



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **SORBIC ACID SOLUTION**
CAS NUMBER MIXTURE
MSDS NUMBER 167
PRODUCT CODE ND
MANUFACTURER / SUPPLIER Koch Membrane Systems, Inc.
850 Main Street
Wilmington, MA
01887 USA

TELEPHONE NUMBERS - 24 HOUR ASSISTANCE

Chemtrec: 1-800-424-9300 (inside USA)
+1-703-527-3887 (outside USA)

TELEPHONE NUMBERS - GENERAL ASSISTANCE

Product Assistance 1-978-657-4250
8 - 5, M - F, Eastern Time

For technical assistance regarding this product, please contact your local Koch Membrane Systems representative.

2 COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredient Name | CAS Number | Concentration* | Exposure Limits / Health Hazards |
|----------------------|------------|----------------|----------------------------------|
| WATER | 7732-18-5 | > 99 % | ND |
| 2,4-HEXADIENOIC ACID | 110-44-1 | 0.1 - 0.5 % | Not established |

*Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HEALTH HAZARDS

MAY CAUSE SLIGHT EYE IRRITATION IN SUSCEPTIBLE PERSONS

**SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION

FLAMMABILITY HAZARDS

NON-COMBUSTIBLE

REACTIVITY HAZARDS

STABLE

While this material is not considered hazardous by the US OSHA Hazard Communication Standard (29 CFR 1910.1200) or the Canadian Controlled Products Regulations, this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

POTENTIAL HEALTH EFFECTS, SKIN

NOT EXPECTED TO BE IRRITATING.

POTENTIAL HEALTH EFFECTS, EYE

Not expected to be a primary eye irritant. May cause slight transient irritation, tearing and a burning sensation in eyes.

POTENTIAL HEALTH EFFECTS, INHALATION

Under normal conditions, inhalation is not expected to be a problem. However, respiratory tract irritation may occur if exposed to fumes or mists.

POTENTIAL HEALTH EFFECTS, INGESTION

PRACTICALLY NON-TOXIC.

4 FIRST AID MEASURES**SKIN**

Not expected to be an irritant. Wash area thoroughly with soap and water. Get medical attention if irritation develops or persists.

EYE

Flush with water. If symptoms develop, get medical attention.

INHALATION

Not expected to be an inhalation hazard. However, if exposed to excessive levels of fumes, dusts, or mists, remove to fresh air and get medical attention if cough or other respiratory symptoms develop.

INGESTION

Not expected to be a health hazard. If symptoms develop, get medical attention.

Never give anything by mouth to an unconscious person. Do not induce vomiting.

5 FIRE FIGHTING MEASURES**HAZARDOUS COMBUSTION PRODUCTS**

None.

EXTINGUISHING MEDIA

Material itself will not burn. Use any means suitable for extinguishing surrounding fire.

BASIC FIRE FIGHTING PROCEDURES

Fire fighting procedures should be evaluated based on the surrounding materials. This material will not support combustion.

| | |
|--|----------------|
| Flash Point | WILL NOT FLASH |
| Autoignition Temperature | ND |
| Flammability Limits in Air, Lower, % by Volume | ND |
| Flammability Limits in Air, Upper, % by Volume | ND |

6 ACCIDENTAL RELEASE MEASURES**EMERGENCY ACTION**

None

ENVIRONMENTAL PRECAUTIONS

Not expected to be an environmental hazard, if released. Notify local, provincial and/or federal authorities, if required.

SPILL OR LEAK PROCEDURE

Absorb spill with inert material (e.g. dry sand or earth) then place in appropriate container for disposal.

7 HANDLING & STORAGE**HANDLING**

In keeping with good industrial hygiene practices, do not eat, drink or smoke in areas of use or storage.

STORAGE

Store in tightly closed containers in a dry area away from incompatibles. Avoid contact with strong oxidizers. Protect from freezing.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Good general ventilation should be sufficient to control airborne levels.

EYE PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Not expected to be an eye irritant. As a good industrial hygiene practice, wear safety glasses with side shields.

Have eye washing facilities readily available where eye contact can occur.

SKIN PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Not expected to be an irritant. For good industrial hygiene practices, gloves are suggested for hand protection. Avoid unnecessary skin contact with this material.

RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Under normal conditions of use, local ventilation is sufficient. Not expected to be a respiratory irritant.

9 PHYSICAL & CHEMICAL PROPERTIES

ODOR AND APPEARANCE

CLEAR, COLORLESS LIQUID WITH SLIGHT SWEET ODOR

| | |
|---------------------|-----------------|
| Boiling Point | 212 °F (100 °C) |
| Specific Gravity | ND |
| Melting Point | ND |
| Percent Volatile | ND |
| Vapor Pressure | ND |
| Vapor Density | ND |
| Bulk Density | ND |
| Solubility in Water | SOLUBLE |
| Octanol/Water Partn | ND |
| Volatile Organic | 0 % |
| pH Value | APPROX. 3.5 |
| Freezing Point | 32 °F (0 °C) |
| Evaporation Rate | < 1 |
| Molecular Formula | NA |
| Molecular Weight | ND |
| Chemical Family | ORGANIC ACID |
| Odor Threshold | ND |

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Stable under normal conditions of use.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

None.

11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA

Not expected to be toxic or harmful.

Ocular irritation associated with the use of a hydrogen lens care system containing 0.10 % sorbic acid was observed in 15 out of 135 patients.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not toxic to aquatic organisms and not suspected of long-term adverse effects in the aquatic environment.

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

This product, as supplied, when discarded or disposed of, will not be a hazardous waste according to Federal regulations. Dispose of this product in accordance with all applicable local and national regulations.

In Canada, wastes should be disposed of according to federal, state, provincial and local regulations.

14 TRANSPORT INFORMATION

INTERNATIONAL TRANSPORTATION REQUIREMENTS

IMDG: Not regulated.

IATA: Not regulated.

BILL OF LADING - BULK (U. S. DOT)

Non-Regulated

BILL OF LADING - NON-BULK (U. S. DOT)

Non-Regulated

The above description may not cover shipping in all cases, please consult 49 CFR 172.101 for specific shipping information.

15 REGULATORY INFORMATION

FEDERAL REGULATIONS

All components of this product are listed on the TSCA Inventory.

This product, as supplied, contains no hazardous substances regulated under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302), or any extremely hazardous substances regulated under the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355), and thus a release of this product as supplied has no reporting requirements under these regulations. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations.

This product does not contain toxic chemicals (in excess of the applicable de minimis concentration) that are subject to the annual toxic chemical release reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372).

There may be specific regulations at the local, regional or state/provincial level that pertain to this product.

SARA TITLE III RATINGS

Immediate Hazard: - Delayed Hazard: - Fire Hazard: - Pressure Hazard: -
Reactivity Hazard: -

STATE REGULATIONS

Based on available information this product does not contain any components or chemicals currently known to the State of California to cause cancer, birth defects or reproductive harm at levels which would be subject to Proposition 65. Reformulation, use or processing of this product may affect its composition and require re-evaluation.

PENNSYLVANIA - Non-hazardous ingredients present at >3%: Water, CAS# 7732-18-5

INTERNATIONAL REGULATIONS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

WHMIS Classification: Not a controlled product.

All known major components of this product are listed on the Canadian DSL.

WHMIS RATINGS

| | | | | | | | |
|---------------------|---|-----------------------|---|-----------|---|----------------------|---|
| Compressed Gas | - | Flammable/Combustible | - | Oxidizer | - | Acutely Toxic | - |
| Other Toxic Effects | - | Bio Hazardous | - | Corrosive | - | Dangerously Reactive | - |

NFPA RATINGS

| | | | | | | | |
|--------|---|--------------|---|------------|---|-----------------|---|
| Health | 1 | Flammability | 0 | Reactivity | 0 | Special Hazards | 0 |
|--------|---|--------------|---|------------|---|-----------------|---|

HMIS RATINGS

| | | | | | |
|--------|---|--------------|---|------------|---|
| Health | 1 | Flammability | 0 | Reactivity | 0 |
|--------|---|--------------|---|------------|---|

16 OTHER INFORMATION

DISCLAIMER

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, MSDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

Current Revision Date 26-May-2010

Replaces Sheet Dated 04-Mar-2010

Completed By Koch Chemical Technology Group, LLC, call (978) 694-7346 or (978) 657-4250