

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Octave® 50 WP Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	04/05/2024	50001316	Date of first issue: 04/05/2018

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### SECTION 1. IDENTIFICATION

#### Product identifier

**Product name** Octave® 50 WP Fungicide

#### Other means of identification

**Product code** 50001316

#### 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.

#### Details of the supplier of the safety data sheet

**Manufacturer** FMC Corporation  
2929 WALNUT ST  
PHILADELPHIA PA 19104  
USA  
(215) 299-6000  
SDS-Info@fmc.com

**Supplier Address** FMC Corporation  
2929 Walnut Street  
Philadelphia PA 19104  
USA

#### Emergency telephone

For leak, fire, spill or accident emergencies, call:  
1 800 / 424-9300 (CHEMTREC - U.S.A.)  
1 703 / 741-5970 (CHEMTREC - International)  
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical emergency:  
U.S.A. & Canada: +1 800 / 331-3148  
All other countries: +1 651 / 632-6793 (Collect)

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### SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Acute toxicity (Oral) : Category 4

**GHS label elements**

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Hazard pictograms

:



Signal Word

:

Warning

Hazard Statements

:

H302 Harmful if swallowed.

Precautionary Statements

:

### Prevention:

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

### Disposal:

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

### Other hazards

Very toxic to aquatic life.

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)
Prochloraz manganese chloride	75747-77-2	50
kaolin	1332-58-7	$\geq 30$ - $< 50$
Sodium alkyl naphthalene sulfonate	68425-94-5	$\geq 5$ - $< 10$
titanium dioxide	13463-67-7	$\geq 1$ - $< 5$
Quartz (SiO <sub>2</sub> )	14808-60-7	$\geq 0.1$ - $< 1$

## SECTION 4. FIRST AID MEASURES

General advice

:

Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled

:

Move to fresh air.

If unconscious, place in recovery position and seek medical advice.

If symptoms persist, call a physician.

In case of skin contact

:

Take off all contaminated clothing immediately.

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- Wash contaminated clothing before re-use.  
Wash off immediately with plenty of water for at least 15 minutes.  
Get medical attention if irritation develops and persists.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
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.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing  
Avoid inhalation, ingestion and contact with skin and eyes.  
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- Notes to physician : Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Dry chemical, CO<sub>2</sub>, water spray or 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 : Thermal decomposition can lead to release of irritating gases and vapors.  
Nitrogen oxides (NO<sub>x</sub>)  
Metal oxides  
Carbon oxides  
Chlorine compounds
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid dust formation.  
Avoid breathing dust.  
Use personal protective equipment.  
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.  
For disposal considerations see section 13.
- 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 : Pick up and transfer to properly labeled containers without creating dust.  
Keep in suitable, closed containers for disposal.

### SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Avoid formation of respirable particles.  
Do not breathe vapors/dust.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : Keep in a dry place.  
No decomposition if stored and applied as directed.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parameters / Permissible	Basis
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		exposure)	concentration	
Prochloraz manganese chloride	75747-77-2	C	5 mg/m3 (Manganese)	OSHA Z-1
		C	5 mg/m3 (Manganese)	OSHA P0
		TWA	1 mg/m3 (Manganese)	NIOSH REL
		ST	3 mg/m3 (Manganese)	NIOSH REL
kaolin	1332-58-7	TWA (Respirable particulate matter)	2 mg/m3	ACGIH
		TWA (Respirable)	5 mg/m3	NIOSH REL
		TWA (total)	10 mg/m3	NIOSH REL
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (Total dust)	10 mg/m3	OSHA P0
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (Total dust)	10 mg/m3	OSHA P0
Quartz (SiO <sub>2</sub> )	14808-60-7	TWA (Respirable dust)	0.05 mg/m3	OSHA Z-1
		TWA (respirable)	10 mg/m3 / %SiO <sub>2</sub> +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO <sub>2</sub> +5	OSHA Z-3
		PEL (respirable)	0.05 mg/m3	OSHA CARC
		TWA (respirable dust fraction)	0.1 mg/m3	OSHA P0
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH
		TWA (Respirable dust)	0.05 mg/m3 (Silica)	NIOSH REL

### Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn.

