

# Material Safety Data Sheet

## Section 1. Product and Company Identification

**Product Name** Ethyl Ether **Product Code** EX0190

**Manufacturer** EMD Chemicals Inc.  
P.O. Box 70  
480 Democrat Road  
Gibbstown, NJ 08027  
Prior to January 1, 2003 EMD  
Chemicals Inc. was EM  
Industries, Inc. or EM Science,  
Division of EM Industries, Inc.

**Effective Date** 3/3/2003

### For More Information Call

856-423-6300 Technical Service  
Monday-Friday: 8:00 AM - 5:00 PM

### In Case of Emergency Call

800-424-9300 CHEMTREC (USA)  
613-996-6666 CANUTEC (Canada)  
24 Hours/Day: 7 Days/Week

**Synonym** ETHYL ETHER  
**Material Uses** Analytical reagent.  
**Chemical Family** Ether.

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## Section 2. Composition and Information on Ingredients

<b>Component</b>	<b>CAS #</b>	<b>% by Weight</b>
ETHER	60-29-7	100

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## Section 3. Hazards Identification

**Physical State and Appearance** Liquid.

<b>Emergency Overview</b>	<b>DANGER!</b> EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. MAY FORM EXPLOSIVE PEROXIDES. HARMFUL IF INHALED OR SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: MUCOUS MEMBRANES, RESPIRATORY TRACT, SKIN, EYES, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.
<b>Routes of Entry</b>	Inhalation. Ingestion.
<b>Potential Acute Health Effects</b>	
<b>Eyes</b>	Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.
<b>Skin</b>	Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
<b>Inhalation</b>	Hazardous in case of inhalation (lung irritant).
<b>Ingestion</b>	Hazardous in case of ingestion.
<b>Potential Chronic Health Effects</b>	
<b>Carcinogenic Effects</b>	This material is not known to cause cancer in animals or humans.
	<b>Additional information See Toxicological Information (section 11)</b>
<b>Medical Conditions Aggravated by Overexposure:</b>	Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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## Section 4. First Aid Measures

<b>Eye Contact</b>	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
<b>Ingestion</b>	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

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## Section 5. Fire Fighting Measures

<b>Flammability of the Product</b>	Product will burn.
<b>Auto-ignition Temperature</b>	160.05°C (320.1°F)
<b>Flash Points</b>	Closed cup: -45.1°C (-49.2°F).

<b>Flammable Limits</b>	LOWER: 1.9% UPPER: 36%
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ).
<b>Fire Hazards in Presence of Various Substances</b>	Extremely flammable in presence of open flames, sparks and static discharge, of heat, of oxidizing materials.
<b>Explosion Hazards in Presence of Various Substances</b>	<p><b>Risks of explosion of the product in presence of static discharge:</b> Extremely flammable in presence of open flames, sparks and static discharge. Extremely explosive in presence of open flames, sparks and static discharge.</p> <p><b>Risks of explosion of the product in presence of mechanical impact:</b> No.</p>
<b>Fire Fighting Media and Instructions</b>	<p>Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.</p>
<b>Protective Clothing (Fire)</b>	Be sure to use an approved/certified respirator or equivalent.
<b>Special Remarks on Fire Hazards</b>	Vapor may travel considerable distance to source of ignition and flash back.
<b>Special Remarks on Explosion Hazards</b>	May form explosive peroxides.

## Section 6. Accidental Release Measures

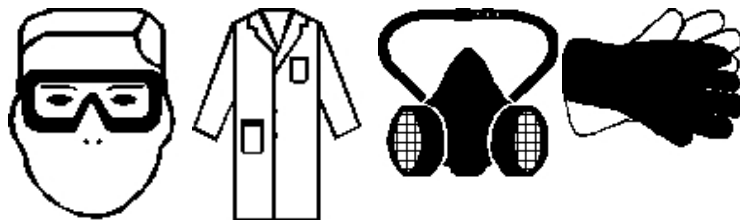
<b>Small Spill and Leak</b>	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
<b>Large Spill and Leak</b>	Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
<b>Spill Kit Information</b>	The following EMD Chemicals Inc. SpillSolv <sup>®</sup> absorbent is recommended for this product: SX1330 Solvent Treatment Kit

## Section 7. Handling and Storage

<b>Handling</b>	Keep away from heat, sparks and flame. Keep container closed. Do not get in eyes, on skin, or on clothing. Do not ingest. Avoid breathing vapors or spray mists.
<b>Storage</b>	Keep container in a cool, well-ventilated area.

