MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S)	**KOCHKLEEN® UC A MEMBRANE CLEANER**
CAS NUMBER	MIXTURE
MSDS NUMBER	5615
PRODUCT CODE	ND
PRODUCT USE	CLEANING AGENT
SYNONYM(S)	KOCHKLEEN® ULTRACLEAN PART A

MANUFACTURER / SUPPLIER

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

TELEPHONE NUMBERS - 24 HOUR ASSISTANCE

Canutec:	613-996-6666
Chemtrec:	800-424-9300 (inside USA) +1-703-527-3887 (outside USA)

TELEPHONE NUMBERS - GENERAL ASSISTANCE

(8-5, M-F EST) Product Assistance	978-657-4250

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 POLYPHOSPHATE, GLASS	7632-05-5	40 - 70 %	ND
CARBAMIDE	57-13-6	7 - 15 %	ND
DISODIUM PHOSPHATE	7558-79-4	7 - 15 %	ND
ALKOXYLATED FATTY ALCOHOL	68439-49-6	7 - 15 %	ND
ETHYLENE OXIDE	75-21-8	trace	1 ppm 8-Hour TWA (OSHA) 5 ppm 15-Min STEL (OSHA) 1 ppm 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: D2B.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING!

HEALTH HAZARDS
MAY CAUSE ALLERGIC SKIN REACTION (SENSITIZER)
MAY BE IRRITATING TO THE SKIN, EYES AND RESPIRATORY TRACT
OVEREXPOSURE MAY CAUSE CNS DEPRESSION
**SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION

FLAMMABILITY HAZARDS
NON-COMBUSTIBLE

REACTIVITY HAZARDS
STABLE

POTENTIAL HEALTH EFFECTS, SKIN

Contact may cause reddening, pain, itching, inflammation and possible tissue damage. Repeated or prolonged skin contact may cause reddening, itching and inflammation.

POTENTIAL HEALTH EFFECTS, EYE

SLIGHTLY TO MODERATELY IRRITATING. Direct contact may cause irritation, redness, tearing and blurred vision.

POTENTIAL HEALTH EFFECTS, INHALATION

SLIGHTLY TO MODERATELY 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. 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.

May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the amount swallowed.

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 wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

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

If victim is conscious and alert, give 1-3 glasses of water to dilute stomach contents. If swallowed, induce vomiting as directed by a local physician, hospital, or poison control center. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION.

If spontaneous vomiting occurs keep head below hips to prevent aspiration and monitor for breathing difficulty.

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

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

Decomposition begins at 222 °F (106 °C). May form ammonia, carbon dioxide, biuret, cyanic acid, cyanuric acid, and nitrogen oxides.

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 extinguishing agent suitable for type of surrounding fire.

Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow if possible.

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

UNUSUAL FIRE & EXPLOSION HAZARDS

Material will not burn.

Flash Point	ND
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

Shovel into a container for later disposal. Avoid cleanup procedures that may result in water pollution.

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

Do not cut, grind, drill, weld in the vicinity of the product or reuse containers unless adequate precautions are taken against these hazards.

Avoid inhaling dust and contact with skin and eyes.

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

Avoid contact with brass, bronze, galvanized metal, copper and other copper alloys.

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.

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. Use of coveralls is suggested.

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 POWDER WITH SLIGHT AMMONIA ODOR

Boiling Point	ND
Specific Gravity	> 1
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	ND
Pour Point	ND
pH Value	NA
Freezing Point	ND
Viscosity	ND
Evaporation Rate	ND

Molecular Formula	NA
Molecular Weight	ND
Chemical Family	SURFACTANT
Odor Threshold	ND

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Incompatible with oxidizing agents. May react with nitrates, alkalies, hypochloride, aldehydes, inorganic acid and olefins. May also react with polymerizable esters and copper. Incompatible with sodium nitrate, phosphorus pentachloride and nitrosylperchlorate.

See precautions under Handling & Storage (Section 7).

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Decomposition begins at 222 °F. May form ammonia, carbon dioxide, biuret, cyanic acid, cyanuric acid, and nitrogen oxides.

11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

LD50

LD50: Sodium Polyphosphate, Glass Oral Rat 2900 mg/kg.
LD50: Sodium Phosphate Oral Rat 1700 mg/kg.
LD50: Alkoxylated Fatty Alcohol Oral Rat 1260 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, jaw/tooth abnormalities, blood and cardiovascular effects.

Chronic exposure to disodium phosphate may sequester calcium and cause calcium phosphate deposits in the kidneys. Chronic ingestion or inhalation may induce systemic phosphorous poisoning.

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: interocular pressure effects, diuresis, disorientation and confusion, loss of body salts, hyponatremia and hypokalemia.

Traces of ethylene oxide may be present in this product and could accumulate in the head space of storage and transport vessels. These trace amounts are not expected to result in either acute or long term hazard when this product is handled using proper personal protection. Ethylene oxide is a cancer hazard and a reproductive hazard. Repeated exposure may be harmful.

CARCINOGENICITY

Chronic exposure in laboratory animals caused both positive and negative results in animal cancer studies.

TERATOGENICITY, MUTAGENICITY, OTHER REPRODUCTIVE EFFECTS

Has been shown to be positive in mutagenicity assays.

Pregnant women may be at an increased risk from exposure. Consumption of alcoholic beverages may enhance toxic effects.

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

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

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ND

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

This product,, as supplied, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261). 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)

Non-Regulated

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

Non-Regulated

15 REGULATORY INFORMATION

FEDERAL REGULATIONS

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

Consult OSHA's Ethylene Oxide Standard 29 CFR 1910.1047 for provisions on air monitoring, employee training, medical monitoring, etc.

This material 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, as supplied, contains disodium phosphate, a Hazardous Substance as per 40 CFR Part 302.4 and an Extremely Hazardous Substance as per 40 CFR Part 355. The reportable quantity for disodium phosphate is 5,000 pounds. Any release of this product 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 Part 302.6 and 40 CFR 355.40, respectively. 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:	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%: None

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.

WHMIS RATINGS

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

NFPA RATINGS

Health	1	Flammability	0	Reactivity	0	Special Hazards

HMIS RATINGS *** - Indicates chronic health hazard**

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.

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