



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® 620**
CAS NUMBER MIXTURE
MSDS NUMBER 7130
PRODUCT CODE ND
PRODUCT USE MEMBRANE CLEANER
SYNONYM(S) ND



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

TELEPHONE NUMBERS - 24 HOUR ASSISTANCE

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

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
1-METHOXY-2-ACETOXY PROPANE	108-65-6	40 - 70 %	ND
1-METHOXY-2-PROPANOL	107-98-2	30 - 40 %	100 ppm 8-Hour TWA (ACGIH) 369 mg/m ³ 8-Hour TWA (ACGIH) 150 ppm 15-Min STEL (ACGIH) 553 mg/m ³ 15-Min STEL (ACGIH)
2-METHOXY-1-ACETOXY PROPANE	70657-70-4	0.1 - 0.2 %	ND
2-METHOXYPROPANOL	1589-47-5	0.1 - 0.2 %	ND

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

WHMIS Classification: B2, D2B

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION!

HEALTH HAZARDS

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN. OVEREXPOSURE MAY CAUSE CNS DEPRESSION

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

FLAMMABILITY HAZARDS

FLAMMABLE LIQUID

REACTIVITY HAZARDS

STABLE

POTENTIAL HEALTH EFFECTS, SKIN

IRRITATING. Repeated or prolonged skin contact may cause reddening, itching and inflammation. No significant effects are expected to occur following short term exposure. Repeated or prolonged contact with large amounts of this material may result in absorption through the skin to produce toxic effects.

Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Data" (See Section 11).

POTENTIAL HEALTH EFFECTS, EYE

IRRITATING. Direct contact may cause irritation, redness, tearing and blurred vision. Additional symptoms may include redness or swelling.

POTENTIAL HEALTH EFFECTS, INHALATION

SLIGHTLY TO MODERATELY IRRITATING. Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs. Symptoms may include coughing or shortness of breath.

May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, 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

Ingestion of large amounts may cause gastrointestinal disturbances. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

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. If sticky, use waterless cleaner first. Get medical attention if irritation develops or persists.

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 medical attention if irritation persists.

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

Rinse mouth out with water. Do not induce vomiting unless directed by medical personnel. 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.

NOTES TO PHYSICIAN

Gastric lavage may be indicated if ingested. 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.

General supportive therapy in the event of life-threatening complications may be more important than specific antidotes.

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

Combustion may produce COx and other toxic and irritating compounds.

EXTINGUISHING MEDIA

Use water spray, dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire. Alcohol resistant foams (ACT type) are preferred, if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

BASIC FIRE FIGHTING PROCEDURES

Do not use direct water stream. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. May spread 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.

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

UNUSUAL FIRE & EXPLOSION HAZARDS

Vapors may form explosive mixture with air. Vapors can travel to a source of ignition and flash back.

Explosion hazard if exposed to extreme heat or to physical or thermal shock.

Flammable mixtures may exist in the vapor space of containers at room temperature. Flammable concentrations of vapor can accumulate at temperatures above 90 °F. Fine sprays/mists may be combustible at temperatures below the normal flash point.

Spills of these organic liquids on hot, fibrous insulations may lead to the lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Flammability Limits for 1-methoxy-2-acetoxypropane:

Lower, 1.5%

Upper, 10%

Flammability Limits for 1-methoxy-2-propanol:

Lower, 3%

Upper, 12%

Flash Point

90 °F (32 °C) for 1-methoxy-2-propanol

Autoignition Temperature

594 °F (287 °C) for 1-methoxy-2-propanol

Flammability Limits in Air, Lower, % by Volume

SEE ABOVE

Flammability Limits in Air, Upper, % by Volume

SEE ABOVE

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; isolate hazard area and deny entry. Stay upwind. Isolate for 800 meters (1/2 mile) in all directions if tank, rail car or tank truck is involved in fire. Evacuate area endangered by release as required. (See Exposure Controls/Personal Protection, Section 8.)

ENVIRONMENTAL PRECAUTIONS

Eliminate all sources of ignition. Isolate hazard area and deny entry.

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. Spilled material may be slippery.

Large Spills: Dike far ahead of liquid spill for later disposal. If available, use foam to smother or suppress. Do not flush to sewer. Stop leak when safe to do so.

See Exposure Controls/Personal Protection (Section 8).

7 HANDLING & STORAGE

HANDLING

Keep containers tightly closed and upright when not in use.

Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Never use air pressure for transferring product. 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 tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles.

