



## MATERIAL SAFETY DATA SHEET

### 1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® WO**  
CAS NUMBER 7722-84-1  
MSDS NUMBER 9019  
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
HYDROGEN PEROXIDE	7722-84-1	< 40 %	1 ppm 8-Hour TWA (OSHA) 1.4 mg/m <sup>3</sup> 8-Hour TWA (OSHA) 1 ppm 8-Hour TWA (ACGIH) 1.4 mg/m <sup>3</sup> 8-Hour TWA (ACGIH)

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

WHMIS Classification: C, D2B, E

### 3 HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

DANGER!

#### HEALTH HAZARDS

CORROSIVE TO EYES. MAY CAUSE BLINDNESS

MAY BE IRRITATING TO THE SKIN AND RESPIRATORY TRACT

MAY BE HARMFUL IF SWALLOWED OR INHALED

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

#### FLAMMABILITY HAZARDS

NON-COMBUSTIBLE

OXIDIZER! CONTACT WITH ORGANIC MATERIALS MAY CAUSE VIOLENT REACTION

#### REACTIVITY HAZARDS

STABLE

\*\*SEE "STABILITY & REACTIVITY" (SECTION 10) FOR MORE INFORMATION

#### POTENTIAL HEALTH EFFECTS, SKIN

MODERATE TO SEVERELY IRRITATING. Contact may cause reddening, itching and inflammation. If not washed promptly, redness and blisters may develop. Contact may cause temporary whitening or bleaching.

#### POTENTIAL HEALTH EFFECTS, EYE

CORROSIVE. Direct contact may cause pain, tears, burns, sensitivity to light, swelling and possible corneal damage. Effects may be delayed.

#### POTENTIAL HEALTH EFFECTS, INHALATION

MODERATELY TO SEVERELY IRRITATING. Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure. It is anticipated that the diluted product will be less irritating to the respiratory tract.

Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information" (Section 11).

Other specific symptoms of exposure are listed under "Toxicological Information" (Section 11).

#### POTENTIAL HEALTH EFFECTS, INGESTION

MODERATELY TO SEVERELY IRRITATING AND/OR CORROSIVE. SLIGHTLY TOXIC. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information" (Section 11).

Other specific symptoms of exposure are listed under "Toxicological Information" (Section 11).

### 4 FIRST AID MEASURES

#### SKIN

Immediately flush skin with plenty of water, for at least 15 minutes, while removing contaminated clothing and shoes. GET IMMEDIATE MEDICAL ATTENTION.

Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.

#### EYE

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.

## **INHALATION**

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen.

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

## **INGESTION**

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Never give anything by mouth to an unconscious person. Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis.

Have victim rinse mouth thoroughly with water, then drink 2 to 8 oz. of water. If vomiting occurs naturally, have the victim lean forward to reduce risk of aspiration. Repeat administration of water. Quickly transport to emergency care facility.

## **NOTES TO PHYSICIAN**

If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

This product is primarily an irritant and corrosive. As a corrosive, give attention to potential complication of esophagus or stomach perforations if ingested. Use of emetics and lavage are contraindicated. Necrosis and associated inflammatory processes peak at about 48 hours, but may extend up to four days. Initial healing processes occur during the period 4 to 14 days, but the esophageal wall is weakest during this period. Signs and symptoms of CNS depression, confusion and convulsions should be considered in the assessment and treatment of victims of exposures.

# **5 FIRE FIGHTING MEASURES**

## **HAZARDOUS COMBUSTION PRODUCTS**

None known.

## **EXTINGUISHING MEDIA**

Use water. Do not use dry chemicals or foams. Material itself will not burn.

## **BASIC FIRE FIGHTING PROCEDURES**

This product may accelerate burning when involved in a fire.

Evacuate area and fight fire from a safe distance.

Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow if possible. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Firefighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

## **UNUSUAL FIRE & EXPLOSION HAZARDS**

May have hazardous or explosive reactions with combustible materials.

Flash Point	NON-COMBUSTIBLE
Autoignition Temperature	NA
Flammability Limits in Air, Lower, % by Volume	NA
Flammability Limits in Air, Upper, % by Volume	NA

# **6 ACCIDENTAL RELEASE MEASURES**

## **EMERGENCY ACTION**

Eliminate and/or shut off ignition sources and keep ignition sources out of the area. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. Isolate for 800 meters (1/2 mile) in all directions if tank, rail car or tank truck is involved in fire. Evacuate area endangered by release as required. (See Exposure Controls/Personal Protection, Section 8.)

## **ENVIRONMENTAL PRECAUTIONS**

If product is released to the environment, take immediate steps to stop and contain release. Caution should be exercised regarding personnel safety and exposure to the released product. Notify local authorities and the National Response Center, if required.

### **SPILL OR LEAK PROCEDURE**

Dilute with water and allow product to decompose. Dike for later disposal. Avoid contact with cellulose, paper, sawdust or similar substances. Risk of self-ignition or promotion of fires. Stop leak when safe to do so.

Do not touch or walk through spilled material.

See Exposure Controls/Personal Protection (Section 8).

## **7 HANDLING & STORAGE**

### **HANDLING**

Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Do not cut, grind, drill, weld in the vicinity of the product or reuse containers unless adequate precautions are taken against these hazards.

Equipment used for handling product should be made only of compatible material including but not limited to glass, stainless steel, aluminum or plastic.

