



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® 430**
 CAS NUMBER 7632-04-4
 MSDS NUMBER 97
 PRODUCT CODE ND
 PRODUCT USE MEMBRANE CLEANER



MANUFACTURER / SUPPLIER Koch Membrane Systems, Inc.
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TELEPHONE NUMBERS - GENERAL ASSISTANCE
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2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
SODIUM PERBORATE	7632-04-4	60 - 100 %	ND

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

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

HEALTH HAZARDS

MAY BE SEVERELY IRRITATING TO THE EYES AND RESPIRATORY TRACT

RISK OF SERIOUS DAMAGE TO EYES. MAY CAUSE SKIN IRRITATION

MAY BE HARMFUL IF SWALLOWED OR INHALED

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

FLAMMABILITY HAZARDS

NON-COMBUSTIBLE

CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE

REACTIVITY HAZARDS

STABLE

POTENTIAL HEALTH EFFECTS, SKIN

MAY BE IRRITATING. Contact may cause reddening, itching and inflammation.

POTENTIAL HEALTH EFFECTS, EYE

SEVERELY IRRITATING. Direct contact may cause pain, tears, burns, sensitivity to light, swelling and possible corneal damage. Exposure may cause severe burns, destruction of eye tissue and possible permanent injury or blindness.

POTENTIAL HEALTH EFFECTS, INHALATION

SEVERELY IRRITATING. Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure.

POTENTIAL HEALTH EFFECTS, INGESTION

MODERATELY TO SEVERELY IRRITATING AND/OR CORROSIVE. Ingestion of large amounts may cause gastrointestinal disturbances. May cause severe irritation with intense burning of the mouth and throat followed by abdominal pain and distress, nausea, vomiting, and diarrhea.

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 8 to 10 oz. of water to dilute material in stomach. If milk is available, it may be administered AFTER the water has been given. 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

Sodium perborate may be corrosive to eyes and mucous membranes. Emesis or gastric lavage must consider possible esophageal perforation due to re-exposure to corrosives. Decomposition products may include peroxide (irritant) and borate. Systemic effects are unlikely, but would be those of boric acid for which treatment is symptomatic and includes decontamination, support of circulation, correction of fluid-electrolyte disturbances, control of convulsions, and protection of kidneys if large borate loads are encountered.

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

Decomposes to form heat and oxygen which may intensify fire in combustible surroundings.

EXTINGUISHING MEDIA

Use water or water spray.

BASIC FIRE FIGHTING PROCEDURES

Evacuate area and fight fire from a safe distance.

Use water spray to cool adjacent structures and to protect personnel.

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

UNUSUAL FIRE & EXPLOSION HAZARDS

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Flash Point	NA
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

Eliminate and/or shut off ignition sources and keep ignition sources out of the area.

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, provincial and/or federal authorities, if required.

SPILL OR LEAK PROCEDURE

Keep unnecessary people away. Shovel into a container for later disposal. Avoid cleanup procedures that may result in water pollution. The very fine particles can cause a fire or explosion, eliminate all ignition sources.

Do not touch or walk through spilled material.

Avoid excessive generation of dust. If dust is generated, appropriate respiratory, eye and skin protection should be used to protect personnel during clean-up.

See Exposure Controls/Personal Protection (Section 8).

7 HANDLING & STORAGE

HANDLING

This material should be stored and shipped in plastic or plastic lined containers.

Minimize dust generation during handling and contact.

Avoid inhaling dust and contact with skin and eyes.

Do not eat, drink or smoke in areas of use or storage.

STORAGE

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

Empty containers may contain product residue. Do not reuse without adequate precautions.

Avoid contact with readily oxidizable materials. Avoid high humidities and temperatures above 32°C (90°F) to prevent loss of oxygen and caking.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

General or local exhaust 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. If skin contact is anticipated, protective clothing, including impervious gloves, should be worn.

Additional protection may be necessary to prevent skin contact including use of apron, armcovers, face shield, or boots. Provide safety showers at any location where skin contact can occur.

Use good personal hygiene.

RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

A NIOSH/MSHA approved dust respirator should be used as a precautionary measure when airborne contaminants may occur, when there is a potential for uncontrolled release, or when exposure levels are not known.

9 PHYSICAL & CHEMICAL PROPERTIES

ODOR AND APPEARANCE

WHITE, CRYSTALLINE GRANULES

Boiling Point	NA
Specific Gravity	0.69 - 0.87
Melting Point	DECOMPOSES APPROXIMATELY 149°F (65°C)
Percent Volatile	0 %
Vapor Pressure	6.2 mm Hg @ 20°C
Vapor Density	NA
Bulk Density	ND
Solubility in Water	30 G/KG @ 20°C
Octanol/Water Partn	ND
Volatile Organic	NA
Pour Point	NA
pH Value	10.2 @ 25°C (1% SOLUTION)
Freezing Point	ND
Viscosity	NA
Evaporation Rate	NA
Molecular Formula	NaBO3 . 4H2O
Molecular Weight	153.9
Chemical Family	OXIDIZER
Odor Threshold	ODORLESS

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Product may decompose upon heating. See precautions under Handling & Storage (Section 7). Incompatible with heavy metals, reducing agents and combustibles such as wood, paper, oils, etc.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Decomposes to form hydrogen peroxide, and oxygen that supports combustion.

11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

LD50

LD50: (rat) oral 1200 mg/kg

CARCINOGENICITY

This material contains sodium perborate which is not listed by IARC, NTP or OSHA as a carcinogen.

TERATOGENICITY, MUTAGENICITY, OTHER REPRODUCTIVE EFFECTS

Germ cell depletion and testicular atrophy have been observed in laboratory animals.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ND

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261).

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.

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

14 TRANSPORT INFORMATION

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. 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: - 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.

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: D2B

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	X	Bio Hazardous		Corrosive		Dangerously Reactive

NFPA RATINGS

Health	3	Flammability	0	Reactivity	1	Special Hazards
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HMIS RATINGS

Health	3	Flammability	0	Reactivity	1
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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.

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