



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® KLD III MEMBRANE CLEANER**

CAS NUMBER MIXTURE

MSDS NUMBER 9032

PRODUCT CODE ND

PRODUCT USE DETERGENT

SYNONYM(S) KOCHKLEEN® LIQUID DETERGENT III



MANUFACTURER / SUPPLIER Koch Membrane Systems, Inc.
 850 Main Street
 Wilmington, MA
 01887 USA

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TELEPHONE NUMBERS - GENERAL ASSISTANCE
 (8-5, M-F EST) Product Assistance 978-657-4250

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
TETRASODIUM ETHYLENEDIAMINE TETRAACETATE	64-02-8	10 - 30 %	ND
SODIUM XYLENESULFONATE	1300-72-7	5 - 10 %	ND
NONYLPHENOL, ETHOXYLATED	9016-45-9	5 - 10 %	ND
SODIUM PHOSPHATE, TRIBASIC	10101-89-0	1 - 5 %	Total Particulate Dust: 15 mg/m ³ 8-Hour TWA (OSHA) 10 mg/m ³ 8-Hour TWA (ACGIH) Respirable Particulate: 5 mg/m ³ 8-Hour TWA (OSHA) 3 mg/m ³ 8-Hour TWA (ACGIH)
GLYCOLIC ACID, SODIUM SALT	2836-32-0	< 2 %	ND

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
SODIUM HYDROXIDE	1310-73-2	< 0.7 %	2 mg/m3 8-Hour TWA (OSHA) 2 mg/m3 CEILING (ACGIH)
ETHYL ALCOHOL	64-17-5	< 0.4 %	1000 ppm 8-Hour TWA (OSHA) 1000 ppm 8-Hour TWA (ACGIH)
TRISODIUM NITRILOTRIACETATE	5064-31-3	< 0.4 %	ND

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

WHMIS Classification: D2A, D2B, E.

Local authorities should be consulted for exposure limits in effect in your region.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

HEALTH HAZARDS

CORROSIVE TO EYES AND SKIN.

OVEREXPOSURE MAY CAUSE TEMPORARY OR PERMANENT BLINDNESS

MAY BE IRRITATING TO THE RESPIRATORY TRACT

MAY BE HARMFUL IF SWALLOWED

CONTAINS MATERIAL WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA

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

FLAMMABILITY HAZARDS

FLAMMABLE

REACTIVITY HAZARDS

STABLE

POTENTIAL HEALTH EFFECTS, SKIN

CORROSIVE. Contact may cause reddening, itching, inflammation, burns, blistering and possibly severe tissue damage. Absorption from prolonged or repeated skin contact may cause systemic toxicity.

POTENTIAL HEALTH EFFECTS, EYE

CORROSIVE. Exposure may cause severe burns, destruction of eye tissue and possible permanent injury or blindness. Exposure to vapors, fumes or mists may cause irritation.

POTENTIAL HEALTH EFFECTS, INHALATION

SEVERELY IRRITATING. Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs. Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure.

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. May cause painful irritation and burning of the mouth and throat, painful swallowing, labored breathing, burns or perforation of the gastrointestinal tract leading to ulceration and secondary infection.

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 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

Treat as an alkali corrosive; these agents damage the gastrointestinal tract by liquefaction necrosis which permits deep tissue penetration. Severe alkali burns may extend to adjacent viscera. Acute symptoms may not indicate the severity of tissue injury, but signs of chronic injury may include drooling, inability to swallow, erythema and/or ulceration of the oral pharynx, hematemesis, and occasionally shock and respiratory distress. Necrosis and associated inflammatory processes peak at 48 hours, but extend up to 4 days. Initial healing processes occur during the period of 4-14 days, but the esophageal wall is the weakest during this period and the hazard of perforation is greatest.

If spontaneous vomiting has occurred, the patient should be monitored for symptoms of pneumonitis, as this effect may be delayed up to 48 hours.

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

Combustion may produce CO_x, NO_x, SO_x, reactive hydrocarbons, hydrogen sulfide and ammonia.

EXTINGUISHING MEDIA

Use water spray, dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire.

BASIC FIRE FIGHTING PROCEDURES

Evacuate area and fight fire from a safe distance.

If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak.

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

Reacts with most metals to produce hydrogen gas which can form an explosive mixture with air.

