SAFETY DATA SHEET
according to the Hazardous Products Regulations

QuickSilver Herbicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07/01/2025	11550640-00001	Date of first issue: 07/01/2025

SECTION 1. IDENTIFICATION

Product name	:	QuickSilver Herbicide
Product code	:	Article/SKU: D00001592 UVP: DU00000105 Specification: 102D00000413
Other means of identification	:	No data available

Manufacturer or supplier's details

Company name of supplier	:	2022 Environmental Science CA Inc.
Address	:	137 Glasgow Street, Suite 210, Unit 111 Kitchener, Canada ON N2G 4X8
Telephone	:	1-800-331-2867
Emergency telephone	:	1-800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use	:	Herbicide
Restrictions on use	:	Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Eye irritation	:	Category 2B
Carcinogenicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3
Aspiration hazard	:	Category 1

GHS label elements

Hazard pictograms :

Signal Word	:	Danger
Hazard Statements	:	H304 May be fatal if swallowed and enters airways. H320 Causes eye irritation. H335 May cause respiratory irritation. H351 Suspected of causing cancer.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing mist or vapors.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves, protective clothing, eye protection and face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical attention.
P331 Do NOT induce vomiting.
P337 + P313 If eye irritation persists: Get medical attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Solvent naphtha (petroleum), heavy aromatic	No data available	64742-94-5	>= 20 - < 25
Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate	Carfentrazone-ethyl (ISO)	128639-02-1	21.3
Propylene glycol	1,2-Propanediol	57-55-6	>= 3 - < 5
1-Methylnaphthalene	No data available	90-12-0	>= 1 - < 3

2-Methylnaphthalene	No data available	91-57-6	>= 1 - < 3
Naphthalene	No data available	91-20-3	>= 0.1 - < 0.3

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
If vomiting occurs have person lean forward.
Call a physician or poison control center immediately.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : May be fatal if swallowed and enters airways.
Causes eye irritation.
May cause respiratory irritation.
Suspected of causing cancer.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing : High volume water jet

media

Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Fluorine compounds Chlorine compounds Nitrogen oxides (NOx)
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	If sufficient ventilation is unavailable, use with local exhaust ventilation.
Advice on safe handling	:	Avoid breathing mist or vapors. Do not swallow. Do not get in eyes. Avoid prolonged or repeated contact with skin. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Keep container tightly closed. Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers. Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labeled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations.
Materials to avoid	:	Do not store with the following product types: Strong oxidizing agents Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	TWA (Mist)	5 mg/m³	CA AB OEL
		STEL (Mist)	10 mg/m³	CA AB OEL
		TWAEV (Mist - Inhalable dust)	5 mg/m³	CA QC OEL
		TWA (Mist)	1 mg/m³	CA BC OEL
		TWA (Inhalable particulate matter)	5 mg/m³	ACGIH
Ethyl (RS)-2-chloro-3-[2-	128639-02-1	TWA (Inha-	1 mg/m³	ACGIH

chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate		lable particulate matter)		
Propylene glycol	57-55-6	TWA (Vapour and aerosols)	50 ppm 155 mg/m³	CA ON OEL
		TWA (aerosol)	10 mg/m³	CA ON OEL
1-Methylnaphthalene	90-12-0	TWA	0.5 ppm	CA BC OEL
		TWAEV	0.5 ppm	CA QC OEL
		TWA	0.05 ppm	ACGIH
		SL	3 mg/100 cm2	ACGIH
2-Methylnaphthalene	91-57-6	TWA	0.5 ppm	CA BC OEL
		TWAEV	0.5 ppm	CA QC OEL
		TWA	0.05 ppm	ACGIH
		SL	3 mg/100 cm2	ACGIH
Naphthalene	91-20-3	TWA	10 ppm 52 mg/m³	CA AB OEL
		STEL	15 ppm 79 mg/m³	CA AB OEL
		TWA	10 ppm	CA BC OEL
		TWAEV	10 ppm	CA QC OEL
		TWA	10 ppm	ACGIH

Engineering measures : Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapor type

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety goggles

Skin and body protection : Select appropriate protective clothing based on chemical

resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	off-white
Odor	:	solvent
Odor Threshold	:	No data available
pH	:	4.29
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	> 104 °C Method: Pensky-Martens closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	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	:	No data available
Density	:	1.0888 g/cm³
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle characteristics		
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Can react with strong oxidizing agents.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

