

KATHON™ CF150 BIOCIDES

Industrial Microbicide for Use in Recirculating Water Cooling Towers, Air Washer Systems, Recirculating Closed Loop Water Cooling Systems, Brewery Pasteurizer and Can Warmer Systems, Polymer Latices, Ultrafiltration Units and Non-Medical/Non-Potable Reverse Osmosis Systems



5 Shirley Avenue
Somerset, NJ 08873
732-249-0990

Net Weight: STENCILED ON CONTAINER

Made in United Kingdom
209025 / 365275 / Version 1.03

ACTIVE INGREDIENTS:	
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE	1.11%
2-METHYL-4-ISOTHIAZOLIN-3-ONE	0.39%
INERT INGREDIENTS:	98.50%
Total:	100.00%

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID

- IF IN EYES:
- Hold eye open and rinse slowly and gently with water for 15-20 min. Remove contact lenses, if present, after first 5 min. then continue rinsing eye.
 - Call a poison control center or doctor for treatment advice.
- IF ON SKIN:
- Take off contaminated clothing.
 - Rinse skin immediately with plenty of water for 15-20 min.
 - Call a poison control center or doctor for treatment advice.
- IF INHALED:
- Move person to fresh air.
 - If person is not breathing call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth.
 - Call a poison control center or doctor for further treatment advice.
- IF SWALLOWED:
- Call a poison control center or doctor immediately for advice.
 - Do not induce vomiting unless told to do so by a poison control center or a doctor.
 - Have person sip a glass of water if able to swallow.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be necessary.

SEE SIDE PANELS FOR ADDITIONAL PRECAUTIONARY STATEMENTS

CONDITIONS OF SALE AND WARRANTY: Rohm and Haas warrants that this product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. ROHM AND HAAS MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES, EITHER OF MERCHANTABILITY OR FITNESS, FOR A PARTICULAR USE. Handling, storage, and use of the product by Buyer or User are beyond the control of Rohm and Haas and Seller. Risks such as ineffectiveness or other unintended consequences resulting from, but not limited to, failure to follow directions will be assumed by the Buyer or User. TO THE EXTENT PERMITTED BY LAW, NEITHER ROHM AND HAAS NOR SELLER SHALL BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE, OR USE OF THIS PRODUCT

Manufacture Date: ___/___/___
EPA Reg. No. 707-133
EPA Est No. 56485-PA-001

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

CORROSIVE

CAUSES IRREVERSIBLE EYE DAMAGE AND SKIN BURNS

MAY CAUSE ALLERGIC SKIN REACTION

HARMFUL IF INHALED

HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN

Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Avoid breathing vapor or mist. Avoid contamination of food. Do not take internally. Wash thoroughly after handling.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and wildlife. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste. Apply this pesticide only as specified on this label.

STORAGE AND DISPOSAL

PESTICIDE STORAGE

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Do not apply this product in a way that will contact workers or other persons.

PESTICIDE DISPOSAL

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL

METAL CONTAINERS

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

PLASTIC CONTAINERS

Triple rinse (or equivalent).

Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

GENERAL: CONSULT FEDERAL, STATE OR LOCAL DISPOSAL AUTHORITIES FOR APPROVED ALTERNATIVE PROCEDURES.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

AIR WASHER SYSTEMS

Add to the air washer sump or chill water sump to insure uniform mixing, 35-883 ppm KATHON (TM) CF150 Biocide microbicide (0.3 -7.46 pound or 4.5 - 113 fluid ounce of KATHON (TM) CF150 Biocide per 1000 gallon of water in the system) depending upon the severity of contamination to control bacteria, fungi, and algae which cause fouling in industrial air washer systems.

INTERMITTENT OR SLUG METHOD

INITIAL DOSE: When the system is noticeably fouled, apply 148 - 883 ppm KATHON (TM) CF150 Biocide microbicide (1.26 - 7.46 pound or 19 - 113 fluid ounce of KATHON (TM) CF150 Biocide per 1000 gallon of water in the system).

Repeat until control is achieved.

SUBSEQUENT DOSE: When microbial control is evident, add 35 - 219 ppm KATHON (TM) CF150 Biocide microbicide (0.3 - 1.86 pound or 4.5 - 28 fluid ounce of KATHON (TM) CF150 Biocide per 1000 gallon of water in the system) weekly or as needed to maintain control. Badly fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD

INITIAL DOSE: When the system is noticeably fouled, apply 148 - 883 ppm KATHON (TM) CF150 Biocide microbicide (1.26 - 7.46 pound or 19 - 113 fluid ounce of KATHON (TM) CF150 Biocide per 1000 gallon of water in the system.)

