SAFETY DATA SHEET
according to the Globally Harmonized System

ALLY® EXPRESS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	27.12.2024	50000049	Date of first issue: 27.12.2024

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ALLY® EXPRESS

Manufacturer or supplier's details

Company : FMC India Private Limited

Address : TCG Financial Centre, 2nd Floor, C-53,
Bandra Kurla Complex,
Bandra (E), Mumbai, Maharashtra-400098
India

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

Emergency telephone : 022 6704 5504/5404
000-800-100-7141 (CHEMTREC)

Medical Emergency Number : 022 6704 5504/5404

Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

Restrictions on use : Use as recommended by the label.

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification

Not classified as hazardous according to criteria laid down in Part I of Schedule-1.

GHS Classification

Acute toxicity (Dermal) : Category 5

Serious eye damage/eye irritation : Category 2A

Skin sensitization : Category 1

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal Word : WARNING

Hazard Statements : H313 May be harmful in contact with skin.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P261 Avoid breathing dust.
P264+P265 Wash hands thoroughly after handling. Do not touch eyes.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 + P317 IF ON SKIN: Wash with plenty of water. Get medical help.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P317 If skin irritation or rash occurs: Get medical help.
P337 + P317 If eye irritation persists: Get medical help.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Disposal:

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

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
carfentrazone-ethyl (ISO)	128639-02-1	>= 30 - < 50
Metsulfuron-methyl	74223-64-6	>= 2.5 - < 10
kaolin	1332-58-7	>= 1 - < 10
edetic acid	60-00-4	>= 1 - < 10

2,4,7,9-tetramethyldec-5-yne-4,7-diol	126-86-3	>= 1 - < 2.5

4. FIRST AID MEASURES

General advice	:	Do not leave the victim unattended. Show this material safety data sheet to the doctor in attendance. Move out of dangerous area.
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 ambulance.
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. Keep eye wide open while rinsing. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Do not induce vomiting without medical advice. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	May be harmful in contact with skin. May cause an allergic skin reaction. Causes serious eye irritation.
Protection of first-aiders	:	Avoid inhalation, ingestion and contact with skin and eyes.
Notes to physician	:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical, CO2, water spray or regular foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing	:	Do not spread spilled material with high-pressure water

media		streams. High volume water jet
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Fire may produce irritating, corrosive and/or toxic gases. Nitrogen oxides (NOx) Carbon oxides Chlorine compounds Fluorine compounds Sulfur oxides
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Use a water spray to cool fully closed containers. Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for fire-fighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency 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	:	If the product contaminates rivers and lakes or drains inform respective authorities. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal. Never return spills in original containers for re-use.

Pick up and transfer to properly labeled containers.
Collect as much of the spill as possible with a suitable absorbent material.

7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection. Provide appropriate exhaust ventilation at places where dust is formed. Avoid dust formation.
Advice on safe handling	:	Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Dispose of rinse water in accordance with local and national regulations. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Avoid contact with skin and eyes. Avoid exposure - obtain special instructions before use. Do not breathe vapors/dust. Avoid formation of respirable particles.
Conditions for safe storage	:	Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place.
Further information on storage 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 storage stability	:	No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type	Control parame-	Basis

		(Form of exposure)	ters / Permissible concentration	
carfentrazone-ethyl (ISO)	128639-02-1	TWA (Inhalable particulate matter)	1 mg/m3	ACGIH
kaolin	1332-58-7	TWA (Respirable particulate matter)	2 mg/m3	ACGIH

Personal protective equipment

Respiratory protection : In case of dust 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 : Wear face-shield and protective suit for abnormal processing problems.
Tightly fitting safety goggles
Eye wash bottle with pure water

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Dust impervious protective suit

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
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 instructions for use.

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not smoke.
When using do not eat or drink.
Remove and wash contaminated clothing and gloves, including the inside, before re-use.
General industrial hygiene practice.
Avoid contact with skin, eyes and clothing.
Do not inhale aerosol.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : solid

Form	:	granules
Color	:	tan
Odor	:	mild, aromatic
Odor Threshold	:	No data available
pH	:	8.3 (20 °C) Concentration: 1 % In a 1% aqueous dispersion
Melting point/ range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	The product is not flammable.
Self-ignition	:	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	:	No data available
Bulk density	:	0.68 g/cm3
Solubility(ies)		
Water solubility	:	dispersible
Solubility in other solvents	:	No data available
Partition coefficient: n-	:	No data available

octanol/water

Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Molecular weight	:	Not applicable
Particle size	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Dust may form explosive mixture in air.
Conditions to avoid	:	Heat, flames and sparks. Avoid extreme temperatures. Avoid dust formation.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

May be harmful in contact with skin.

