SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

SHIBAOKE 250 EC

Version	Revision Date:	SDS Number:	Date of last issue: -
3.1	2024/06/14	50000588	Date of first issue: 2018/06/05

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : SHIBAOKE 250 EC

Other means of identification : Prochloraz 250 g/L EC

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as fungicide only.

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC (Suzhou) Crop care co., ltd

Address : 99 Jiepu Road, Suzhou Industrial Park, Jiang Su, China
215126
China

Telephone : 0512-62863988

Telefax : 0512-62863900

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

Emergency telephone : For leak, fire, spill or accident emergencies, call:
0086-0532 8388 9090 (National Registration Center for Chemicals)

Medical emergency:
86 532 8388 9090

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance : liquid
Color : Light yellow to yellow
Odor : aromatic

Combustible liquid. Harmful if swallowed or if inhaled. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

GHS Classification

Flammable liquids : Category 4

Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 4
Skin corrosion/irritation	:	Category 2
Serious eye damage/eye irritation	:	Category 2A
Skin sensitization	:	Category 1
Carcinogenicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Narcotic effects)
Aspiration hazard	:	Category 1
Short-term (acute) aquatic hazard	:	Category 1
Long-term (chronic) aquatic hazard	:	Category 2

GHS label elements

Hazard pictograms :

Signal Word : DANGER

Hazard Statements :
H227 Combustible liquid.
H302 + H332 Harmful if swallowed or if inhaled.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

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/ sparks/ open flames/ hot surfaces. No smoking.
P261 Avoid breathing mist or vapors.
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.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.

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.

Physical and chemical hazards

Combustible liquid.

Health hazards

Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing cancer. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways.

Environmental hazards

Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

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)
prochloraz (ISO)	67747-09-5	>= 20 -< 30
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	>= 50 -< 70
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8	>= 3 -< 10
2-methylpropan-1-ol	78-83-1	>= 1 -< 3

4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
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 skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.

Notes to physician : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical

Carbon dioxide (CO2)
Water spray
Regular foam

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 : Fire may produce irritating, corrosive and/or toxic gases.
Carbon oxides
Nitrogen oxides (NOx)
Hydrogen cyanide
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 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.
Use personal protective equipment.
If it can be safely done, stop the leak.
Do not touch or walk through the spilled material.

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

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

7. HANDLING AND STORAGE

Handling

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.
Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. 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.
Avoidance of contact	:	Strong acids Strong bases Strong oxidizing agents

Storage

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.

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 arom.; Kerosine — unspecified	64742-94-5	TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH
2-methylpropan-1-ol	78-83-1	TWA	50 ppm	ACGIH

Personal protective equipment

Respiratory protection	:	In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Eye/face 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.
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.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Form	:	liquid
Color	:	Light yellow to yellow
Odor	:	aromatic
pH	:	5.5 - 8.5
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	62.5 °C Method: ASTM D 93
Flammability (liquids)	:	Sustains combustion
Self-ignition	:	> 480 °C
Density	:	0.98 g/cm3 (22.8 °C)
Partition coefficient: n-octanol/water	:	Not applicable
Viscosity		
Viscosity, kinematic	:	17.3 mm2/s (25 °C) 14.3 mm2/s (45 °C)

Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

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. Vapors may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong acids Strong bases Strong oxidizing agents
Hazardous decomposition products	:	Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	:	LD50 (Rat): 1,030 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 2.12 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Components:

prochloraz (ISO):

Acute oral toxicity	:	LD50 (Rat, female): ca. 1,010 mg/kg Method: OECD Test Guideline 425 Symptoms: Breathing difficulties GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.16 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Breathing difficulties
GLP: yes
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Symptoms: Irritation
GLP: yes
Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: no mortality

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

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.28 mg/l
Exposure time: 4 h
Test atmosphere: vapor
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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Acute oral toxicity : LD0 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 401
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 1,000 - 1,600 mg/kg
Method: OECD Test Guideline 402

2-methylpropan-1-ol:

Acute oral toxicity : LD50 (Rat): 3,350 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 18.18 mg/l
Exposure time: 6 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): 2,460 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation
Remarks	:	May cause skin irritation and/or dermatitis.