SUBSEQUENT DOSE: Maintain this treatment level by adding a continuous feed of 35 - 219 ppm KATHON (TM) CF150 Biocide microbicide (0.3 - 1.86 pound or 4.5 - 28 fluid ounce of KATHON (TM) CF150 Biocide per 1000 gallon of makeup water). Badly fouled systems must be cleaned before initial treatment.

NOTE: For use only in systems that maintain effective mist-eliminating components.

For the control of bacteria, algae, and fungi add KATHON (TM) CF150 Biocide microbicide to: industrial recirculating water cooling towers, industrial recirculating closed loop water cooling systems, brewery pasteurizer and can warmer systems.

Add KATHON (TM) CF150 Biocide microbicide at some point in the system to insure uniform mixing.

INITIAL DOSE: When the system is noticeably fouled, apply 148 - 883 ppm KATHON (TM) CF150 Biocide microbicide (1.26 - 7.46 pound or 19 - 113 fluid ounce of KATHON (TM) CF150 Biocide per 1000 gallon of water in the system.) Repeat until control is achieved. Badly fouled systems should be cleaned before treatment is begun.

SUBSEQUENT DOSE: When microbial control is evident, add 35 - 219 ppm KATHON (TM) CF150 Biocide microbicide (0.3 - 1.86 pound or 4.5 - 28 fluid ounce of KATHON (TM) CF150 Biocide per 1000 gallon of water in the system) weekly or as needed to maintain control.

ULTRA FILTRATION UNITS AND NON-MEDICAL/NON-POTABLE REVERSE OSMOSIS SYSTEMS

KATHON (TM) CF150 Biocide Microbicide is recommended for the control of bacteria and fungi in ultra filtration units and non-medical/non-potable reverse osmosis systems. Use of KATHON (TM) CF150 Biocide microbicide in potable water or dialysis is prohibited. Add 10 - 333 ppm of KATHON (TM) CF150 Biocide microbicide (0.15 - 5 ppm active ingredient) into industrial ultra filtration or reverse osmosis systems by either continuous feed or periodic injection. Compatibility of KATHON (TM) CF150 Biocide microbicide with reverse osmosis membranes should be confirmed with membrane manufacturers.

For the control of bacteria and fungi in carbon beds, add 10 - 333 ppm of KATHON (TM) CF150 Biocide microbicide (0.15 -5 ppm active ingredient) by either continuous or batch feed. For periodic membrane cleaning, add 0.4 -1.0 lb of KATHON (TM) CF150 Biocide microbicide to every 120 gallon of cleaning solution (6 - 15 ppm active ingredient). Badly fouled systems should be cleaned before treatment is begun.

POLYMER LATEX PRESERVATION

KATHON (TM) CF150 Biocide microbicide is recommended for the control of bacteria and fungi in the manufacture and storage of synthetic and natural polymer latices including: acrylic, styrene/butadiene, carboxylated styrene/butadiene, ethylene/vinyl acetate; biopolymers intended for industrial use, such as xanthum gum, gum arabic, guar gum, protein-derived polymers, starches, casein-derived polymers latices; and solution polymers. Add 0.43-3.3 pound of KATHON (TM) CF150 Biocide (195 gram-1.5 kilogram) to each 1000 pound (453 kilogram) of emulsion to provide 425-3350 ppm product (6.25-50 ppm active isothiazolones). NOTE: To insure uniform mixing, add KATHON (TM) CF150 Biocide to the latex slowly with agitation. The actual concentration required will depend upon such factors as the specific latex, frequency of repeated microbial contamination expected, and level of protection required.

KATHON (TM) CF150 Biocide microbicide weighs 8.4 pounds per gallon



SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY*

Product name: KATHON™ CF150 BIOCID

Issue Date: 04/01/2015

Print Date: 04/08/2015

THE DOW CHEMICAL COMPANY* encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: KATHON™ CF150 BIOCID

Recommended use of the chemical and restrictions on use

Identified uses: Biocidal product

COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY*
Agent for Rohm and Haas Chemicals LLC
100 INDEPENDENCE MALL WEST
PHILADELPHIA PA 19106-2399
UNITED STATES

Customer Information Number:

215-592-3000

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 989-636-4400

2. HAZARDS IDENTIFICATION

Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Skin corrosion - Category 1B

Serious eye damage - Category 1

Skin sensitisation - Category 1

Label elements

Hazard pictograms



Signal word: **DANGER!**

Hazards

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Precautionary statements

Prevention

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Storage

Store locked up.