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Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection  
Material

: Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

Remarks

: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection

: Eye wash bottle with pure water  
Tightly fitting safety goggles

Skin and body protection

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

Protective measures

: Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions.  
Ensure that eye flushing systems and safety showers are located close to the working place.  
Wear suitable protective equipment.  
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

: When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

: solid

Form

: fine powder

Color

: off-white

Odor

: Faint, aromatic

Odor Threshold

: No data available

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pH	:	7.5 (68 °F / 20 °C) Concentration: 10 g/l
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	Not applicable
Flash point	:	Not applicable
Flammability (solid, gas)	:	The product is not flammable.
Self-ignition	:	not determined
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	:	0.51 g/cm <sup>3</sup>
Bulk density	:	ca. 0.27 g/cm <sup>3</sup> loose ca. 0.35 g/cm <sup>3</sup> Tap density
Solubility(ies)		
Water solubility	:	dispersible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive

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Oxidizing properties	: Non-oxidizing
Refractive index	: Not applicable
Particle size	: 3.7 - 3.8 µm

### 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. Dust may form explosive mixture in air.
Conditions to avoid	: Heat, flames and sparks. Avoid extreme temperatures.
Incompatible materials	: Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	: Carbon oxides Nitrogen oxides (NOx) Hydrogen chloride gas

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed.

#### Product:

Acute oral toxicity	: LD50 (Rat, female): 1,500 mg/kg Method: OECD Test Guideline 401  LD50 (Rat, male): 4,600 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	: LC50 (Rat, male and female): > 2.66 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The component/mixture is minimally toxic after short term inhalation.
Acute dermal toxicity	: LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402



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### **Components:**

#### **Prochloraz manganese chloride:**

Acute oral toxicity : LD50 (Rat): 1,532 - 2,039 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 1.96 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Highest attainable concentration.

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

#### **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 : LD50: 5.07 mg/l  
Method: OECD Test Guideline 436

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

#### **Sodium alkyl naphthalene sulfonate:**

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

#### **titanium dioxide:**

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male): 3.43 - 5.09 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

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### Quartz (SiO<sub>2</sub>):

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 5.01 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 436 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

### Skin corrosion/irritation

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

### Product:

Species	: Rabbit
Assessment	: Not classified as irritant
Method	: OECD Test Guideline 404
Result	: No skin irritation

### Components:

#### Prochloraz manganese chloride:

Species	: Rabbit
Result	: No skin irritation

#### kaolin:

Method	: OECD Test Guideline 404
Result	: No skin irritation

#### Sodium alkyl naphthalene sulfonate:

Remarks	: No data available
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#### titanium dioxide:

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

### Quartz (SiO<sub>2</sub>):

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation
Remarks	: Based on data from similar materials

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### Serious eye damage/eye irritation

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

#### Product:

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

#### Components:

##### Prochloraz manganese chloride:

Species	:	Rabbit
Result	:	No eye irritation

##### kaolin:

Result	:	No eye irritation
Method	:	OECD Test Guideline 405

##### Sodium alkyl naphthalene sulfonate:

Result	:	Eye irritation
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##### titanium dioxide:

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

##### Quartz (SiO<sub>2</sub>):

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

### Respiratory or skin sensitization

#### Skin sensitization

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

#### Respiratory sensitization

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

#### Product:

Assessment	:	Does not cause skin sensitization.
Result	:	Not a skin sensitizer.

#### Components:

##### Prochloraz manganese chloride:

Result	:	Not a skin sensitizer.
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### kaolin:

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

### titanium dioxide:

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

### Quartz (SiO<sub>2</sub>):

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitization.
Remarks	:	Based on data from similar materials

### Germ cell mutagenicity

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

### Components:

#### Prochloraz manganese chloride:

Germ cell mutagenicity - Assessment	:	Animal testing did not show any mutagenic effects.
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### kaolin:

Genotoxicity in vitro	:	Test Type: Ames test Method: OECD Test Guideline 471 Result: negative
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Genotoxicity in vivo	:	Remarks: No data available
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### titanium dioxide:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells Method: OECD Test Guideline 473 Result: negative
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Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Method: OECD Test Guideline 474 Result: negative
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### Quartz (SiO<sub>2</sub>):

Genotoxicity in vitro	:	Test Type: reverse mutation assay Result: negative Remarks: Based on data from similar materials
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Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Rat  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

### Carcinogenicity

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

#### Components:

##### **Prochloraz manganese chloride:**

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

##### **titanium dioxide:**

Species : Mouse, male and female  
Application Route : Oral  
Exposure time : 103 weeks  
Result : negative

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

##### **Quartz (SiO<sub>2</sub>):**

Carcinogenicity - Assessment : Human carcinogen.