Store in carbon steel, stainless steel or Teflon. Some plastics/rubbers are attacked by glycol ethers/ether esters. 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 to prevent eye contact. Have eye washing facilities readily available where eye contact can occur.

SKIN PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

If skin contact is anticipated, protective clothing, including impervious gloves, should be worn.

Use good personal hygiene.

RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible 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 WITH AN ETHER ODOR

Boiling Point	ND
Specific Gravity	0.919 - 0.966 AT 68/68 °F (25/25 °C)
Melting Point	ND
Percent Volatile	1 - 7 %
Vapor Pressure	12.5 mmHg AT 25 °C FOR 1-METHOXY-2-PROPANOL
Vapor Density	4.6 FOR 1-METHOXY-2-ACETOXYPROPANE; 3.12 FOR 1-METHOXY-2-PROPANOL
Bulk Density	7.93 LBS/GAL
Solubility in Water	19.8% FOR 1-METHOXY-2-ACETOXYPROPANE; 100% FOR 1-METHOXY-2-PROPANOL
Octanol/Water Partn	ND
Volatile Organic	100 % ESTIMATED
Pour Point	ND
pH Value	NA
Freezing Point	ND
Viscosity	ND
Evaporation Rate	ND
Molecular Formula	MIXTURE
Molecular Weight	NA
Chemical Family	HYDROCARBON MIXTURE
Odor Threshold	ND

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Incompatible with oxidizing agents. Extended contact with air or oxygen may form peroxides. See precautions under Handling & Storage (Section 7).

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce COx and other toxic and irritating compounds.

11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

LD50

LD50: CAS# 108-65-6 Oral Rat 8532 mg/kg.

LD50: CAS# 107-98-2 Oral Rat 4,016 mg/kg

LD50: CAS# 108-65-6 Dermal Rabbit > 5 gm/kg

LC50

LC50: CAS # 107-98-2 Rat Inhalation 6,500 ppm

TOXICOLOGICAL DATA

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

TERATOGENICITY, MUTAGENICITY, OTHER REPRODUCTIVE EFFECTS

2-Methoxy-1-acetoxy propane produced developmental effects in rabbit fetuses in the presence of maternal toxicity during a repeated dose inhalation study.

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

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

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ND

ENVIRONMENTAL EFFECTS

For 1-methoxy-2-propanol: Vapors will photodegrade. Photchemical degradation of vapors in 3.1 hours.

ENVIRONMENTAL CHARACTERISTICS

Bioaccumulation: 1-Methoxy-2-propanol is not expected to bioaccumulate in aquatic organisms.

Biodegradation: 1-Methoxy-2-propanol is biodegradable under aerobic conditions. Aerobic biodegradation of 96% after 28 days. Anaerobic biodegradation of 38% after 81 days.

AQUATIC TOXICITY

Data for 1-methoxy-2-propanol (CAS# 107-98-2)

Toxicity to fish: LC50/96 hr (fathead minnow) 20,800 mg/l

Toxicity to invertebrates: EC50/48 hr (Daphnia magna) 23,300 mg/l

Toxicity to plants: EC50/7 d (freshwater algae) 1,000 mg/l

Toxicity to microorganisms: IC50/3 hr ((activated sludge)) 373 mg/kg

Data for 1-methoxy-2-acetoxypropane (CAS# 108-65-6)

Toxicity to fish: LC50/96 hr (orange-red killifish) (> 100 mg/kg)

Toxicity to invertebrates: EC50/48 hr ((Daphnia magna)) 373 mg/kg

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 ignitability. 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)

Esters, N.O.S. (1-Methoxy-2-Propanol Acetate), 3, UN3272, PG III

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

Esters, N.O.S. (1-Methoxy-2-Propanol Acetate) 3, UN3272, 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 ingredients are on the TSCA inventory or are not required to be 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: X Fire Hazard: X 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%: None

INTERNATIONAL REGULATIONS

CANADA

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

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: B2, D2B.

WHMIS RATINGS

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

NFPA RATINGS

Health	0	Flammability	3	Reactivity	1	Special Hazards
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HMIS RATINGS * - Indicates chronic health hazard

Health	1*	Flammability	3	Reactivity	1
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16 OTHER INFORMATION

MISCELLANEOUS

Revisions to sections: 2, 3, 4, 5, 6, 7, 10, 11, 12, 14, 15

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 02-Jul-2011

Replaces Sheet Dated 02-Jun-2008

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