Disposal

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

Other hazards

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Aqueous solution of organic and inorganic compounds
This product is a mixture.

Component	CASRN	Concentration
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	>= 1.1 - <= 1.35 %

2-Methyl-4-isothiazolin-3-one	2682-20-4	>= 0.35 - <= 0.45 %
Magnesium Chloride	7786-30-3	>= 1.0 - <= 1.2 %
Magnesium nitrate	10377-60-3	>= 1.4 - <= 2.0 %
Water	7732-18-5	>= 95.0 - <= 96.0 %

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Move to fresh air. Give artificial respiration if breathing has stopped. If symptoms persist, call a physician.

Skin contact: IMMEDIATELY get under a safety shower. Remove contaminated clothing. Wash off with soap and water. Immediate medical attention is required. Wash contaminated clothing before re-use. Do not take clothing home to be laundered. Discard contaminated shoes, belts, and other articles made of leather.

Eye contact: Rinse immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion: Drink 1 or 2 glasses of water. IMMEDIATELY see a physician. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: MATERIAL IS CORROSIVE. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock and convulsions maybe necessary.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture

Hazardous combustion products: no data available

Unusual Fire and Explosion Hazards: Combustion generates toxic fumes of the following: hydrogen chloride Nitrogen oxides (NOx) sulfur oxides

Advice for firefighters

Fire Fighting Procedures: Cool containers/tanks with water spray. Minimize exposure. Do not breathe fumes. Contain run-off.

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear a NIOSH approved (or equivalent) respirator (with organic vapor/acid gas cartridge and a dust/mist filter) during spill clean-ups and deactivation of this material. MATERIAL IS CORROSIVE. Protective clothing, including chemical splash goggles, nitrile or butyl rubber full length gloves, rubber apron, or clothing made of nitrile or butyl rubber, and rubber overshoes must be worn during spill clean-ups and deactivation of this material. If material comes in contact with the skin during clean-up operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information.

Environmental precautions: Do not allow material to contaminate ground water system. Prevent product from entering drains.

Methods and materials for containment and cleaning up: WARNING: KEEP SPILLS AND CLEAN-UP RESIDUALS OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. Adsorb the spill with spill pillows or inert solids such as clay or vermiculite, and transfer contaminated materials to suitable containers for disposal. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deactivate any residual active ingredient. Let stand for 30 minutes. Flush the spill area with copious amounts of water to chemical sewer (if in accordance with local procedures, permits and regulations). DO NOT add deactivation solution to the waste pail to deactivate the adsorbed material. See Section 13, "Disposal Considerations", for information regarding the disposal of contained materials.

7. HANDLING AND STORAGE

Precautions for safe handling: This material is corrosive. For personal protection see section 8. Do not handle material near food, feed or drinking water.

Conditions for safe storage: Keep in a well-ventilated place. The product as supplied may evolve gas (largely carbon dioxide) slowly. To prevent the buildup of pressure the product is packaged in specially vented containers, where necessary. Keep this product in the original container when not in use. Container must be stored and transported in an upright position to prevent spilling the contents through the vent, where fitted. Do not store this material in containers made of the following: steel Do not store this material near food, feed or drinking water.

CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all MSDS and label warnings even after container is emptied. Expiration date based only on retention of >95% actives during storage at 20°C-25°C (68°F-77°F).

Storage stability

Storage temperature: 1 - 55 °C (34 - 131 °F)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
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5-Chloro-2-methyl-4-isothiazolin-3-one	Rohm and Haas	TWA	0.076 mg/m ³
	Rohm and Haas	STEL	0.23 mg/m ³
2-Methyl-4-isothiazolin-3-one	Rohm and Haas	TWA	1.5 mg/m ³
	Rohm and Haas	STEL	4.5 mg/m ³

Exposure controls

Engineering controls: Use local exhaust ventilation with a minimum capture velocity of 150 ft/min. (0.75 m/sec.) at the point of dust or mist evolution. Refer to the current edition of "Industrial Ventilation: A Manual of Recommended Practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Individual protection measures

Eye/face protection: Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): Butyl-rubber. Nitrile rubber. PVC gloves >1 mm thickness. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water. NOTE: Material is a possible skin sensitizer.