<b>IARC</b>	Group 1: Carcinogenic to humans Quartz (SiO <sub>2</sub> ) (Silica dust, crystalline)	14808-60-7
	Group 2B: Possibly carcinogenic to humans titanium dioxide	13463-67-7
<b>OSHA</b>	OSHA specifically regulated carcinogen Quartz (SiO <sub>2</sub> ) (crystalline silica)	14808-60-7
<b>NTP</b>	Known to be human carcinogen Quartz (SiO <sub>2</sub> ) (Silica, Crystalline (Respirable Size))	14808-60-7

### Reproductive toxicity

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

#### Components:

##### **Prochloraz manganese chloride:**

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

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assessment                      ductive toxicity

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

Effects on fetal development	: Test Type: Embryo-fetal development Species: Rat Application Route: Oral Method: OECD Test Guideline 414 Result: negative
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Based on available data, the classification criteria are not met.

Remarks	: No significant adverse effects were reported
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Based on available data, the classification criteria are not met.

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

Routes of exposure	: Inhalation
Target Organs	: Lungs
Assessment	: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

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

## Remarks : No data available

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### titanium dioxide:

Species	: Rat
NOAEL	: 1,000 mg/kg
Application Route	: Ingestion
Method	: OECD Test Guideline 408

Species	: Mouse, female
LOAEC	: 0.0108 mg/l
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 13 weeks

### Quartz (SiO<sub>2</sub>):

Species	: Rat
LOAEC	: 0.0025 mg/l
Application Route	: Inhalation
Exposure time	: 90 day
Method	: OECD Test Guideline 413
Target Organs	: Lungs
Remarks	: Based on data from similar materials

### Aspiration toxicity

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

### Further information

#### Product:

Remarks	: No data available
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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

### Ecotoxicology Assessment

Other organisms relevant to the environment	: Harmful to terrestrial vertebrates.
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#### Components:

### Prochloraz manganese chloride:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 1.5 mg/l Exposure time: 96 h
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Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 4.3 mg/l Exposure time: 48 h
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Toxicity to algae/aquatic plants	: EC50 (algae): 0.1 mg/l Exposure time: 72 h
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NOEC (algae): 0.05 mg/l

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Exposure time: 96 h

Toxicity to fish (Chronic toxicity) : NOEC (Fish): 0.049 mg/l  
Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Crustaceans): 0.022 mg/l  
Exposure time: 21 d

### 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 daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

### Sodium alkyl naphthalene sulfonate:

Toxicity to fish : LC50 (Zebra fish): > 10 - 100 mg/l  
Exposure time: 96 h  
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  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials



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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): > 10 - 100 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

### **titanium dioxide:**

Toxicity to fish : LC50 (Carassius auratus (goldfish)): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,000 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Lemna minor (duckweed)): > 100 mg/l  
Exposure time: 7 d

Toxicity to microorganisms : EC50: >= 1,000 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition

### **Quartz (SiO<sub>2</sub>):**

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 10,000 mg/l  
Exposure time: 72 h

### **Persistence and degradability**

#### **Components:**

##### **Prochloraz manganese chloride:**

Biodegradability : Result: Not readily biodegradable.

##### **kaolin:**

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

##### **Sodium alkyl naphthalene sulfonate:**

Biodegradability : Result: Not readily biodegradable.  
Remarks: Based on data from similar materials

##### **titanium dioxide:**

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

##### **Quartz (SiO<sub>2</sub>):**

Biodegradability : Result: Not biodegradable

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### Bioaccumulative potential

#### Components:

##### **Prochloraz manganese chloride:**

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)  
Bioconcentration factor (BCF): 200

##### **kaolin:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

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

##### **Quartz (SiO<sub>2</sub>):**

Bioaccumulation : Remarks: Does not bioaccumulate.

