



# MATERIAL SAFETY DATA SHEET

## 1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® FORMULA ONE**  
 CAS NUMBER 9004-83-5  
 MSDS NUMBER 5613  
 PRODUCT CODE ND  
 PRODUCT USE CLEANING AGENT  
 SYNONYM(S) KF-1  
 ETHOXYLATED THIOETHER



MANUFACTURER / SUPPLIER Koch Membrane Systems, Inc.  
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 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
ETHOXYLATED DODECYL MERCAPTAN	9004-83-5	> 94 %	ND
WATER	7732-18-5	4 - 6 %	ND

\*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 EYE DAMAGE

MAY CAUSE SKIN IRRITATION

MAY BE IRRITATING TO THE RESPIRATORY TRACT

MAY CAUSE ALLERGIC SKIN REACTION (SENSITIZER)

MAY CAUSE GASTROINTESTINAL IRRITATION

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

#### FLAMMABILITY HAZARDS

NON-COMBUSTIBLE

#### REACTIVITY HAZARDS

STABLE

#### POTENTIAL HEALTH EFFECTS, SKIN

May cause skin irritation. Contact may cause reddening, itching and inflammation.

May cause an allergic reaction in some individuals (sensitizer).

#### POTENTIAL HEALTH EFFECTS, EYE

SEVERELY IRRITATING. Direct contact may cause pain, tears, burns, sensitivity to light, swelling and possible corneal damage.

#### POTENTIAL HEALTH EFFECTS, INHALATION

Under normal conditions, inhalation is not expected to be a problem. However, respiratory tract irritation may occur if exposed to fumes or mists.

#### POTENTIAL HEALTH EFFECTS, INGESTION

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

### 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.

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 medical attention.

#### INGESTION

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

## 5 FIRE FIGHTING MEASURES

### HAZARDOUS COMBUSTION PRODUCTS

Thermal decomposition may produce CO<sub>x</sub> and SO<sub>x</sub>.

Combustion may produce CO<sub>x</sub>, SO<sub>x</sub>, reactive hydrocarbons and irritating vapors.

### EXTINGUISHING MEDIA

Use water spray, dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire. Do not use water jet - frothing may occur.

### 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.

Flash Point	> 200 °F (> 93 °C) CLOSED CUP
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.

After removal, flush contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container.

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.

A hot water bath may be used to melt frozen material.

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.

Ethylene oxide may collect in container head space. Although concentrations are expected to remain below permissible exposure limits, access and work with open containers and tanks with adequate ventilation.

## 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)

Avoid skin contact with this material.

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

Use good personal hygiene.

### RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Under normal conditions of use, ventilation and engineering controls are sufficient. If irritation is evident, and/or a non-routine or emergency situation, NIOSH/MSHA approved breathing equipment may be required.

## 9 PHYSICAL & CHEMICAL PROPERTIES

### ODOR AND APPEARANCE

WHITE TO PALE YELLOW VISCOUS LIQUID, SLIGHT ODOR

Boiling Point	ND
Specific Gravity	1.05 AT 77 °F (25 °C)
Melting Point	ND
Percent Volatile	< 6 %
Vapor Pressure	<1 mmHg AT 77 °F (25 °C)
Vapor Density	ND
Bulk Density	8.75 LBS/GAL
Solubility in Water	SOLUBLE
Octanol/Water Partn	ND
Volatile Organic	ND
Pour Point	ND
pH Value	6 - 7 (5%)
Freezing Point	43 °F (6°C)
Viscosity	ND
Evaporation Rate	< 1
Molecular Formula	ND
Molecular Weight	ND
Chemical Family	MERCAPTAN
Odor Threshold	ND

## 10 STABILITY & REACTIVITY

### STABILITY/INCOMPATIBILITY

Stable under conditions of normal use.

Incompatible with oxidizing and reducing agents. Avoid excessive heat. See precautions under Handling & Storage (Section 7).

### HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Thermal decomposition may produce COx and SOx.

## 11 TOXICOLOGICAL INFORMATION

### ROUTES OF EXPOSURE

Inhalation, skin, and eye contact.

### LD50

LD50: based on similar product Oral Rat 3.3 ml/kg.

## 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.

This product, as supplied, may contain ethylene oxide, a Hazardous Substance as per 40 CFR Part 302.4. The reportable quantity for ethylene oxide is 10 pound(s). Any release of this product that results in a release of ethylene oxide 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 CFR 355.40, respectively.

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 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: - 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. Ethylene oxide; Dioxane

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.

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		Dangerously Reactive

### NFPA RATINGS

Health	2	Flammability	1	Reactivity	0	Special Hazards
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### HMIS RATINGS \* - Indicates chronic health hazard

Health	2*	Flammability	1	Reactivity	0
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## 16 OTHER INFORMATION

### MISCELLANEOUS

MSDS sections revised: 2, 3, 8, 9, 11, and 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.

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