Product:

Acute oral toxicity	:	LD50(Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 GLP: yes Remarks: (Data on the product itself)

Information source: Internal study report

Acute inhalation toxicity : LC50(Rat): > 5.09 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: (Data on the product itself)
Information source: Data provided by an external source.

Acute dermal toxicity : LD50(Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: (Data on the product itself)
Information source: Internal study report

Components:

carfentrazone-ethyl (ISO):

Acute oral toxicity : LD50 (Rat, female): 5,143 mg/kg
Method: US EPA Test Guideline OPP 81-1
Symptoms: Tremors
GLP: yes

LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity
Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.09 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: EPA OPP 81 - 3
Symptoms: Tremors, chromodacryorrhea, nasal discharge
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Method: US EPA Test Guideline OPP 81-2
GLP: yes
Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: no mortality

Metsulfuron-methyl:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: US EPA Test Guideline OPP 81-1
Assessment: The substance or mixture has no acute oral tox-

icity

LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity
Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.11 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Breathing difficulties
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Symptoms: Irritation
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: no mortality

kaolin:

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

LD50: > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): 36 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist

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

LD50: > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

edetic acid:

Acute oral toxicity : LD50 (Rat, male and female): 4,500 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LOAEC (Rat): 0.03 mg/l

Exposure time: 6 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 412
Assessment: The component/mixture is moderately toxic after short term inhalation.

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Acute oral toxicity	:	LD50 (Rat, male): 12,900 mg/kg
Acute inhalation toxicity	:	LC0 (Rat, male and female): 1,000 mg/l Exposure time: 1 h Test atmosphere: dust/mist Symptoms: Irritation Remarks: no mortality
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation

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

Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes
Remarks	:	(Data on the product itself) Information source: Internal study report

Components:

carfentrazone-ethyl (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	US EPA Test Guideline OPP 81-5
Result	:	slight irritation
GLP	:	yes

Metsulfuron-methyl:

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	US EPA Test Guideline OPP 81-5
Result	:	No skin irritation

kaolin:

Method	:	OECD Test Guideline 404
Result	:	No skin irritation

edetic acid:

Species	:	Rabbit
Result	:	No skin irritation

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

carfentrazone-ethyl (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	EPA OPP 81-4
Result	:	slight irritation
GLP	:	yes

Metsulfuron-methyl:

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	EPA OPP 81-4
Result	:	slight irritation

kaolin:

Method	:	OECD Test Guideline 405
Result	:	No eye irritation

edetic acid:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Species	:	Rabbit
Result	:	Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

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

Components:

carfentrazone-ethyl (ISO):

Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	US EPA Test Guideline OPP 81-6
Result	:	Does not cause skin sensitization.
GLP	:	yes

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitization.
GLP	:	yes

Metsulfuron-methyl:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	US EPA Test Guideline OPPTS 870.2600
Result	:	Not a skin sensitizer.

kaolin:

Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitization.

edetic acid:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.
Remarks	:	Based on data from similar materials

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Test Type	:	Local lymph node assay (LLNA)
Routes of exposure	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Probability or evidence of low to moderate skin sensitization rate in humans

Germ cell mutagenicity

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

Product:

Germ cell mutagenicity - Assessment	:	Contains no ingredient listed as a mutagen

Components:

carfentrazone-ethyl (ISO):

Genotoxicity in vitro : Test Type: reverse mutation assay
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: U.S. EPA 84-2
Result: negative
GLP: yes

Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Result: negative
GLP: yes

Test Type: unscheduled DNA synthesis assay
Species: Rat (male)
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : No genotoxic potential.

Metsulfuron-methyl:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471

Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Metabolic activation: Metabolic activation
Result: positive
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Result: negative

kaolin:

Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Remarks: No data available

edetic acid:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

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

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male)
Application Route: Oral
Method: OECD Test Guideline 474
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.

