



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

KATHON(TM) 886 MW

Product Use Description: Biocidal product

Revision date: 08/28/2003

Supplier

Rohm and Haas Company
100 Independence Mall West
Philadelphia, PA 19106-2399 United States of America

For non-emergency information contact: 215-592-3000

Emergency telephone number

| | |
|------------------|--------------|
| Spill Emergency | 215-592-3000 |
| Health Emergency | 215-592-3000 |
| Chemtrec | 800-424-9300 |

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS-No. | Concentration |
|--------------------------------------|------------|---------------|
| Chloro-2-methyl-4-isothiazolin-3-one | 26172-55-4 | 10.0 - 12.0 % |
| Methyl-4-isothiazolin-3-one | 2682-20-4 | 3.0 - 5.0 % |
| Magnesium nitrate | 10377-60-3 | 16.0 - 21.0 % |
| Magnesium Chloride | 7786-30-3 | <= 10.0 % |
| Water | 7732-18-5 | 60.0 - 64.0 % |

Note

Methyl-4-isothiazolin-3-one:

The classification of the active substance applies to its non-inhalable form

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

| | |
|--------|----------------------|
| Form | liquid |
| Colour | Pale Yellow to Amber |

Hazard Summary**DANGER!**

CORROSIVE
 CAUSES SEVERE EYE/SKIN BURNS.
 MAY CAUSE SENSITIZATION BY SKIN CONTACT.
 IRRITATING TO RESPIRATORY SYSTEM.

Potential Health Effects

Primary Routes of Entry: Inhalation
 Eye contact
 Skin contact

Eyes: Material can cause the following:
 corrosion to eyes
 May cause permanent eye injury.

Skin: Material can cause the following:
 corrosion to the skin
 burns
 May cause sensitization of susceptible persons by skin contact.

Ingestion: May be harmful if swallowed.

Inhalation: Inhalation of vapor or mist can cause the following:
 irritation of nose, throat, and lungs

4. 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.

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. FIRE-FIGHTING MEASURES

Lower explosion limit not applicable

Upper explosion limit not applicable

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

Specific hazards during fire fighting: Combustion generates toxic fumes of the following: hydrogen chloride nitrogen oxides (NOx) sulfur oxides

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

Further information: Cool containers / tanks with spray water.

Minimize exposure.

Do not breathe fumes.

Contain run-off.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

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.

Methods for 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

Handling

This material is corrosive. For personal protection see section 8. Do not handle material near food, feed or drinking water. Shower or bathe at the end of working.

Further information on storage conditions: 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 under recommended storage conditions.

Storage

Storage conditions: Keep in a well-ventilated place. The product as supplied evolves gas (largely carbon dioxide) slowly. To prevent the buildup of pressure the product is packaged in specially vented containers. 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. Do not store this material in containers made of the following: steel Do not store this material near food, feed or drinking water.

Storage temperature: $\geq 1\text{ }^{\circ}\text{C}$ ($\geq 34\text{ }^{\circ}\text{F}$)

Storage temperature: $\leq 55\text{ }^{\circ}\text{C}$ ($\leq 131\text{ }^{\circ}\text{F}$)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit(s)

Exposure limits are listed below, if they exist.

| Component | Regulation | Type of listing | Value |
|--------------------------------------|---------------|-----------------|-------------------------|
| 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 |

| Component | Regulation | Type of listing | Value |
|-----------------------------|---------------|-----------------|-----------------------|
| Methyl-4-isothiazolin-3-one | Rohm and Haas | TWA | 1.5 mg/m ³ |
| | Rohm and Haas | STEL | 4.5 mg/m ³ |

Eye 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.

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.

Skin and body 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.