### Mobility in soil

#### Components:

##### **Prochloraz manganese chloride:**

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

##### **kaolin:**

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

### Other adverse effects

#### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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 chemi-

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cal or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S.  
(Prochloraz manganese chloride)  
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.  
(Prochloraz manganese chloride)  
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.  
(Prochloraz manganese chloride)  
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

##### 49 CFR Road

UN/ID/NA number : UN 3077  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.  
( )

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Class	:	9
Packing group	:	III
Labels	:	CLASS 9
ERG Code	:	171
Marine pollutant	:	yes()
Remarks	:	Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

### Special precautions for user

Remarks : 49CFR: no dangerous good in non-bulk packaging

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

### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
Carcinogenicity

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Prochloraz man- ganese chloride	75747-77-2	>= 30 - < 50 %
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### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Prochloraz manganese chloride	75747-77-2	>= 30 - < 50 %
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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

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This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

### US State Regulations

#### Massachusetts Right To Know

kaolin	1332-58-7
titanium dioxide	13463-67-7
Quartz (SiO <sub>2</sub> )	14808-60-7

#### Pennsylvania Right To Know

Prochloraz manganese chloride	75747-77-2
kaolin	1332-58-7
Sodium alkyl naphthalene sulfonate	68425-94-5
Ethylene oxide/propylene oxide block copolymer	Not Assigned
titanium dioxide	13463-67-7

#### Maine Chemicals of High Concern

Quartz (SiO <sub>2</sub> )	14808-60-7
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#### Vermont Chemicals of High Concern

Product does not contain any listed chemicals

#### Washington Chemicals of High Concern

Product does not contain any listed chemicals

#### California Prop. 65

WARNING: This product can expose you to chemicals including kaolin, titanium dioxide, Quartz (SiO<sub>2</sub>), which is/are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### California List of Hazardous Substances

Prochloraz manganese chloride	75747-77-2
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#### California Permissible Exposure Limits for Chemical Contaminants

Prochloraz manganese chloride	75747-77-2
kaolin	1332-58-7
titanium dioxide	13463-67-7

#### California Regulated Carcinogens

kaolin	1332-58-7
Quartz (SiO <sub>2</sub> )	14808-60-7

#### The ingredients 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.

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N-PROPYL-N-[2-(2,4,6-TRICHLOROPHENOXY)ETHYL]IMIDAZOLE-1-CARBOXAMIDE COMPLEX WITH MANGANESE(II) CHLORIDE (2:1)

Ethylene oxide/propylene oxide block copolymer

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

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16. OTHER INFORMATION

### Further information

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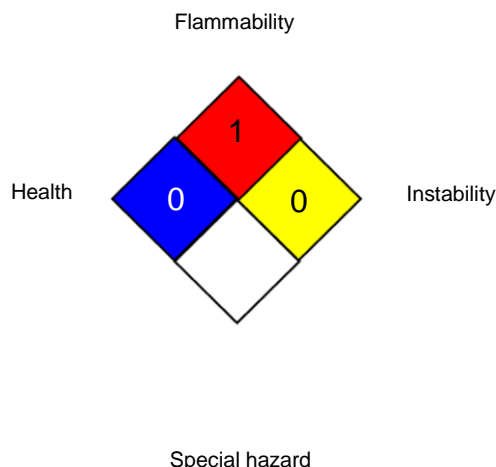
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### NFPA 704:



0 No health threat, 1 Slightly Hazardous, 2 Hazardous, 3 Extreme danger, 4 Deadly

### HMIS® IV:

HEALTH	*	1
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA CARC	: OSHA Specifically Regulated Chemicals/Carcinogens
OSHA P0	: USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	: USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	: 8-hour, time-weighted average
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA CARC / PEL	: Permissible exposure limit (PEL)
OSHA P0 / TWA	: 8-hour time weighted average
OSHA P0 / C	: Ceiling limit
OSHA Z-1 / TWA	: 8-hour time weighted average
OSHA Z-1 / C	: Ceiling
OSHA Z-3 / TWA	: 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification

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System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

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End of Material Safety Data Sheet