Solvent naphtha (petroleum), heavy aromatic:

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

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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

Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OPPTS 870.1100

Acute inhalation toxicity : LC50 (Rat): > 5.09 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OPPTS 870.1300

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg
Method: OPPTS 870.1200

Propylene glycol:

Acute oral toxicity : LD50 (Rat): 22,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 44.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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

1-Methylnaphthalene:

Acute oral toxicity : LD50 (Rat): 1,840 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Based on data from similar materials

2-Methylnaphthalene:

Acute oral toxicity : LD50 (Rat): 1,630 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402

Naphthalene:

Acute oral toxicity	:	LD50 (Mouse): 553 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 0.4 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rat): > 2,500 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Result	:	No skin irritation

Components:

Solvent naphtha (petroleum), heavy aromatic:

Species	:	Rabbit
Result	:	Skin irritation
Remarks	:	Based on data from similar materials

Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate:

Species	:	Rabbit
Result	:	No skin irritation

Propylene glycol:

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

Naphthalene:

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

Serious eye damage/eye irritation

Causes eye irritation.

Product:

Result	:	Irritation to eyes, reversing within 7 days

Components:

Solvent naphtha (petroleum), heavy aromatic:

Result : Irritation to eyes, reversing within 21 days

Propylene glycol:

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

Naphthalene:

Species : Guinea pig
Result : No eye irritation
Method : OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Solvent naphtha (petroleum), heavy aromatic:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Propylene glycol:

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

Naphthalene:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406

Result : negative

Germ cell mutagenicity
Not classified based on available information.

Components:

Solvent naphtha (petroleum), heavy aromatic:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: positive

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Propylene glycol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse

Application Route: Intraperitoneal injection
Result: negative

1-Methylnaphthalene:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative

2-Methylnaphthalene:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative

Naphthalene:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: positive

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Rat
Application Route: Ingestion
Result: negative

Carcinogenicity

Suspected of causing cancer.

Components:

Solvent naphtha (petroleum), heavy aromatic:

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Propylene glycol:

Species : Rat
Application Route : Ingestion

Exposure time : 2 Years
Result : negative

2-Methylnaphthalene:

Species : Mouse
Application Route : Ingestion
Exposure time : 81 weeks
Result : negative

Naphthalene:

Species : Rat
Application Route : inhalation (vapor)
Exposure time : 105 weeks
Result : positive

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Not classified based on available information.

Components:

Solvent naphtha (petroleum), heavy aromatic:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Test Type: Embryo-fetal development
Species: Rat
Application Route: inhalation (dust/mist/fume)
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate:

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Rat
Application Route: Ingestion
Method: OPPTS 870.3800
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Ingestion
Method: OPPTS 870.3700
Result: negative

Propylene glycol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Mouse
Application Route: Ingestion
Result: negative

1-Methylnaphthalene:

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Naphthalene:

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

STOT-single exposure

May cause respiratory irritation.

Components:

Solvent naphtha (petroleum), heavy aromatic:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Components:

Naphthalene:

Routes of exposure : inhalation (vapor)
Assessment : No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Repeated dose toxicity

Components:

Solvent naphtha (petroleum), heavy aromatic:

Species	:	Rat
NOAEL	:	300 mg/kg
LOAEL	:	600 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

Species	:	Rat
NOAEL	:	> 200 mg/kg
Application Route	:	Skin contact
Exposure time	:	90 Days
Remarks	:	Based on data from similar materials

Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate:

Species	:	Rat, male
NOAEL	:	226 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Method	:	OPPTS 870.3100

Propylene glycol:

Species	:	Rat, male
NOAEL	:	>= 1,700 mg/kg
Application Route	:	Ingestion
Exposure time	:	2 y

1-Methylnaphthalene:

Species	:	Rat
NOAEL	:	>= 250 mg/kg
Application Route	:	Ingestion
Exposure time	:	41 - 45 Days
Method	:	OECD Test Guideline 422

Naphthalene:

Species	:	Mouse
NOAEL	:	133 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Method	:	OECD Test Guideline 408

Species	:	Rat
NOAEL	:	0.011 mg/l
Application Route	:	inhalation (vapor)

Exposure time	:	13 Weeks
Method	:	OECD Test Guideline 413

Species	:	Rat
NOAEL	:	300 mg/kg
Application Route	:	Skin contact
Exposure time	:	13 Weeks
Method	:	OECD Test Guideline 411

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

Solvent naphtha (petroleum), heavy aromatic:

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.