Components:

prochloraz (ISO):

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

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

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Species	:	Rabbit
Result	:	Skin irritation

2-methylpropan-1-ol:

Species	:	Rabbit
Result	:	Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Species	:	Rabbit
Result	:	Eye irritation
Remarks	:	May cause irreversible eye damage.

Components:

prochloraz (ISO):

Species	:	Rabbit
Result	:	Slight or no eye irritation
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405

GLP : yes

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

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Species : Rabbit
Result : Irreversible effects on the eye

2-methylpropan-1-ol:

Species : Rabbit
Result : Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Product:

Test Type : Local lymph node assay (LLNA)
Species : mice
Method : OECD Test Guideline 429
Result : May cause sensitization by skin contact.

Remarks : Causes sensitization.

Components:

prochloraz (ISO):

Test Type : Local lymph node assay (LLNA)
Species : mice
Assessment : Not a skin sensitizer.
Method : OECD Test Guideline 429
Result : Not a skin sensitizer.

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

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Test Type : Maximization Test
Species : Guinea pig
Method : OECD Test Guideline 406

Result : Does not cause skin sensitization.

2-methylpropan-1-ol:

Routes of exposure : Skin contact
Result : Not a skin sensitizer.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

prochloraz (ISO):

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

Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: mice (male and female)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes

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

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

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

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

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

Test Type: reverse mutation assay
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
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-methylpropan-1-ol:

Genotoxicity in vitro : Result: negative

Genotoxicity in vivo : Result: negative

Carcinogenicity

Suspected of causing cancer.

Components:

prochloraz (ISO):

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

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

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

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Not classified due to lack of data.

Components:

prochloraz (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

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

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

Effects on fetal 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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Effects on fertility : Test Type: Three-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 14, 70, 350 mg/kg bw d
General Toxicity Parent: NOAEL: 350 mg/kg body weight
General Toxicity F1: NOAEL: 350 mg/kg bw/day
General Toxicity F2: NOAEL: 350 mg/kg bw/day
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral
Dose: 0.2, 2.0, 300 and 600 mg/kg
Duration of Single Treatment: 20 d
General Toxicity Maternal: LOAEL: 600 mg/kg body weight
Teratogenicity: LOAEL: 600 mg/kg bw/day
Result: negative
Remarks: Based on data from similar materials

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

2-methylpropan-1-ol:

Effects on fertility : Species: Rat
Application Route: Inhalation
Fertility: NOAEC Mating/Fertility: 7.5 mg/l

STOT-single exposure

May cause drowsiness or dizziness.

Components:

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

Assessment : May cause drowsiness or dizziness.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

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

2-methylpropan-1-ol:

Assessment : May cause respiratory irritation.

May cause drowsiness or dizziness.

STOT-repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Components:

prochloraz (ISO):

Species	:	Rat, male and female
LOAEL	:	6 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	90 d
Dose	:	6, 25, 100 mg/kg bw/day
Symptoms	:	increased liver weight

Species	:	Mouse, male and female
LOAEL	:	25 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	90 d
Dose	:	6, 25, 100, 400 mg/kg bw/day
Symptoms	:	increased liver weight

Species	:	Dog, male and female
NOAEL	:	2.5 mg/kg
LOAEL	:	7 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	90 d
Dose	:	1, 2.5, 7, 20 mg/kg bw/day
Symptoms	:	increased liver weight

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

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

Species	:	Rat, male and female
NOAEL	:	1 mg/l
LOAEL	:	0.5 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	90 day
Symptoms	:	Alpha-2u-globulin nephropathy

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Species	:	Rat, male and female
NOAEL	:	40 mg/kg bw/day
LOAEL	:	115 mg/kg bw/day
Application Route	:	Oral - feed
Exposure time	:	6 months
Dose	:	40, 115, 340, 1030 mg/kg bw d

Remarks : Based on data from similar materials

2-methylpropan-1-ol:

Species : Rat
: 1450 mg/kg
Application Route : Oral

Species : Rat
: 7.5 mg/l
Application Route : Inhalation

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:

prochloraz (ISO):

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

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

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

Further information

Product:

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

Components:

prochloraz (ISO):

Remarks : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Contact may cause slight irritation.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

prochloraz (ISO):