## Section 8. Exposure Controls/Personal Protection

<b>Engineering Controls</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
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**Personal Protection****Eyes** Splash goggles.**Body** Lab coat.**Respiratory** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.  
Wear appropriate respirator when ventilation is inadequate.**Hands** Gloves.**Feet** Not applicable.**Protective Clothing (Pictograms)****Personal Protection in Case of a Large Spill**

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Product Name**

ETHER

**Exposure Limits****ACGIH (United States, 1994).**STEL: 1520 mg/m<sup>3</sup>

STEL: 500 ppm

TWA: 1210 mg/m<sup>3</sup>

TWA: 400 ppm

**OSHA Final Rule (United States, 1989).**STEL: 1500 mg/m<sup>3</sup>

STEL: 500 ppm

TWA: 1200 mg/m<sup>3</sup>

TWA: 400 ppm

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**Section 9. Physical and Chemical Properties**

<b>Odor</b>	Not available.
<b>Color</b>	Colorless.
<b>Physical State and Appearance</b>	Liquid.
<b>Molecular Weight</b>	74.14 g/mole
<b>Molecular Formula</b>	C <sub>4</sub> H <sub>10</sub> O
<b>pH</b>	Not available.
<b>Boiling/Condensation Point</b>	35.05°C (95.1°F)
<b>Melting/Freezing Point</b>	-116.06°C (-176.9°F)
<b>Specific Gravity</b>	0.7135 (Water = 1)
<b>Vapor Pressure</b>	Not available.
<b>Vapor Density</b>	2.56 (Air = 1)
<b>Odor Threshold</b>	0.83 ppm
<b>Evaporation Rate</b>	11.8 compared to(n-BUTYL ACETATE=1)
<b>LogKow</b>	Not available.
<b>Solubility</b>	Soluble in water.

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## Section 10. Stability and Reactivity

<b>Stability and Reactivity</b>	The product is stable.
<b>Conditions of Instability</b>	Not available.
<b>Incompatibility with Various Substances</b>	Reactive with oxidizing agents.
<b>Rem/Incompatibility Hazardous Decomposition Products</b>	Not available.
<b>Hazardous Polymerization</b>	Will not occur.

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## Section 11. Toxicological Information

Ethyl Ether KI5775000

**RTECS Number:****Toxicity**

Acute oral toxicity (LD50): 1215 mg/kg [Rat].  
Acute toxicity of the vapor (LC50): 31000 ppm 0.5 hour(s) [Mouse].

**Chronic Effects on Humans**

Not available.

**Acute Effects on Humans**

Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation (lung irritant). Hazardous in case of ingestion.

**Synergetic Products (Toxicologically)**

Not available.

**Irritancy**

Draize Test: Not available.

**Sensitization**

Not available.

**Carcinogenic Effects**

This material is not known to cause cancer in animals or humans.

**Toxicity to**

Not available.

**Reproductive System****Teratogenic Effects**

Not available.

**Mutagenic Effects**

Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS).

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## Section 12. Ecological Information

**Ecotoxicity**

Not available.

**BOD5 and COD**

Not available.

**Toxicity of the Products of Biodegradation**

The products of degradation are less toxic than the product itself.

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## Section 13. Disposal Considerations

**EPA Waste Number** U117 D001

**Treatment** Incineration, fuels blending or recycle. Contact your local permitted waste disposal site (TSD) for permissible treatment sites. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

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## Section 14. Transport Information

**DOT Classification** Proper Shipping Name: ETHYL ETHER

Hazard Class: 3

UN number: UN1155

Packing Group: I

RQ: 100 lbs. (45.36 kg)

**TDG Classification** Not available.

**IMO/IMDG** Proper Shipping Name: ETHYL ETHER

**Classification** Hazard Class: 3

UN number: UN1155

Packing Group: I

RQ: 100

**ICAO/IATA** Not available.

**Classification**

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## Section 15. Regulatory Information

**U.S. Federal Regulations**

TSCA 4(a) final test rules: ETHER

TSCA 8(a) PAIR: ETHER

TSCA 8(b) inventory: ETHER

TSCA 12(b) one time export: ETHER

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: ETHER

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

ETHER: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313 toxic chemical notification and release reporting: No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean air act (CAA) 112 accidental release prevention: ETHER

Clean air act (CAA) 112 regulated flammable substances: ETHER

Clean air act (CAA) 112 regulated toxic substances: No products were found.

**WHMIS (Canada)** CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

Class D-2B: Material causing other toxic effects (TOXIC).

CEPA DSL: ETHER

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

### International Regulations

**EINECS** ETHER 200-467-2  
**DSCL (EEC)** R12- Extremely flammable.  
 R19- May form explosive peroxides.  
 R22- Harmful if swallowed.  
 R66- Repeated exposure may cause skin dryness or cracking.  
 R67- Vapors may cause drowsiness and dizziness.

**International Lists** Australia (NICNAS): ETHER

Japan (MITI): ETHER

Korea (TCCL): ETHER

Philippines (RA6969): ETHER  
 China: No products were found.

**State Regulations** Pennsylvania RTK: ETHER: (environmental hazard, generic environmental hazard)  
 Massachusetts RTK: ETHER  
 New Jersey: ETHER  
 California prop. 65: No products were found.

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## Section 16. Other Information

**National Fire Protection Association (U.S.A.)** **4** Fire Hazard  
**11** Health Reactivity  
**Specific Hazard**

**Other Special Considerations** Contains <1% 2,6-di-tert-butyl-p-cresol stabilizer. Some grades also contain Ethyl Alcohol stabilizer.

**Changed Since Last Revision** +

### Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

