

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
Genotoxicity in vivo	: Test Type: Micronucleus test Species: Mouse Method: OECD Test Guideline 474 Result: negative

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

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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: Micronucleus test
Species: Mouse (male and female)
Application Route: Intraperitoneal injection
Exposure time: 72 hrs
Method: Mutagenicity (micronucleus test)
Remarks: Based on data from similar materials

2-ethylhexan-1-ol:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

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

Carcinogenicity

Suspected of causing cancer.

Components:

Fluroxypyr methyl ester:

Species : Rat
Application Route : Oral
Exposure time : 106 weeks
Result : negative
Remarks : Based on data from similar materials

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

Species : Mouse
Application Route : Dermal
Exposure time : 104 weeks
Result : negative
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

N-methyl-2-pyrrolidone:

Species : Rat, male and female
Application Route : Oral
NOAEL : 207 - 283 mg/kg bw/day
Result : negative

Species : Rat, male
Application Route : Inhalation

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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

2-ethylhexan-1-ol:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	24 month(s)
Result	:	negative

Reproductive toxicity

May damage fertility or the unborn child.

Components:

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

Effects on fertility	:	Test Type: Fertility Species: Rat, male and female Application Route: Oral Method: OECD Test Guideline 415 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: reproductive and developmental toxicity study Species: Rat Application Route: Oral Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials

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 foetal development	:	Test Type: Pre-natal Species: Rat Application Route: Oral Method: OECD Test Guideline 414 Result: positive
Reproductive toxicity - Assessment	:	Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

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Effects on fertility : Test Type: one-generation reproductive toxicity
Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 415
Result: No effects on fertility and early embryonic development were detected.

2-ethylhexan-1-ol:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 414
Result: negative

STOT - single exposure

May cause drowsiness or dizziness.

Components:

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

Assessment : May cause drowsiness or dizziness.

N-methyl-2-pyrrolidone:

Assessment : May cause respiratory irritation.

2-ethylhexan-1-ol:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Fluroxypyr methyl ester:

Species : Rat
LOAEL : 1,055 mg/kg
Application Route : Oral - feed
Exposure time : 28 days
Method : OECD Test Guideline 407

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

Species : Rat, male and female
NOAEL : 750 mg/kg
Application Route : Oral - gavage
Exposure time : 90 day
Remarks : Based on data from similar materials

Species : Rat, male and female
NOAEL : 1 mg/l
LOAEL : 0.5 mg/l

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Application Route : inhalation (vapour)
Exposure time : 90 day
Symptoms : Alpha-2u-globulin nephropathy

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 (vapour)
Target Organs : Testes

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

Species : Rat, male and female
NOAEL : 500 mg/kg
Application Route : Oral
Method : OECD Test Guideline 407
Remarks : Based on data from similar materials

Species : Rat, male and female
NOAEL : 50 mg/m3
Application Route : Inhalation
Method : OECD Test Guideline 412
Remarks : Based on data from similar materials

Species : Rat, male and female
NOAEL : > 1,000 mg/kg
Application Route : Dermal
Method : OECD Test Guideline 410
Remarks : Based on data from similar materials

2-ethylhexan-1-ol:

Species : Rat
: 250 mg/kg
Application Route : Oral
Exposure time : 13 weeks
Method : OECD Test Guideline 408

Aspiration toxicity

May be fatal if swallowed and enters airways.

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Components:

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

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Further information

Product:

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Fluroxypyr methyl ester:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 3.4 mg/l Exposure time: 24 h Test Type: semi-static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 5.1 mg/l Exposure time: 24 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 (Pseudokirchneriella subcapitata (green algae)): 45 mg/l Exposure time: 120 h Test Type: static test
Toxicity to fish (Chronic toxicity)	: NOEC (Oncorhynchus mykiss (rainbow trout)): 0.58 mg/l Exposure time: 28 d Test Type: flow-through test Method: OECD Test Guideline 215
Toxicity to terrestrial organisms	: LD50 (Colinus virginianus (Bobwhite quail)): > 2,000 mg/kg LD50 (Anas platyrhynchos (Mallard duck)): > 2,000 mg/kg LD50 (Apis mellifera (bees)): > 100 µg/bee Remarks: Contact LD50 (Apis mellifera (bees)): > 100 µg/bee Remarks: Oral

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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
Remarks: water accommodated fractions (WAF)
- 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
Remarks: water accommodated fractions (WAF)
- Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 - 3 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: water accommodated fractions (WAF)
- 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
- 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 (Chronic 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

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

- Toxicity to fish : LL50 (Marine species): 10,000 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

LL50 (Pimephales promelas (fathead minnow)): 1,000 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials
- Toxicity to microorganisms : NOEC (activated sludge): 10,000 mg/l
Method: OECD Test Guideline 209
GLP: yes

Ecotoxicology Assessment

- Acute aquatic toxicity : Toxic to aquatic life.
- Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

2-ethylhexan-1-ol:

- Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 17.1 - 28.2 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 39 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC10 (Desmodesmus subspicatus (green algae)): 3.2 mg/l
Exposure time: 72 h

EC50 (Desmodesmus subspicatus (green algae)): 11.5 mg/l
Exposure time: 72 h
- Toxicity to microorganisms : EC50 (Anabaena flos-aquae (cyanobacterium)): 16.6 mg/l
Exposure time: 72 h

Persistence and degradability

Components:

Fluroxypyr methyl ester:

- Biodegradability : Concentration: 10 mg/l
Result: Not readily biodegradable.
Biodegradation: 20 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

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

- Biodegradability : Result: Inherently biodegradable.
Biodegradation: 58.6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

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N-methyl-2-pyrrolidone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 73 %
Exposure time: 28 d

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

Biodegradability : Result: Not readily biodegradable.

2-ethylhexan-1-ol:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

Fluroxypyr methyl ester:

Partition coefficient: n-octanol/water : log Pow: 2.22 (20 °C)

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

Partition coefficient: n-octanol/water : log Pow: 1.99 - 18.02
Method: QSAR

N-methyl-2-pyrrolidone:

Partition coefficient: n-octanol/water : log Pow: -0.46 (25 °C)

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:

Partition coefficient: n-octanol/water : log Pow: 22.1

2-ethylhexan-1-ol:

Partition coefficient: n-octanol/water : log Pow: 2.9 (25 °C)

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

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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 chemical 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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

- UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(FLUROXYPYR METHYL ESTER)
Class : 9
Packing group : III
Labels : 9

IATA-DGR

- UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(FLUROXYPYR METHYL ESTER)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

- UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(FLUROXYPYR METHYL ESTER)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes
Remarks : Environmentally hazardous substances/Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 kg or less for solids, or having a net quantity per single or inner packaging of 5 L or less for liquids may be transported as non-dangerous goods as pro-

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vided in special provision A197 of the IATA and section 2.10.2.7 of IMDG code.

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

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUROXYPYR METHYL ESTER)
Class	:	9
Packing group	:	III
Labels	:	9
Hazchem Code	:	•3Z
Remarks	:	Environmentally hazardous substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the ADG Code when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg / liters, or IBCs

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

Safety, health and environmental regulations/legislation specific for the substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 5
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APVMA Approval No: 67029

Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.
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The components 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.

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AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. Fluroxypyr methyl ester
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

SECTION 16. OTHER INFORMATION

Revision Date	:	16.08.2023
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
ACGIH / TWA	:	8-hour, time-weighted average
AU OEL / TWA	:	Exposure standard - time weighted average
AU OEL / STEL	:	Exposure standard - short term exposure limit

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

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Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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