Toxicity to fish	:	LC50 (Cyprinodon variegatus (sheepshead minnow)): 1.2 mg/l Exposure time: 96 h Test Type: static test GLP: yes LC50 (Lepomis macrochirus (Bluegill sunfish)): 2.2 mg/l Exposure time: 96 h Test Type: static test GLP: yes LC50 (Oncorhynchus mykiss (rainbow trout)): 1.5 mg/l Exposure time: 96 h Test Type: static test GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4.3 mg/l Exposure time: 48 h Test Type: static test EC50 (Crassostrea virginica (atlantic oyster)): 0.69 - 1.3 mg/l Exposure time: 96 h Test Type: flow-through test GLP: yes LC50 (Mysidopsis bahia (opossum shrimp)): 0.86 mg/l Exposure time: 48 h GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 0.032 mg/l Exposure time: 72 h ErC50 (Lemna gibba (duckweed)): 0.109 mg/l Exposure time: 7 d
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 0.0485 mg/l Exposure time: 36 d NOEC (Salmo gairdneri): 0.18 mg/l End point: mortality Exposure time: 28 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.0222 mg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to terrestrial organisms	:	LD50 (Apis mellifera (bees)): 51 µg/bee End point: Acute contact toxicity

LD50 (Apis mellifera (bees)): 61 µg/bee
End point: Acute oral toxicity

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

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 31.6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 62 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 29 mg/l Exposure time: 96 h Remarks: Based on data from similar materials NOEC (Pseudokirchneriella subcapitata (green algae)): 0.5 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 72 d Test Type: flow-through test Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 1.18 mg/l Exposure time: 21 d Test Type: flow-through test Remarks: Based on data from similar materials

Toxicity to microorganisms	:	EC50 (activated sludge): 550 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to soil dwelling organisms	:	NOEC (Eisenia fetida (earthworms)): 250 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 Remarks: Based on data from similar materials LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 Remarks: Based on data from similar materials
Plant toxicity	:	EC50: 167 mg/kg Exposure time: 21 d Species: Sorghum bicolor (sorghum) 80 mg/kg Exposure time: 14 d Species: Avena sativa (oats)
Toxicity to terrestrial organisms	:	EC10 (Hypoaspis aculeifer): 82 mg/kg Exposure time: 21 d Remarks: Information given is based on data obtained from similar substances.

2-methylpropan-1-ol:

Toxicity to fish	:	LC50 : 1,430 mg/l Exposure time: 4 d
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 1,100 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 20 mg/l Exposure time: 21 d
Toxicity to microorganisms	:	EC50 (Anabaena flos-aquae (cyanobacterium)): 593 - 1,799 mg/l Exposure time: 72 h IC50 (Natural microorganism): 1,000 mg/l Exposure time: 16 h

Persistence and degradability

Components:

prochloraz (ISO):

Biodegradability	:	Result: Not readily biodegradable.

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

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Not readily biodegradable.
Biodegradation: 2.9 %
Exposure time: 28 d
Method: OECD Test Guideline 301E

Result: Inherently biodegradable.
Biodegradation: > 35 - 45 %
Exposure time: 10 d

2-methylpropan-1-ol:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

prochloraz (ISO):

Bioaccumulation : Remarks: See section 9 for octanol-water partition coefficient.
The product may be accumulated in organisms.

Partition coefficient: n-octanol/water : log Pow: 4.12 (25 °C)

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

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Bioaccumulation : Bioconcentration factor (BCF): 3.16
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4.595 (20 °C)

2-methylpropan-1-ol:

Bioaccumulation : Remarks: No bioaccumulation is to be expected (log Pow <= 4).

Partition coefficient: n-octanol/water : Pow: 10 (25 °C)

Mobility in soil

Components:

prochloraz (ISO):

Distribution among environmental compartments : Remarks: immobile

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.
Toxic to aquatic life with long lasting effects.

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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (prochloraz)
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. (prochloraz)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo	:	964

aircraft)
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (prochloraz)
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

GB 6944/12268

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (prochloraz)
Class	:	9
Packing group	:	III
Labels	:	9
Marine pollutant	:	yes

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

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Yangtze River Protection Law

This product does not contain any dangerous chemicals prohibited for inland river transport.

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.

		N-PROPYL-N-[2-(2,4,6-TRICHLOROPHENOXY)ETHYL]IMIDAZOLE-1-CARBOXAMIDE
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	:	2024/06/14
Date format	:	yyyy/mm/dd

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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