



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® 630**
CAS NUMBER MIXTURE
MSDS NUMBER 82
PRODUCT CODE ND
PRODUCT USE MEMBRANE CLEANER FOR ECOAT APPLICATIONS
SYNONYM(S) ND



MANUFACTURER / SUPPLIER Koch Membrane Systems, Inc.
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TELEPHONE NUMBERS - 24 HOUR ASSISTANCE

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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
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	60 - 90 %	50 ppm 8-Hour TWA (OSHA) 240 mg/m ³ 8-Hour TWA (OSHA) 20 ppm 8-Hour TWA (ACGIH) 97 mg/m ³ 8-Hour TWA (ACGIH)
ACETIC ACID	64-19-7	5 - 10 %	10 ppm 8-Hour TWA (OSHA) 25 mg/m ³ 8-Hour TWA (OSHA) 10 ppm 8-Hour TWA (ACGIH) 15 ppm 15-Min STEL (ACGIH)
LACTIC ACID	50-21-5	5 - 10 %	ND

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
FORMIC ACID	64-18-6	5 - 10 %	10 ppm 15-Min STEL (ACGIH) 5 ppm 8-Hour TWA (ACGIH) 5 ppm PEL (OSHA)

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

WHMIS Classification: B3, E

The percentage concentrations and concentration ranges reported are an expression of the ratio of the weight of the ingredient or complex mixture to the weight of the controlled product.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

HEALTH HAZARDS

CORROSIVE TO EYES AND SKIN.

RISK OF SERIOUS DAMAGE TO EYES.

MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN

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

FLAMMABILITY HAZARDS

COMBUSTIBLE LIQUID

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

MODERATELY TO 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).

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 wash skin with plenty of soap and water 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 30 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing.

GET IMMEDIATE MEDICAL ATTENTION. Do not attempt to neutralize with chemical agents.

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

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.

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

Combustion may produce acetic acid, irritating vapors and oxygen.

EXTINGUISHING MEDIA

Use water. Do not use dry chemicals or foams.

BASIC FIRE FIGHTING PROCEDURES

This product may accelerate burning when involved in a fire.

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.

Fire fighters must wear approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

UNUSUAL FIRE & EXPLOSION HAZARDS

Decomposes to form oxygen. This product may accelerate burning when involved in a fire.

Flash Point	> 141 °F Estimate
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.

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

Absorb spill with inert material (e. g. dry sand or earth) then place in a chemical waste container. Do not flush to sewer. 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.

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

STORAGE

Store in closed containers in a cool, isolated, well-ventilated area away from excessive heat and incompatibles.

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

If ventilation cannot reduce airborne concentrations below acceptable limits, appropriate respiratory protection should be used.

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.

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 acid gas 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, COLORLESS LIQUID, SHARP ODOR

Boiling Point	ND
Specific Gravity	0.963 AT 68 °F (20 °C)
Melting Point	ND
Percent Volatile	100 %
Vapor Pressure	ND
Vapor Density	ND
Bulk Density	ND
Solubility in Water	SOLUBLE
Octanol/Water Partn	NA
Volatile Organic	82.9 % ESTIMATED
Pour Point	NA
pH Value	1.83 - 1.95
Freezing Point	ND
Viscosity	ND
Evaporation Rate	ND
Molecular Formula	ND
Molecular Weight	ND
Chemical Family	NA
Odor Threshold	NA

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Incompatible with aluminum, oxidizing agents, strong bases.

Avoid open flames, elevated temperatures and any heat source.

See precautions under Handling & Storage (Section 7).

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce irritating vapors and gases, oxides of carbon, oxides of nitrogen.

11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

LD50

LD50: Ethylene glycol monobutyl ether (Oral Guinea pig) between 500 and 2000 mg/kg

LD50: Ethylene glycol monobutyl ether (Dermal Guinea pig) > 2000 mg/kg

LD50: Formic acid (Oral Rat) 730 mg/kg

LD50: Acetic acid (Oral Rat) 3.2-5.6 g/kg

LD50: Acetic acid (Dermal Rabbit) 1.1 g/kg

LC50

LC50: Formic acid 4 hour Rat 7.4 mg/l

LC50: Acetic acid 4 hour Rat > 16,000 ppm

TOXICOLOGICAL DATA

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

CARCINOGENICITY

Acetic acid: US National Toxicology Program (NTP) inhalation studies found no evidence of cancer in rats. In mice, a small increase in tumors of the liver and the fore stomach occurred, which are of uncertain relevance to man.

The components in this product are not listed by OSHA, NTP or IARC.

TERATOGENICITY, MUTAGENICITY, OTHER REPRODUCTIVE EFFECTS

This product contains acetic acid which 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 eyes, skin and respiratory system.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Product has not been tested as a whole. Available data on individual materials in the product suggest that it may be slightly toxic to aquatic organisms.

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)

Corrosive Liquid, Acidic, Organic, N.O.S. (formic acid, acetic acid), 8, UN3265, PG II

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

Corrosive Liquid, Acidic, Organic, N.O.S. (formic acid, acetic acid), 8, UN3265, PG II

Within the United States and Canada; 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 formic acid and acetic acid which are Hazardous Substances as per the 1990 Clean Air Act Amendments and 40 CFR Part 302.4, respectively. The reportable quantities for formic acid and acetic acid are 5,000 lbs each respectively. Any release of this product that results in a release of formic acid and acetic acid 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.

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

Following ingredients of this product are listed in SARA313

SARA Listed Ingredient Name	CAS Number	Maximum %
FORMIC ACID	64-18-6	10.0

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: B3, E

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

WHMIS RATINGS

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

NFPA RATINGS

Health 3 Flammability 2 Reactivity 0 Special Hazards

HMIS RATINGS

Health 3 Flammability 2 Reactivity 0

16 OTHER INFORMATION

DISCLAIMER

This information must be brought to the attention of the person responsible for advising on safety matters. Adequate training and instruction should be given. Appropriate warning and safe handling procedures should be provided to handlers and users. The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. However, safety data sheets 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 damages 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 30-Mar-2010

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