Other protection: Wear as appropriate: Chemical resistant apron complete suit protecting against chemicals

Respiratory protection: Typical use of this material does not result in workplace exposures that exceed the exposure limits listed in the Exposure Limit Information Section. For those special workplace conditions where the listed exposure limits are exceeded, a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed. For concentrations up to 10 times the exposure limit, wear a properly fitted NIOSH approved (or equivalent) half-mask or full facepiece air purifying respirator equipped with organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters. For those unlikely situations where exposure may greatly exceed the listed exposure limits (i.e. greater than 10-fold), or in any emergency situation, wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode or a full facepiece airline respirator in the pressure demand mode with emergency escape provision. See SECTION 6, Accidental Release Measures, for respirator and protective clothing requirements for spill clean-up and decontamination of this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	liquid
Color	Colorless to yellow
Odor	pungent
Odor Threshold	no data available

pH	2.0 - 4.0
Melting point/range	-3.00 °C (26.60 °F)
Freezing point	no data available
Boiling point (760 mmHg)	ca.100.00 °C (212.00 °F)
Flash point	Not applicable
Evaporation Rate (Butyl Acetate = 1)	<1.00
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	no data available
Relative Vapor Density (air = 1)	ca.0.6200
Relative Density (water = 1)	1.0200
Water solubility	completely soluble
Partition coefficient: n-octanol/water	log Pow: 0.401 <i>Method Not Specified.</i>
Auto-ignition temperature	Not applicable
Decomposition temperature	no data available
Dynamic Viscosity	3.000 mPa.s at 25.00 °C (77.00 °F)
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Molecular weight	no data available
Percent volatility	95.00 - 96.00 % Water

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: no data available

Possibility of hazardous reactions: Stable under recommended storage conditions. Product will not undergo polymerization.

Conditions to avoid: no data available

Incompatible materials: Avoid contact with the following: Oxidizing agents Amines. Reducing agents. Mercaptans.

Hazardous decomposition products: Nitrogen oxides (NOx) Sulphur oxides hydrogen chloride

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity

LD50, Rat, female, 3,310 mg/kg

LD50, Rat, male, > 5,000 mg/kg

Acute dermal toxicity

LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity

LC50, Rat, 4 Hour, dust/mist, > 5 mg/l Estimated.

Skin corrosion/irritation

This material is corrosive.

Serious eye damage/eye irritation

Corrosive

Sensitization

Has caused allergic skin reactions when tested in guinea pigs.

Specific Target Organ Systemic Toxicity (Single Exposure)

Product test data not available.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Product test data not available.

Carcinogenicity

Did not cause cancer in laboratory animals.

Teratogenicity

Did not show teratogenic effects in animal experiments.

Reproductive toxicity

In animal studies, did not interfere with reproduction.

Mutagenicity

Not mutagenic when tested in bacterial or mammalian systems.

Aspiration Hazard

Product test data not available.

COMPONENTS INFLUENCING TOXICOLOGY:

5-Chloro-2-methyl-4-isothiazolin-3-one

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

2-Methyl-4-isothiazolin-3-one**Specific Target Organ Systemic Toxicity (Single Exposure)**

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Magnesium Chloride**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Magnesium nitrate**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For similar material(s):

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration Hazard

Based on available information, aspiration hazard could not be determined.

Carcinogenicity**Component****Magnesium nitrate****List**

IARC

Classification

Group 2A: Probably carcinogenic to humans

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

General Information

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Toxicity

5-Chloro-2-methyl-4-isothiazolin-3-one

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Rainbow trout (*Oncorhynchus mykiss*), 96 Hour, 0.19 mg/l, OECD Test Guideline 203 or Equivalent

LC50, Bluegill sunfish (*Lepomis macrochirus*), 96 Hour, 0.28 mg/l

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna*, 48 Hour, 0.16 mg/l

Acute toxicity to algae/aquatic plants

NOEC, *Selenastrum capricornutum* (green algae), Growth rate, 0.0099 mg/l

EC50, Algae (*Selenastrum capricornutum*), 72 Hour, Growth rate, 0.018 mg/l

Toxicity to bacteria

EC50, Bacteria, 16 Hour, 5.7 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, *Daphnia magna* (Water flea), 21 d, number of offspring, 0.172000 mg/l

