SAFETY DATA SHEET

MAGISTER COMMAND 480 EC HERBICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	04.04.2022	50000741	Date of first issue: 04.04.2022

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	MAGISTER COMMAND 480 EC HERBICIDE
Other means of identification	:	CLOMAZONE 480 G/L EC MAGISTER 480 EC COMMAND 480 EC

Recommended use of the chemical and restrictions on use

Recommended use	:	Can be used as herbicide only.
Restrictions on use	:	Do not use product for anything outside of the above specified uses.

Manufacturer or supplier's details

Company	:	FMC Australasia Pty Ltd
Address	:	Building B, Level 2, 12 Julius Avenue, North Ryde NSW 2113
Telephone	:	+6161029887900
Emergency telephone number	:	For leak, fire, spill or accident emergencies, call: 1800 033 111 (Ixom) Medical emergency: 1 800 033 111 (Transport and 24 h Medical information)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 4
Serious eye damage/eye irritation	:	Category 2A
Carcinogenicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system, Central nervous system)

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.
H302 + H332 Harmful if swallowed or if inhaled.
H304 May be fatal if swallowed and enters airways.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.

Supplemental Hazard Statements : AUH066 Repeated exposure may cause skin dryness or cracking.

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.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
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.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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 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 advice/ attention.
P331 Do NOT induce vomiting.

P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

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

Other hazards which do not result in classification

Very 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)
Solvent naphtha (petroleum), heavy arom.	64742-94-5	>= 30 -< 60
clomazone (ISO)	81777-89-1	>= 30 -< 60
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	>= 1 -< 3
2-ethylhexan-1-ol	104-76-7	< 10
Alcohols, C12-14. ethoxylated	68439-50-9	>= 1 -< 3

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 : Clean mouth with water and drink afterwards plenty of water.

Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed or if inhaled.
May be fatal if swallowed and enters airways.
Causes serious eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Repeated exposure may cause skin dryness or cracking.

Notes to physician : Treat symptomatically.
It may be helpful to show this safety data sheet to physician.

SECTION 5. FIREFIGHTING MEASURES

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

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 : Halogenated compounds
Nitrogen oxides (NOx)
Carbon oxides
Chlorine 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.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Hazchem Code : •3Y

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentra-

tions. Vapours can accumulate in low areas.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).
Keep away from open flames, hot surfaces and sources of ignition.

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.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
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 : No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Further information on 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	Control parame-	Basis

		(Form of exposure)	ters / Permissible concentration	
Solvent naphtha (petroleum), heavy arom.	64742-94-5	TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection

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

Appearance : liquid

Colour : light yellow

Odour : aromatic, solvent-like

pH : 5.1

Melting point/range : Not applicable

Boiling point/boiling range : not determined

Flash point : 40 °C

Method: Tag closed cup

Flammability (liquids) : Sustains combustion

Density : 1.025 - 1.028 g/cm3

Solubility(ies)
Water solubility : emulsifiable

Explosive properties : Not explosive

Oxidizing properties	:	The substance or mixture is not classified as 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. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents Strong acids and strong bases
Hazardous decomposition products	:	Nitrogen oxides (NOx) Carbon oxides Chlorine compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	:	LD50 (Rat, female): 1,406 mg/kg Method: US EPA Test Guideline OPP 81-1 LD50 (Rat, male): 2,343 mg/kg Method: US EPA Test Guideline OPP 81-1
Acute inhalation toxicity	:	LC50 (Rat, male and female): 4.59 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: US EPA Test Guideline OPP 81-3
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 2,000 mg/kg Method: US EPA Test Guideline OPP 81-2

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Acute oral toxicity : LD50 (Rat, female): 1,369 mg/kg
Method: US EPA Test Guideline OPP 81-1

Acute inhalation toxicity : LC50 (Rat, female): 4.85 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: US EPA Test Guideline OPP 81-3

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: US EPA Test Guideline OPP 81-2
Assessment: The substance or mixture has no acute dermal toxicity

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

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

Alcohols, C12-14. ethoxylated:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 1.6 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): > 3,000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Product:

Species	:	Rabbit
Method	:	US EPA Test Guideline OPP 81-5
Result	:	slight irritation
Remarks	:	May cause skin irritation and/or dermatitis.

Components:

Solvent naphtha (petroleum), heavy arom.:

Species	:	Rabbit
Result	:	No skin irritation
Assessment	:	Repeated exposure may cause skin dryness or cracking.

clomazone (ISO):

Species	:	Rabbit
Method	:	US EPA Test Guideline OPP 81-5
Result	:	No skin irritation

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

Result	:	Skin irritation

2-ethylhexan-1-ol:

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

Alcohols, C12-14. ethoxylated:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	US EPA Test Guideline OPP 81-4
Remarks	:	May cause irreversible eye damage.

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Species	:	Rabbit
Result	:	No eye irritation
Method	:	US EPA Test Guideline OPP 81-4

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

Result	:	Irreversible effects on the eye

2-ethylhexan-1-ol:

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

Alcohols, C12-14. ethoxylated:

Species	:	Rabbit
Result	:	Irreversible effects on the eye
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.

Product:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	US EPA Test Guideline OPP 81-6
Result	:	Does not cause skin sensitisation.

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Species	:	Guinea pig
Assessment	:	Not a skin sensitizer.
Method	:	US EPA Test Guideline OPP 81-6

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

Alcohols, C12-14. ethoxylated:

Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	Directive 67/548/EEC, Annex V, B.6.
Result	:	Does not cause skin sensitisation.
	:	Skin contact
	:	Humans
	:	Does not cause skin sensitisation.