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Genotoxicity in vitro : Test Type: gene mutation test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Carcinogenicity

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

Product:

Carcinogenicity - Assessment	:	Contains no ingredient listed as a carcinogen

Components:

carfentrazone-ethyl (ISO):

Species	:	Rat, female
Application Route	:	Ingestion
Exposure time	:	2 Years
NOAEL	:	3 mg/kg bw/day
LOAEL	:	12 mg/kg bw/day
Method	:	U.S. EPA 83-5
Result	:	no increase in tumors observed
Target Organs	:	Liver
GLP	:	yes

Species	:	Mouse, female
Application Route	:	Ingestion
Exposure time	:	80 weeks
NOAEL	:	10 mg/kg bw/day
LOAEL	:	110 mg/kg bw/day
Method	:	U.S. EPA 83-5
Result	:	no increase in tumors observed
Target Organs	:	Liver
GLP	:	yes

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Metsulfuron-methyl:

Species	:	Rat, male and female
Exposure time	:	104 weeks
NOAEL	:	500 ppm
Result	:	negative

Species	:	Mouse, male and female
Exposure time	:	18 month(s)
NOAEL	:	5,000 ppm
Result	:	negative

edetic acid:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	103 weeks
Dose	:	248, 495 mg/kg body weight
NOAEL	:	>= 500 mg/kg bw/day
Result	:	negative

Remarks	:	Based on data from similar materials

Species	:	Mouse, male and female
Application Route	:	Oral
Exposure time	:	103 weeks
Dose	:	469, 938 mg/kg body weight
NOAEL	:	938 mg/kg bw/day
Result	:	negative
Remarks	:	Based on data from similar materials

Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

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

Product:

Reproductive toxicity - Assessment	:	Contains no ingredient listed as toxic to reproduction

Components:

carfentrazone-ethyl (ISO):

Effects on fertility	:	Test Type: Multi-generation study Species: Rat, male and female Application Route: Ingestion Fertility: NOEL: 4,000 ppm Result: negative
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat, female Application Route: Oral General Toxicity Maternal: NOEL: 100 mg/kg bw/day Embryo-fetal toxicity.: NOEL: 600 mg/kg bw/day Result: negative Test Type: Embryo-fetal development Species: Rabbit, female Application Route: Oral General Toxicity Maternal: NOEL: 150 mg/kg bw/day Embryo-fetal toxicity.: NOEL: > 300 mg/kg bw/day Result: negative
Reproductive toxicity - Assessment	:	Animal testing showed no reproductive toxicity.

Metsulfuron-methyl:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female

Application Route: Oral
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit, female
Application Route: Ingestion
Symptoms: Maternal effects.
Result: negative

Test Type: Embryo-fetal development
Species: Rat, female
Application Route: Ingestion
Symptoms: Maternal effects.
Result: negative

kaolin:

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

edetic acid:

Effects on fertility : Test Type: Multi-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 0, 50, 125, 250 milligram per kilogram
General Toxicity Parent: NOAEL: >= 250 mg/kg body weight
General Toxicity F1: NOAEL: >= 250 mg/kg body weight
General Toxicity F2: NOAEL: >= 250 mg/kg body weight
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Species: Rat
Application Route: Oral
Dose: 967 milligram per kilogram
Duration of Single Treatment: 21 d
General Toxicity Maternal: LOAEL: >= 967 mg/kg body weight
Teratogenicity: NOAEL: >= 967 mg/kg body weight
Symptoms: Diarrhea
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Effects on fertility : Test Type: reproductive and developmental toxicity study
Species: Rat, male and female
Result: negative

Effects on fetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Ingestion

Result: negative

STOT-single exposure

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

Product:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Components:

carfentrazone-ethyl (ISO):

Remarks : No significant adverse effects were reported

kaolin:

Remarks : No significant adverse effects were reported

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

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

Product:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Components:

carfentrazone-ethyl (ISO):

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

kaolin:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

edetic acid:

Routes of exposure : Inhalation
Target Organs : Respiratory Tract
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

carfentrazone-ethyl (ISO):

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

Species	:	Dog, male and female
NOEL	:	150 mg/kg
LOAEL	:	500 mg/kg
Application Route	:	Oral
Exposure time	:	90 days
Target Organs	:	Blood

Species	:	Dog, male and female
NOEL	:	50 mg/kg
NOAEL	:	150 mg/kg
LOAEL	:	500 mg/kg
Application Route	:	Oral
Exposure time	:	12 months
GLP	:	yes
Target Organs	:	Blood

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

Metsulfuron-methyl:

Species	:	Rat, male and female
NOEL	:	1000 ppm
Application Route	:	Oral - feed
Exposure time	:	90 days
Symptoms	:	Reduced body weight

kaolin:

Remarks	:	No data available

edetic acid:

