



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® 222**
CAS NUMBER MIXTURE
MSDS NUMBER 9036
PRODUCT CODE ND
PRODUCT USE CLEANING AGENT



MANUFACTURER / SUPPLIER Koch Membrane Systems, Inc.
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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
SODIUM HYDROXIDE	1310-73-2	15 - 30 %	2 mg/m ³ 8-Hour TWA (OSHA) 2 mg/m ³ CEILING (ACGIH)
DECYL(SULFOPHENOXY) BENZENESULFONIC ACID, DISODIUM SALT	36445-71-3	1 - 5 %	ND

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

WHMIS Classification: D2B, E.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

HEALTH HAZARDS

CORROSIVE TO THE SKIN, EYES AND RESPIRATORY TRACT
OVEREXPOSURE MAY CAUSE TEMPORARY OR PERMANENT BLINDNESS
MAY BE HARMFUL OR FATAL IF SWALLOWED

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

FLAMMABILITY HAZARDS

NON-COMBUSTIBLE

REACTIVITY HAZARDS

STABLE

POTENTIAL HEALTH EFFECTS, SKIN

CORROSIVE. Contact may cause reddening, itching, inflammation, burns, blistering and possibly severe tissue damage. Burns may not become symptomatic for several hours after contact.

POTENTIAL HEALTH EFFECTS, EYE

CORROSIVE. Exposure may cause severe burns, destruction of eye tissue and possible permanent injury or blindness.

Exposure may cause sensitivity to light.

POTENTIAL HEALTH EFFECTS, INHALATION

EXTREMELY IRRITATING AND CORROSIVE. Symptoms may include throat burns, constriction of the windpipe (bronchospasms), severe pulmonary edema and death, depending on the concentration and duration of exposure. 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

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.

Aspiration into lungs may cause chemical pneumonia and lung damage.

Overexposure to this material may cause systemic damage including target organ effects 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. (60 to 240 ml) 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.

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.

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

Combustion may produce sodium oxides, peroxides, sulfides and carbonates.

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.

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.

Flash Point	PRODUCT DOES NOT FLASH
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

Keep unnecessary people at least 150 feet upwind of spill; greater distances may be necessary for people downwind. Isolate hazard area and deny entry. See Exposure Control/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, provincial and/or federal authorities, if required.

SPILL OR LEAK PROCEDURE

Keep unnecessary people away. Isolate area for at least 25-50 meters (80-160 feet) to preserve public safety. For large spills, consider initial evacuation for at least 300 meters (1000 feet).

Large Spills: Dike far ahead of spill to contain until disposal. Neutralize spill with a weak acid such as vinegar or acetic acid. 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

Do not inhale vapors or mists.

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

STORAGE

Store in tightly closed containers in cool, dry area away from heat and incompatibles. Avoid contact with strong oxidizers, acids, metals, explosives and organic peroxides.

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. 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 air purifying respirator with a HEPA 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 AMBER COLORED LIQUID WITH PUNGENT ODOR

Boiling Point	ND
Specific Gravity	1.317 AT 68 °F (20 °C)
Melting Point	ND
Percent Volatile	ND
Vapor Pressure	ND
Vapor Density	ND
Bulk Density	10.6 LBS/GAL
Solubility in Water	100 % COMPLETELY MISCIBLE
Octanol/Water Partn	ND
Volatile Organic	ND
Pour Point	ND
pH Value	> 13 [11.84 (1% solution)]
Freezing Point	ND
Viscosity	ND
Evaporation Rate	ND
Molecular Formula	ND
Molecular Weight	MIXTURE
Chemical Family	ALKALI HYDROXIDE
Odor Threshold	ND

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Incompatible with strong oxidizing agents & acids, chlorinated hydrocarbons, peroxides, tin, zinc, copper, bronze and brass. Generates heat when mixed with water or acids.

See precautions under Handling & Storage (Section 7).

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce sodium oxides, peroxides, sulfides and carbonates.

Contact with metals such as aluminum, tin and zinc can generate hydrogen, a highly flammable gas.

Corrosion of metal can occur at temperatures above 140 °F (60 °C). Absorbs carbon dioxide from the air to form carbonates.

11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

LD50

Decyl(sulfophenoxy) benzenesulfonic acid, disodium salt

LD50: Oral - Rat (male) > 2,000 mg/kg; Rat (female) = 3562 mg/kg

LD50: Dermal - Rabbit > 2000 mg/kg

TOXICOLOGICAL DATA

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: kidney, liver, skin, eyes and respiratory system.

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: bloody vomit and cardiovascular collapse.

CARCINOGENICITY

Ingredients in the product are not listed by NTP, IARC or OSHA.

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

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

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Contains substance(s) that may be moderately toxic to aquatic organisms on an acute basis (LD50/EC50 between 1 and 10 mg/l in the most sensitive species tested).

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.

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)

Sodium Hydroxide Solution, 8, UN1824, PG II

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

Sodium Hydroxide Solution, 8, UN1824, 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 sodium hydroxide, a Hazardous Substance as per 40 CFR 302.4. The reportable quantity for sodium hydroxide is 1000 pound(s). Any release of this product that results in a release of sodium hydroxide equal to or exceeding the reportable quantity must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40, respectively. Failure to report may result in substantial civil and criminal penalties. 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).

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.

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

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: 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	0	Reactivity	0	Special Hazards	-
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HMIS RATINGS

Health	3	Flammability	0	Reactivity	0
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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: OUV3-2379783 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.

For related trademark information, visit www.kochmembrane.com.

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