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Result: negative

Test Type: gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: Cytogenetic assay
Species: Rat
Result: negative

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

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

Alcohols, C12-14. ethoxylated:

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

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Suspected of causing cancer.

Product:

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Species : Rat, male and female
Application Route : Oral
Exposure time : 2 Years
Result : negative

2-ethylhexan-1-ol:

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

Alcohols, C12-14. ethoxylated:

Species : Rat, male and female
Exposure time : 24 month(s)
Result : negative

Reproductive toxicity

Not classified based on available information.

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Oral Symptoms: Maternal effects Result: negative Test Type: Embryo-foetal development Species: Rabbit Application Route: Oral Symptoms: Maternal effects Result: negative

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

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

Alcohols, C12-14. ethoxylated:

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

STOT - single exposure

May cause respiratory irritation.
May cause drowsiness or dizziness.

Product:

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

Components:

Solvent naphtha (petroleum), heavy arom.:

Assessment	:	May cause drowsiness or dizziness.

clomazone (ISO):

Remarks : No significant adverse effects were reported

2-ethylhexan-1-ol:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

Alcohols, C12-14. ethoxylated:

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

Repeated dose toxicity

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Species	:	Rat, male and female
NOEL	:	1000 ppm
Application Route	:	Oral
Exposure time	:	90 days
Symptoms	:	increased liver weight

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

Alcohols, C12-14. ethoxylated:

Species	:	Rat, male and female
NOAEL	:	110 mg/kg
Application Route	:	Oral
Exposure time	:	2160 h

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

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.

Components:

Solvent naphtha (petroleum), heavy arom.:

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.

clomazone (ISO):

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

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

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Toxicity to fish : LC50 (Menidia beryllina (Silverside)): 6.3 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 14.4 mg/l
Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 34 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 5.2 mg/l
Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): 12.7 mg/l
Exposure time: 48 h

LC50 (Mysidopsis bahia (opossum shrimp)): 0.57 mg/l
Exposure time: 96 h

LC50 (Crustaceans): 0.53 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : EbC50 (Selenastrum capricornutum (green algae)): 2 mg/l
Exposure time: 72 h

ErC50 (Selenastrum capricornutum (green algae)): 4.1 mg/l
Exposure time: 72 h

ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.136 mg/l
Exposure time: 120 h

NOEC (Navicula pelliculosa (Freshwater diatom)): 0.05 mg/l
End point: Growth rate
Exposure time: 120 h

EC50 (Lemna gibba (duckweed)): 13.9 mg/l
Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 2.3 mg/l
Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 2.2 mg/l
Exposure time: 21 d

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 156 mg/kg
Exposure time: 14 d

Toxicity to terrestrial organisms : LD50 (Anas platyrhynchos (Mallard duck)): > 2,510 mg/kg

LC50 (Anas platyrhynchos (Mallard duck)): >5620 ppm

LC50 (Apis mellifera (bees)): >85.29

LC50 (Apis mellifera (bees)): >100
Remarks: Contact

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

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

Alcohols, C12-14. ethoxylated:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.1 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.7 mg/l
Exposure time: 48 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 0.87 mg/l
Exposure time: 72 h
Test Type: static test

Toxicity to fish (Chronic toxicity) : EC10 (Pimephales promelas (fathead minnow)): 0.96 mg/l
Exposure time: 30 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 0.53 mg/l
Exposure time: 21 d

Toxicity to microorganisms : EC50 (Pseudomonas putida): 1,000 g/l
Exposure time: 3 h

Toxicity to soil dwelling organisms	:	NOEC (Eisenia fetida (earthworms)): 220 mg/kg Method: OECD Test Guideline 222
Plant toxicity	:	NOEC: >= 100 mg/l Exposure time: 456 h

Persistence and degradability

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Biodegradability	:	Result: Not readily biodegradable.

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

Biodegradability	:	Result: Not readily biodegradable.

2-ethylhexan-1-ol:

Biodegradability	:	Result: Readily biodegradable.

Alcohols, C12-14. ethoxylated:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 78 % Exposure time: 28 d Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

Solvent naphtha (petroleum), heavy arom.:

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

clomazone (ISO):

Bioaccumulation	:	Bioconcentration factor (BCF): 27 - 40 Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	log Pow: 2.5

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)

Alcohols, C12-14. ethoxylated:

Bioaccumulation : Bioconcentration factor (BCF): < 800
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 5.12 - 5.32 (25 °C)

Mobility in soil

Components:

clomazone (ISO):

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Alcohols, C12-14. ethoxylated:

Distribution among environmental compartments : Koc: 13226.76 - 16423.03

Other adverse effects

Product:

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with 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.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Clomazone, Aromatic hydrocarbons)
Class	:	3
Packing group	:	III
Labels	:	3

IATA-DGR

UN/ID No.	:	UN 1993
Proper shipping name	:	Flammable liquid, n.o.s. (Clomazone, Aromatic hydrocarbons)
Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Clomazone, Aromatic hydrocarbons)
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	yes

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 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Clomazone, Aromatic hydrocarbons)
Class	:	3
Packing group	:	III
Labels	:	3
Hazchem Code	:	•3Y

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 6

APVMA Approval no.: 49604

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.

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

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. 2-(2-CHLOROBENZYL)-4,4-DIMETHYLISOXAZOLIDIN-3-ONE
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date	:	04.04.2022
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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