Species	:	Rat, male and female
NOAEL	:	>= 500 mg/kg
Application Route	:	Oral
Exposure time	:	103 weeks
Dose	:	250, 500 mg/kg bw/day
Remarks	:	Based on data from similar materials

Species	:	Mouse, male and female
NOAEL	:	>= 500 mg/kg

Application Route	:	Oral
Exposure time	:	103 weeks
Dose	:	250, 500 mg/kg bw/day
Remarks	:	Based on data from similar materials

Species	:	Rat, male and female
NOAEC	:	0.003 mg/l
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	90d
Dose	:	0.5, 3, 15 mg/m3
Method	:	OECD Test Guideline 413
Remarks	:	Based on data from similar materials

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Species	:	Rat, male and female
NOAEL	:	150 mg/kg
Application Route	:	Ingestion
Exposure time	:	30 d
Method	:	OECD Test Guideline 408

Aspiration toxicity

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

Components:

carfentrazone-ethyl (ISO):

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

Neurological effects

Components:

carfentrazone-ethyl (ISO):

No neurotoxicity observed in animal studies.

Metsulfuron-methyl:

No neurotoxicity observed in animal studies.

Further information

Product:

Remarks	:	No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 4.3 mg/l Exposure time: 96 h Method: OECD Test Guideline 203

GLP: yes
Remarks: (Data on the product itself)
Information source: Internal study report

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
Remarks: Information source: Internal study report
(Data on the product itself)

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.14 mg/l
Exposure time: 72 h
Method: Directive 67/548/EEC, Annex V, C.3.
GLP: yes
Remarks: (Data on the product itself)
Information source: Internal study report

Components:

carfentrazone-ethyl (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.55 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203

LC50 (Menidia beryllina (Silverside)): 1.14 mg/l
Exposure time: 96 h
Test Type: flow-through test

LC50 (Oncorhynchus mykiss (rainbow trout)): 1.6 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: EPA OPP 72-1

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 9.8 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility.

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 0.0133 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 0.00933 mg/l
End point: Growth rate
Exposure time: 72 h
Method: OECD Test Guideline 201

GLP: yes

EbC50 (Selenastrum capricornutum (green algae)): 16 µg/l
Exposure time: 120 h

EC50 (Navicula pelliculosa (Diatom)): 12 µg/l
Exposure time: 72 h
Test Type: static test

EC50 (Skeletonema costatum (Diatom)): 15 µg/l
Exposure time: 72 h
GLP: yes

M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	NOEC (activated sludge): 1,000 mg/l Test Type: Respiration inhibition Method: OECD Test Guideline 209 GLP:
Toxicity to fish (Chronic toxicity)	:	NOEC: 22 µg/l Exposure time: 89 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: Early Life-Stage Method: OECD Test Guideline 210 GLP: yes NOEC: 0.118 mg/l Exposure time: 102 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test Method: US EPA Test Guideline OPP 72-4
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.309 mg/l End point: Growth Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	NOEC: 820 mg/kg Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 216 Remarks: No significant adverse effect on Nitrogen mineralization. Method: OECD Test Guideline 217 Remarks: No significant adverse effect on Carbon mineralization.

Toxicity to terrestrial organisms	:	LD50: > 5,620 ppm End point: Acute oral toxicity Species: Anas platyrhynchos (Mallard duck) Remarks: Dietary LD50: 2,250 mg/kg End point: Acute oral toxicity Species: Colinus virginianus (Bobwhite quail) NOEL: 1000 ppm End point: Reproduction Test Species: Colinus virginianus (Bobwhite quail) LD50: > 200 µg/bee End point: Acute oral toxicity Species: Apis mellifera (bees) LD50: > 200 µg/bee End point: Acute contact toxicity Species: Apis mellifera (bees)

Ecotoxicology Assessment

Toxicity Data on Soil	:	Harmful to the soil environment.

Metsulfuron-methyl:

Toxicity to fish	:	LC50 (Poecilia reticulata (guppy)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 120 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 EC50 (Daphnia magna (Water flea)): 43.1 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Anabaena flos-aquae (cyanobacterium)): 65.7 µg/l Exposure time: 96 h Method: OPPTS 850.5400 GLP: yes NOEC (Anabaena flos-aquae (cyanobacterium)): 45 µg/l Exposure time: 96 h Method: OPPTS 850.5400 GLP: yes ErC50 (Selenastrum capricornutum (green algae)): 157 µg/l