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

Engineering measures: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

| | |
|--------------------------------|-------------------------------------|
| Form | liquid |
| Colour | Pale Yellow to Amber |
| pH | 1.0 - 3.0 |
| Boiling point/range | 100 °C (212.00 °F) water |
| Melting point/range | -33.00 °C (-27.40 °F) |
| Lower explosion limit | not applicable |
| Upper explosion limit | not applicable |
| Vapour pressure | 0.0027 mmHg Component No. 1 |
| Relative vapour density | 0.6 |
| Water solubility | completely soluble |
| Relative density | 1.30 |
| Viscosity, dynamic | 16.000 mPa.s at 25.00 °C (77.00 °F) |
| Evaporation rate | <1.00 |
| Percent volatility | 60 - 64 % |

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

10. STABILITY AND REACTIVITY

| | |
|---|--|
| Hazardous reactions | Stable under recommended storage conditions. |
| Materials to avoid | Avoid contact with the following: oxidizing agents amines reducing agents mercaptans |
| Hazardous decomposition products | nitrogen oxides (NOx), Sulphur oxides, hydrogen chloride, |
| polymerization | Product will not undergo polymerization. |

11. TOXICOLOGICAL INFORMATION

| | |
|----------------------------------|--|
| Acute oral toxicity | LD50 rat 457 mg/kg |
| Acute inhalation toxicity | LC50 rat 4 h 0.33 mg/l active ingredient |
| Acute dermal toxicity | LD50 rabbit 660 mg/kg |
| Skin irritation | rabbit corrosive |
| Eye irritation | rabbit corrosive |
| Sensitization | guinea pig Causes sensitization. |

Carcinogenicity: Carcinogenicity: Non-carcinogenic in both a mouse dermal and rat oral carcinogenicity study.

Toxicity to reproduction

This product is not a reproductive hazard.

Teratogenicity

Did not show teratogenic effects in animal experiments.

Mutagenicity

Non-mutagenic

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)**Biodegradability**

Biodegradation (aquatic metabolism): CAS # 26172-55-4 t 1/2 anerobic = 4.8 hr, CAS # 26172-55-4 t 1/2 aerobic = 17.3 hr, CAS # 2682-20-4 t 1/2 aerobic = 9.1 hr

**Physico-chemical
removability**

Activated Sludge Respiration Inhibition EC50: 4.5 mg/L ai

Ecotoxicity effects**Toxicity to fish**

LC50 Rainbow trout 96 h
0.19 mg/l
active ingredient

Toxicity to fish

LC50 Bluegill sunfish 96 h
0.28 mg/l
active ingredient

Toxicity to algae

EC50 Marine algae (Skeletonema costatum)
0.003 mg/l
active ingredient

Toxicity to algae

EC50 Algae (Selenastrum capricornutum)
0.018 mg/l
active ingredient

**Toxicity to aquatic
invertebrates**

EC50 Daphnia magna 48 h
0.16 mg/l
active ingredient

13. DISPOSAL CONSIDERATIONS

Disposal

Waste Classification: D002

When a decision is made to discard this material as supplied, it is classified as a RCRA hazardous waste with the characteristic of corrosivity.

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 liquids, toxic, n.o.s. (5-Chloro-2-methyl-4-isothiazolin-3-one)

UN-No UN 2922
 Class 8 (6.1)
 Packing group II

IMO/IMDG

Proper shipping name CORROSIVE LIQUID, TOXIC, N.O.S. (5-Chloro-2-methyl-4-isothiazolin-3-one)
 UN-No UN 2922
 Class 8 (6.1)
 Packing group II
 Marine pollutant 5-Chloro-2-methyl-4-isothiazolin-3-one

15. REGULATORY INFORMATION**Workplace Classification**

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

This product is subject to regulation under the Canadian Pest Control Products Act (P.C.P. Act). "Therefore, this product is excluded from the supplier labeling and material safety data sheet requirements as specified in Section 12 of the Hazardous Products Act."

SARA TITLE III: Section 311/312 Categorizations (40CFR370): Acute Health Hazard

SARA TITLE III: Section 313 Information (40CFR372)

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.)

SARA Title III Components: Magnesium nitrate 10377-60-3

CERCLA Information (40CFR302.4)

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.

See Section 13, Disposal Considerations, Subsection Disposal, for CERCLA classification.