Do not eat, drink or smoke in areas of use or storage. Wash hands thoroughly before eating, drinking or smoking. Avoid inhalation of vapors or mists. Use in well-ventilated area, away from all ignition sources.

### **STORAGE**

Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles.

Avoid contamination. Contamination may cause decomposition and generation of oxygen gas which could result in high pressure and container rupture. Do not return unused product to original container.

Empty containers may contain product residue. Do not reuse without adequate precautions. Rinse empty containers out with water prior to disposal.

## **8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

### **ENGINEERING CONTROLS**

Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

### **EYE PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)**

Wear chemical safety goggles and face shield. Have eye washing facilities readily available where eye contact can occur.

### **SKIN PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)**

Avoid skin contact with this material. Use appropriate chemical protective gloves when handling. Additional protection may be necessary to prevent skin contact including use of apron, armcovers, face shield, or boots. Suggested gloves for hand protection include neoprene, polyvinylchloride, of impervious butyl rubber. . Provide safety showers at any location where skin contact can occur.

Use good personal hygiene. Do not use boots or gloves made of leather.

### **RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)**

Under normal conditions of use, ventilation and engineering controls are sufficient. If irritation is evident, and/or a non-routine or emergency situation, NIOSH/MSHA approved breathing equipment may be required.

## **9 PHYSICAL & CHEMICAL PROPERTIES**

### **ODOR AND APPEARANCE**

CLEAR, COLORLESS, SLIGHTLY PUNGENT LIQUID

Boiling Point	220 - 228 °F (104 - 109 °C)
Specific Gravity	1.07 - 1.17 @ 68/39 °F (20/4 °C)
Melting Point	-38 - 2 °F (-38 - -17°C)
Percent Volatile	100 %
Vapor Pressure	22 - 28 mmHg @ 86 °F (30 °C)
Vapor Density	ND
Bulk Density	ND
Solubility in Water	100 % (MISCIBLE)
Octanol/Water Partn	NA
Volatile Organic	NA
Pour Point	NA
pH Value	2 - 3
Freezing Point	-38 - 2 °F (-38- -17°C)
Viscosity	ND
Evaporation Rate	> 1 (BUTYL ACETATE =1)
Molecular Formula	H2O2
Molecular Weight	34.02
Chemical Family	PEROXYGEN
Odor Threshold	ND

## 10 STABILITY & REACTIVITY

### STABILITY/INCOMPATIBILITY

Stable under normal conditions of use. Incompatible with iron and other heavy metals, galvanized iron, coppers, copper alloys and rust. Incompatible with dirt, organics, wood, paper or other combustibles.

Avoid contamination. Major contaminants that contribute to instability are reducing agents, rusts, dirt, organic materials and a pH above 4.

See precautions under Handling & Storage (Section 7).

### HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce irritating vapors and oxygen. Oxygen can be liberated at temperatures above ambient.

## 11 TOXICOLOGICAL INFORMATION

### ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

### LD50

LD50: Oral (rat): 1,193 mg/kg

LD50: Dermal (rabbit): > 2,000 mg/kd

### TOXICOLOGICAL DATA

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: skin, eye, respiratory and cardiovascular systems.

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: headache, dizziness, tremors, numbness, convulsions, unconsciousness and shock.

### TERATOGENICITY, MUTAGENICITY, OTHER REPRODUCTIVE EFFECTS

Has been shown to be positive in mutagenicity assays.

### PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing medical conditions which may be aggravated by exposure include disorders of the skin, eye, respiratory and cardiovascular systems.

## 12 ECOLOGICAL INFORMATION

### CHEMICAL FATE INFORMATION

No data available.

### AQUATIC TOXICITY

Toxicity to fish: LC50 (96 h) 10 - 37 mg/l

Toxicity to Daphnia magna: EC50 (72 h) 7.7 mg/l

Toxicity to Algae: EC50 (48 h) 0.85 mg/l

## 13 DISPOSAL CONSIDERATIONS

### WASTE DISPOSAL

This product, as supplied, when discarded or disposed of, is a hazardous waste according to Federal regulations (40 CFR 261) due to its corrosivity.. Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine, at the time of disposal, whether the material is a hazardous waste subject to RCRA.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

## 14 TRANSPORT INFORMATION

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

Hydrogen Peroxide, Aqueous Solution, 35%, 5.1(8), UN2014, PG II

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

Hydrogen Peroxide, Aqueous Solution, 35%, 5.1 (8), UN2014, PG II

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. Failure to report may result in substantial civil and criminal penalties.

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:	X	Delayed Hazard:	X	Fire Hazard:	X	Pressure Hazard:	-
Reactivity Hazard:	X						

## 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: C, D2B, E

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

## WHMIS RATINGS

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

## NFPA RATINGS

Health	3	Flammability	0	Reactivity	1	Special Hazards	OX
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## HMIS RATINGS

Health	3*	Flammability	0	Reactivity	1
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\* - Indicates chronic health hazard

## 16 OTHER INFORMATION

### MISCELLANEOUS

This product as prepared by Koch Membrane Systems Inc. has been certified under the supervision of the Kashruth Division of the Orthodox Union. UKD-ID: OUV3-B5D770B Status: Pareve.

### 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 02-Jul-2011

Replaces Sheet Dated 07-Sep-2005

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