		Exposure time: 72 h GLP: yes NOEC (Selenastrum capricornutum (green algae)): 50 µg/l Exposure time: 72 h GLP: yes
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC: 68 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout) NOEC: 10 mg/l End point: reproduction Exposure time: 21 d Species: Pimephales promelas (fathead minnow) Method: OECD Test Guideline 229 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 3.13 mg/l End point: reproduction Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Method: OECD Test Guideline 211 NOEC: 0.5 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	NOEC: 6 mg/kg Exposure time: 56 d Species: Eisenia fetida (earthworms) NOEC: 5.6 mg/kg End point: reproduction Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 222 GLP: yes Method: OECD Test Guideline 216 Remarks: No significant adverse effect on Nitrogen mineralization.
Toxicity to terrestrial organisms	:	LD50: > 50 µg/bee Exposure time: 48 h End point: Acute contact toxicity Species: Apis mellifera (bees)

Method: OEPP/EPPO Test Guideline 170

LD50: > 50 µg/bee
Exposure time: 48 h
End point: Acute oral toxicity
Species: Apis mellifera (bees)
Method: OEPP/EPPO Test Guideline 170

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

NOEC: 1,000 mg/kg
End point: Reproduction Test
Species: Colinius virginianus

NOEC: 1,000 ppm
End point: Reproduction Test
Species: Anas platyrhynchos (Mallard duck)
Method: OECD Test Guideline 206

kaolin:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: No data available

edetic acid:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Test Type: static test 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 Test Type: static test Method: OECD Test Guideline 202 Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOEC (Pseudokirchneriella subcapitata (algae)): 79.4 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC10 (activated sludge): > 500 mg/l Exposure time: 30 min Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC: 35.1 mg/l Exposure time: 35 d Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 25 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Remarks: Based on data from similar materials
Toxicity to soil dwelling organisms	:	EC50: 156.46 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 42 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 91 mg/l Exposure time: 48 h Test Type: Immobilization
Toxicity to microorganisms	:	EC50 (activated sludge): 680 mg/l Exposure time: 3 h Test Type: Respiration inhibition

Persistence and degradability

Product:

Biodegradability	:	Result: Not readily biodegradable. Remarks: Estimation based on data obtained on active ingredient. Product contains minor amounts of not readily biodegradable

components, which may not be degradable in waste water treatment plants.

Components:

carfentrazone-ethyl (ISO):

Biodegradability : Result: Not readily biodegradable.

Metsulfuron-methyl:

Biodegradability : Result: Not readily biodegradable.
Remarks: Primary degradation half-lives vary with circumstances, from a few weeks to a few months in aerobic soil and water.

kaolin:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

edetic acid:

Biodegradability : Result: Inherently biodegradable.

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 5 %
Exposure time: 28 d

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not bioaccumulate.
Estimation based on data obtained on active ingredient.

Components:

carfentrazone-ethyl (ISO):

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Exposure time: 28 d
Bioconcentration factor (BCF): 176
Method: OECD Test Guideline 305E
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 3.7 (20 °C)

Metsulfuron-methyl:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)

Exposure time: 28 d
Bioconcentration factor (BCF): < 1
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : Pow: 0.018 (25 °C)
log Pow: -1.7 (25 °C)
pH: 7

kaolin:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : Remarks: Not applicable

edetic acid:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 28 d
Bioconcentration factor (BCF): 1.8
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 0.13

2,4,7,9-tetramethyldec-5-yne-4,7-diol:

Bioaccumulation : Bioconcentration factor (BCF): 24
Remarks: Substance is not very persistent and very bioaccumulative (vPvB).

Partition coefficient: n-octanol/water : log Pow: 2.8 (22 °C)

Mobility in soil

Components:

carfentrazone-ethyl (ISO):

Distribution among environmental compartments : Remarks: Mobile in soils

kaolin:

Distribution among environmental compartments : Remarks: Low mobility in soil.

Other adverse effects

Product:

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

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. Do not re-use empty containers. Packaging that is not properly emptied must be disposed of as the unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Carfentrazone-ethyl, Metsulfuron-methyl)
Class	:	9
Subsidiary risk	:	ENVIRONM.
Packing group	:	III
Labels	:	9 (ENVIRONM.)
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (Carfentrazone-ethyl, Metsulfuron-methyl)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	956
Packing instruction (passenger aircraft)	:	956
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Carfentrazone-ethyl, Metsulfuron-methyl)
Class	:	9

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION

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

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

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL.
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	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

16. OTHER INFORMATION

Revision Date	:	27.12.2024

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

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

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing 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

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