SAFETY DATA SHEET

Issue Date: 07/02/2015
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1. IDENTIFICATION

1.1 Product identifiers

Product name	:	Kathon CG
Product Number	:	KA1001
CAS-No.	:	26172-55-4/2682-20-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	:	Preservative

1.3 Details of the supplier of the safety data sheet

Company	:	Gojira Fine Chemicals, LLC 5386 Majestic Parkway, Suite 7 Bedford Heights, OH 44146 USA
Telephone	:	440-252-5397
Email	:	docsupport@gojirafc.com
Fax	:	888-211-5523

1.4 Emergency telephone number

Emergency Phone #	:	800-255-3924 (Chem-Tel, Contract# MIS7318160)

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	>= 1.05 - 1.2 %
2-Methyl-4-isothiazolin-3-one	2682-20-4	>= 0.3 - 0.45 %
Magnesium Chloride	7786-30-3	>= 0.5 - 1.0 %
Magnesium nitrate	10377-60-3	>= 21.0 - 23.5 %
Water	7732-18-5	>= 74.0 - 77.0 %

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 OUTOF 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 deac tivate 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 20ºC-25ºC (68ºF-77ºF).

Storage stability
Storage temperature: 1 - 55 °C (34 - 131 °F)
Other data: Store in a cool and shaded area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
5-Chloro-2-methyl-4-isothiazolin-3-one	Rohm and Haas	TWA	0.076 mg/m3

	Rohm and Haas	STEL	0.23 mg/m3
2-Methyl-4-isothiazolin-3-one	Rohm and Haas	TWA	1.5 mg/m3
	Rohm and Haas	STEL	4.5 mg/m3

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 pale yellow clear
Odor	Mild, inoffensive odor
Odor Threshold	no data available
pH	1.7 - 3.7
Melting point/range	-21.00 °C (-5.80 °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 Water
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	0.1000000 mmHg Isothiazolone
Relative Vapor Density (air = 1)	0.6500
Relative Density (water = 1)	1.2000
Water solubility	completely soluble
Partition coefficient: n-octanol/water	log Pow: 0.401 *Method Not Specified.*
Auto-ignition temperature	Not applicable
Decomposition temperature	no data available
Dynamic Viscosity	5.000 mPa.s at 23.00 °C (73.40 °F)
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	no data available
Percent volatility	74.00 - 77.00 % 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 appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
LD50, Rat, female, 2,630 mg/kg
LD50, Rat, male, 3,350 mg/kg

Acute dermal toxicity
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity
Active ingredient
LC50, Rat, 4 Hour, dust/mist, 0.33 mg/l

Skin corrosion/irritation
This material is corrosive.

Serious eye damage/eye irritation
Corrosive

Sensitization
Causes sensitisation.

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
Product test data not available.

Teratogenicity
Product test data not available.

Reproductive toxicity
Product test data not available.

Mutagenicity
Product test data not available.

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.

Carcinogenicity
Did not cause cancer in laboratory animals.

Reproductive toxicity
In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

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.

Carcinogenicity
Did not cause cancer in laboratory animals.

Teratogenicity
Did not cause birth defects in laboratory animals.

Reproductive toxicity
In animal studies, did not interfere with reproduction.

Mutagenicity
Negative in genetic toxicity tests.

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.

Carcinogenicity
For similar material(s): Did not cause cancer in laboratory animals.

Teratogenicity
No relevant data found.

Reproductive toxicity
No relevant data found.

Mutagenicity
In vitro genetic toxicity studies were negative.

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.

Carcinogenicity
No relevant data found.

Teratogenicity
For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity
For similar material(s): In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro genetic toxicity studies were negative.

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

Carcinogenicity

Component	**List**	**Classification**
Magnesium nitrate	IARC	Group 2A: Probably carcinogenic to humans

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears 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)
The product is used in a food, drug or cosmetic application and is subject to the applicable regulation. It contains a component exempt from inventory listing requirements. Because an intentional component of the product is not on the inventory, the product may only be used in the exempt application.

16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
3	0	0

Revision
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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 above information is believed to be accurate and represents the best information currently available to Gojira Fine Chemicals. However, we make no warranty or merchantability or any other warranty, express or Implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Gojira Fine Chemicals be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Gojira Fine Chemicals has been advised of the possibility of such damages.