Flash Point > 200 °F (> 93°C)

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

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. (See Exposure Controls/Personal Protection in 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, provincial and/or federal authorities, if required.

SPILL OR LEAK PROCEDURE

Keep ignition sources out of area and shut off all ignition sources. Absorb spill with inert material (e. g. dry sand or earth) then place in a chemical waste container. Large Spills: Dike far ahead of liquid spill for later disposal. Stop leak when safe to do so.

Spilled material may be slippery.

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.

Avoid overheating or freezing.

Spilled material may be slippery.

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. Avoid contact with strong oxidizers.

Store at room temperature (45°F to 110°F) (7°C to 43°C).

Avoid contact with carbon steel, zinc, nickel, copper, copper alloy and aluminum. Contact with aluminum may produce flammable hydrogen gas.

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

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.

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 air purifying respirator with an appropriate cartridge or canister may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

9 PHYSICAL & CHEMICAL PROPERTIES

ODOR AND APPEARANCE

CLEAR, LIGHT YELLOW LIQUID WITH MILD ODOR

Boiling Point	ND
Specific Gravity	1.13 AT 68°F (20°C)
Melting Point	ND
Percent Volatile	ND
Vapor Pressure	ND
Vapor Density	ND
Bulk Density	9.41 LBS/GAL (1.13 G/L)
Solubility in Water	MISCIBLE
Octanol/Water Partn	ND
Volatile Organic	ND
Pour Point	ND
pH Value	12.9
Freezing Point	ND
Viscosity	ND
Evaporation Rate	ND

Molecular Formula	NA
Molecular Weight	ND
Chemical Family	CLEANING SOLUTION
Odor Threshold	ND

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Incompatible with strong oxidizing agents.

Avoid contact with aluminum. Flammable hydrogen gas may be formed in the presence of aluminum.

See precautions under Handling & Storage (Section 7).

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce COx, NOx, SOx, reactive hydrocarbons, hydrogen sulfide and ammonia.

11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

LD50

ND

TOXICOLOGICAL DATA

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: kidney, lung, skin.

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: chest tightness, chest pain, loss of motor skills.

CARCINOGENICITY

This product contains trisodium nitriloacetate. IARC has determined that there is limited evidence for the carcinogenicity of trisodium nitriloacetate in experimental animals and inadequate evidence in humans. (IARC Class 2B). Although large dietary doses of trisodium nitrilotriacetate have caused urinary tumors in laboratory animals, there is little likelihood that it could cause cancer in humans, especially at subtoxic doses.

TERATOGENICITY, MUTAGENICITY, OTHER REPRODUCTIVE EFFECTS

This product may contain EDTA which may cause adverse reproductive and/or development effects. These effects occur only at maternally toxic doses and are likely associated with zinc deficiency due to chelation.

SENSITIZATION TO MATERIAL

ND

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing medical conditions which may be aggravated by exposure include disorders of the skin, kidney, respiratory system.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ND

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

This material, as supplied, when discarded or disposed of, is a hazardous waste according to Federal Regulations (40 CFR 261) due to its corrosivity

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)

Corrosive Liquid, Basic, Organic, N.O.S. (tetrasodium ethylenediaminetetraacetate), 8, UN3267, PG III

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

Corrosive Liquid, Basic, Organic, N.O.S. (tetrasodium ethylenediaminetetraacetate), 8, UN 3267, PG III

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 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).

This product contains one or more components designated as hazardous substances or toxic pollutants pursuant to the Federal Clean Water Act (40 CFR 116.4 Table A; 40 CFR 401.15). Any unpermitted introduction of this product into a facility stormwater or wastewater discharge may constitute a violation of the Clean Water Act. Facilities must notify the appropriate permitting agency prior to introducing this product into the aforementioned discharges.

This product contains one or more substances listed as hazardous, toxic or flammable air pollutants under Section 112 of the Clean Air Act.

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: - Pressure Hazard: -
Reactivity Hazard: -

STATE REGULATIONS

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

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

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: D2A, D2B, E.

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	X	Dangerously Reactive	

NFPA RATINGS

Health	3	Flammability	1	Reactivity	0	Special Hazards	-
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HMIS RATINGS

* - Indicates chronic health hazard

Health	3*	Flammability	1	Reactivity	0
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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.

Current Revision Date 17-Oct-2008

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