LOEC, *Daphnia magna* (Water flea), 21 d, number of offspring, 0.572000 mg/l

2-Methyl-4-isothiazolin-3-one

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, *Oncorhynchus mykiss* (rainbow trout), 96 Hour, 4.77 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, *Daphnia magna* (Water flea), 48 Hour, 0.93 - 1.9 mg/l

Acute toxicity to algae/aquatic plants

EC50, Algae (*Selenastrum capricornutum*), 72 Hour, Growth rate, 0.158 mg/l, OECD Test Guideline 201

Chronic toxicity to aquatic invertebrates

NOEC, *Daphnia magna*, 21 d, 0.04 mg/l

Magnesium Chloride

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, *Gambusia affinis* (Mosquito fish), static test, 96 Hour, 16,500 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna* (Water flea), 24 Hour, 3,190 mg/l, Directive 84/449/EEC, C.2

Acute toxicity to algae/aquatic plants

EC50, alga *Scenedesmus* sp., 72 Hour, Biomass, 2,200 mg/l, OECD Test Guideline 201 or Equivalent

Magnesium nitrate

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

For similar material(s):

LC50, *Poecilia reticulata* (guppy), 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates

For similar material(s):

EC50, *Daphnia magna*, 48 Hour, > 100 mg/l

Acute toxicity to algae/aquatic plants

For similar material(s):

ErC50, Algae, 72 Hour, Growth rate, > 100 mg/l

Persistence and degradability

5-Chloro-2-methyl-4-isothiazolin-3-one

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 98 %

Exposure time: 2 d

Method: OECD Test Guideline 302B or Equivalent

2-Methyl-4-isothiazolin-3-one

Biodegradability: Material is expected to be readily biodegradable.

Biodegradation: 98 %

Exposure time: 48 d

Method: Simulation study

Magnesium Chloride

Biodegradability: Biodegradation is not applicable.

Magnesium nitrate

Biodegradability: No relevant data found.

Bioaccumulative potential

Partition coefficient: n-octanol/water(log Pow): 0.401 Method Not Specified.

Mobility in soil

5-Chloro-2-methyl-4-isothiazolin-3-one

No relevant data found.

2-Methyl-4-isothiazolin-3-one

No relevant data found.

Magnesium Chloride

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient(Koc): 23.7**Magnesium nitrate**

Potential for mobility in soil is very high (Koc between 0 and 50).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient(Koc): 24

13. DISPOSAL CONSIDERATIONS

Disposal methods: Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations. (See 40 CFR 268)

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s.(5-Chloro-2-methyl-4-isothiazolin-3-one)
UN number	UN 3265
Class	8
Packing group	II

Classification for SEA transport (IMO-IMDG):

Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(5-Chloro-2-methyl-4-isothiazolin-3-one)
UN number	UN 3265
Class	8
Packing group	II
Marine pollutant	5-Chloro-2-methyl-4-isothiazolin-3-one
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s.(5-Chloro-2-methyl-4-isothiazolin-3-one)
UN number	UN 3265
Class	8
Packing group	II

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This product contains a chemical which is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: (Quantity present is found elsewhere on this MSDS.)

Components	CASRN
Magnesium nitrate (10377-60-3) as nitrate compound	10377-60-3

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

This material is regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304. This material is or contains chemical(s) listed in 40 CFR Table 302.4 or nondesignated RCRA ICR substance(s). (Nondesignated ICR substances apply to materials that will not be reused.) The Reportable Quantity(s) (RQ) are listed below. Releases in excess of its reportable quantity must be reported to the National Response Center (1-800-424-8802) and to the appropriate state and local emergency response organizations.

D002, 100lbs.

Pennsylvania

Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

United States TSCA Inventory (TSCA)

This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

EPA Registration Number: 707-133

16. OTHER INFORMATION

Hazard Rating System**HMIS**

Health	Flammability	Physical Hazard
3	0	0

Revision

Identification Number: 101110573 / 1001 / Issue Date: 04/01/2015 / Version: 2.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Rohm and Haas	Rohm and Haas OEL's
STEL	Short Term Exposure Limit (STEL):
TWA	Time Weighted Average (TWA):

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY* urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.