1-Methylnaphthalene:

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.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Solvent naphtha (petroleum), heavy aromatic:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): 0.84 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 0.55 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (green algae)): 0.42 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction NOEL (Pseudokirchneriella subcapitata (green algae)): 0.07 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction

Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate:

Toxicity to fish	:	LC50 (Menidia beryllina (Silverside)): 1.14 mg/l Exposure time: 96 h Method: OPPTS 850.1075

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Mysidopsis bahia (opossum shrimp)): 1.16 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	:	ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.0065 mg/l Exposure time: 120 h Method: OPPTS 850.5400 NOEC (Navicula pelliculosa (Freshwater diatom)): 0.0019 mg/l Exposure time: 120 h Method: OPPTS 850.5400

Propylene glycol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Skeletonema costatum (marine diatom)): 19,300 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Ceriodaphnia dubia (water flea)): 13,020 mg/l Exposure time: 7 d
Toxicity to microorganisms	:	NOEC (Pseudomonas putida): > 20,000 mg/l Exposure time: 18 h

1-Methylnaphthalene:

Toxicity to fish	:	LC50 (Oryzias latipes (Japanese medaka)): 5.66 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.422 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 2.8 mg/l Exposure time: 72 h NOEC (Pseudokirchneriella subcapitata (green algae)): 0.45 mg/l Exposure time: 72 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.223 mg/l Exposure time: 21 d Method: OECD Test Guideline 211

2-Methylnaphthalene:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1.456 mg/l

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.39 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 1.92 mg/l
Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.283 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.233 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Naphthalene:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 6.08 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.16 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): 0.4 mg/l
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus kisutch (coho salmon)): 0.37 mg/l
Exposure time: 40 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia pulex (Water flea)): 0.59 mg/l
Exposure time: 125 d

Toxicity to microorganisms : IC50 (Nitrosomonas sp.): 29 mg/l
Exposure time: 24 h

Persistence and degradability

Components:

Solvent naphtha (petroleum), heavy aromatic:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 61 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Propylene glycol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98.3 %

Exposure time: 28 d
Method: OECD Test Guideline 301F

1-Methylnaphthalene:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 2 %
Exposure time: 28 d

2-Methylnaphthalene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 61.8 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

Naphthalene:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 2 %
Exposure time: 4 Weeks
Method: OECD Test Guideline 302

Bioaccumulative potential

Components:

Solvent naphtha (petroleum), heavy aromatic:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 61 - 159

Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): <= 413

Partition coefficient: n-octanol/water : log Pow: 3.36

Propylene glycol:

Partition coefficient: n-octanol/water : log Pow: -1.07
Method: Regulation (EC) No. 440/2008, Annex, A.8

1-Methylnaphthalene:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 520 - 740
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 3.87

2-Methylnaphthalene:

Partition coefficient: n-octanol/water : log Pow: 3.86

Naphthalene:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 36.5 - 168
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 3.4

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.
Do not dispose of waste into sewer.

Contaminated packaging : Follow advice on product label and/or leaflet.
Empty containers retain residue and can be dangerous.
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.
(Carfentrazone-ethyl, Solvent naphtha (petroleum), heavy aromatic)
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(Carfentrazone-ethyl, Solvent naphtha (petroleum), heavy aromatic)

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. (Carfentrazone-ethyl, Solvent naphtha (petroleum), heavy aromatic)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Carfentrazone-ethyl, Solvent naphtha (petroleum), heavy aromatic)
Class	:	9
Packing group	:	III
Labels	:	9
ERG Code	:	171
Marine pollutant	:	yes(Carfentrazone-ethyl, Solvent naphtha (petroleum), heavy aromatic)

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

Active substance	:	238 g/l Ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia 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 safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / SL	:	Threshold Limit Value-Surface Limit (TLV-SL)
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
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

Sources of key data used to	:	Internal technical data, data from raw material SDSs, OECD

compile the Material Safety Data Sheet		eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Revision Date	:	07/01/2025
Date format	:	mm/dd/yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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