US. Toxic Substances Control Act (TSCA) This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from U.S. Toxic Substances Control Act (TSCA) Inventory listing requirements.

16. OTHER INFORMATION**Hazard Rating**

| | Health | Fire | Reactivity |
|------|--------|------|------------|
| HMIS | 3 | 0 | 0 |

Legend

| | |
|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
|-------|---|

| | |
|------|---|
| BAC | Butyl acetate |
| OSHA | Occupational Safety and Health Administration |
| PEL | Permissible Exposure Limit |
| STEL | Short Term Exposure Limit (STEL): |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average (TWA): |
| | Bar denotes a revision from prior MSDS. |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Print Date: 06/15/2004
Version: 1.0
Layout 105082

Technical Data Sheet

Kathon[®] 886mw

METALWORKING FLUID MICROBICIDE

Kathon 886mw is a broad-spectrum microbicide that is very effective against bacteria, fungi, mold, and yeast at very low treatment levels. It is recommended for use in soluble, semi-synthetic and synthetic metalworking fluids. Kathon 886mw does not contain or release formaldehyde and does not contribute ammonia blush common to many other biocides.

TYPICAL PROPERTIES

| | |
|------------------------|--------------------------------------|
| Description | amber to gold slightly viscous fluid |
| pH (neat) | 2.0 to 4.0 |
| pH (in use) | Assumes pH of the fluid being used |
| Specific Gravity | 1.33 |

RECOMMENDED APPLICATIONS

Please contact you Coolant Control, Inc. sales representative for more detailed information before using this product.

Added sump side:

- For a non-fouled system use 3.5 to 16 ounce of Kathon 886mw per 1000 gallons of emulsion every 8 to 12 weeks.
- For a noticeably fouled system use an initial dose of 7 to 16 fluid ounces per 1000 gallons of emulsion followed by subsequent maintenance doses and described above.

AVAILABILITY

Kathon 886mw is available in 2X10 pound bottles, 44 pound pails and 276 pound drums.

ROHM AND HAAS COMPANY
100 INDEPENDENCE MALL WEST
PHILADELPHIA, PA 19106-2399 USA



COOLANT CONTROL INC
12345 SCHAEFER HIGHWAY
DETROIT MI 48227

Certificate of Analysis

Order Number : 564820
Material # : 10039055
KATHON (TM) 886 MW BIOCID
Shipping Units : 24.00 CAR
Date Shipped : 14.07.2004(dd.mm.yyyy)
Delivery No. : 800840604 / 10
Shipment No. : 719507

Customer Information

Customer Name :
COOLANT CONTROL INC
Customer PO Number :
8790
Customer Product Code :
Customer Product Name :
Truck/Tank/Railcar # :

Batch Number : 0000724100
Shipping Units : 24.00 CAR
Net Weight : 480.00 LB
Manufacturing Date : 20.04.2004 (dd.mm.yyyy)
Expiration Date : 10.04.2006 (dd.mm.yyyy)

| Test | Unit | Lower Limit | Upper Limit | Value |
|--------------------------|--------|-------------|-------------|-------|
| CLEAR, YELLOW LIQUID | - | - | - | Pass |
| COLOR GARDNER (VCS) | Number | 0 | 4 | 1 |
| PH | Number | 1.0 | 3.0 | 2.4 |
| A.I.(RH-651) | % | 10.1 | 11.3 | 10.7 |
| A.I.(RH-573) | % | 3.0 | 4.1 | 3.4 |
| TOTAL A.I. (RH573+RH651) | % | 13.9 | 14.5 | 14.1 |
| SPECIFIC GRAVITY | Number | 1.260 | 1.300 | 1.287 |
| MAGNESIUM ION CONTENT | % | 4.2 | 5.5 | 4.6 |

Analytical results on this certificate conform to documented test plans.
Thank you for purchasing Rohm and Haas products. Should you have any questions, please contact your local Customer Service Representative.

*** End ***

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OK
SJK
7-21-04