

# Material Safety Data Sheet

## Section 1. Product and Company Identification

<b>Product Name</b>	Ethylbenzene	<b>Product Code</b>	EX0355
<b>Manufacturer</b>	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.	<b>Effective Date</b>	3/3/2003
<b>For More Information Call</b>	856-423-6300 Technical Service Monday-Friday: 8:00 AM - 5:00 PM	<b>In Case of Emergency Call</b>	800-424-9300 CHEMTREC (USA) 613-996-6666 CANUTEC (Canada) 24 Hours/Day: 7 Days/Week
<b>Synonym</b>	PHENYLETHANE		
<b>Material Uses</b>	Analytical reagent.		
<b>Chemical Family</b>	Aromatic.		

## Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
ETHYL BENZENE	100-41-4	100

## Section 3. Hazards Identification

<b>Physical State and Appearance</b>	Liquid. (Colorless.)
<b>Emergency Overview</b>	WARNING! FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CAUSES DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA. MAY BE HARMFUL IF INHALED OR SWALLOWED. POSSIBLE CANCER HAZARD. MAY CAUSE CANCER BASED ON ANIMAL DATA.
<b>Routes of Entry</b>	Absorbed through skin. Eye contact. 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>Potential Chronic Health Effects</b>	<b>Inhalation</b> May be hazardous in case of inhalation. <b>Ingestion</b> May be hazardous in case of ingestion.
<b>Potential Chronic Health Effects</b>	<b>Carcinogenic Effects</b> Classified 2B (Possible for human.) by IARC.
<b>Medical Conditions Aggravated by Overexposure:</b>	Additional information See Toxicological Information (section 11) Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## 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. 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. 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.
<b>Ingestion</b>	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 5. Fire Fighting Measures

<b>Flammability of the Product</b>	Product will burn.
<b>Auto-ignition Temperature</b>	431.9 to 459.9°C (809.4 to 859.8°F)
<b>Flash Points</b>	Closed cup: 12.9°C (55.2°F). Not available.
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO2).
<b>Fire Hazards in Presence of Various Substances</b>	Highly flammable in presence of open flames, sparks and static discharge, of heat.
<b>Explosion Hazards in Presence of Various Substances</b>	<b>Risks of explosion of the product in presence of static discharge:</b> Highly flammable in presence of open flames, sparks and static discharge. Highly explosive in presence of open flames, sparks and static discharge.
<b>Fire Fighting Media and Instructions</b>	<b>Risks of explosion of the product in presence of mechanical impact:</b> No. Flammable liquid, insoluble in water. SMALL FIRE: Use DRY chemical powder.

**Protective Clothing (Fire)**  
**Special Remarks on Fire Hazards**  
**Special Remarks on Explosion Hazards**

**LARGE FIRE:** Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Be sure to use an approved/certified respirator or equivalent.

Vapor may travel considerable distance to source of ignition and flash back.

Not available.

## Section 6. Accidental Release Measures

**Small Spill and Leak**  
**Large Spill and Leak**

Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. 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.

**Spill Kit Information**

The following EMD Chemicals Inc. SpillSolv® absorbent is recommended for this product: SX1330 Solvent Treatment Kit

## Section 7. Handling and Storage

**Handling**

Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Do not ingest. Do not get in eyes, on skin, or on clothing.

**Storage**

Keep container in a cool, well-ventilated area.

## Section 8. Exposure Controls/Personal Protection

**Engineering Controls**

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.

**Personal Protection**

**Eyes** Splash goggles.

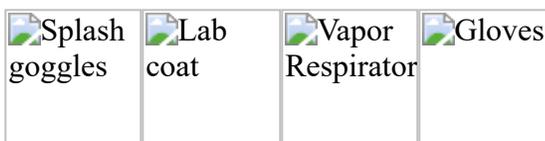
**Body** Lab coat.

**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**  
 ETHYL BENZENE

**Exposure Limits**

**AUVA (Austria, 1995). Skin**

PEAK: 880 mg/m<sup>3</sup> 8 times per shift, Period: 5 minute(s).

PEAK: 200 ppm 8 times per shift, Period: 5 minute(s).

MAK: 440 mg/m<sup>3</sup>

MAK: 100 ppm

**Belgium Minister of Labour (Belgium, 1998).**

VCD: 551 mg/m<sup>3</sup>

VCD: 125 ppm

VL: 440 mg/m<sup>3</sup>

VL: 100 ppm

**BAUA (Germany, 1997). Skin**

PEAK: 440 mg/m<sup>3</sup>

PEAK: 100 ppm

MAK: 440 mg/m<sup>3</sup>

MAK: 100 ppm

**DK-Arbejdstilsynet (Denmark, 1996).**

GV: 217 mg/m<sup>3</sup>

GV: 50 ppm

**Tyerveyslaitos (Finland, 1998).**

TWA: 220 mg/m<sup>3</sup>

TWA: 50 ppm

**INRS (France, 1996).**

VME: 435 mg/m<sup>3</sup>

VME: 100 ppm

**National Authority for Occupational Safety/Health (Ireland, 1999).**

STEL: 545 mg/m<sup>3</sup>

STEL: 125 ppm

OEL: 435 mg/m<sup>3</sup>

OEL: 100 ppm

**Arbeidsinspectie (Netherlands, 1999). Skin**

TGG 8 uur: 215 mg/m<sup>3</sup>

TGG 8 uur: 50 ppm

**N-Arbejdstilsynet (Norway, 1996).**

AN: 220 mg/m<sup>3</sup>

AN: 50 ppm

**AFS (Sweden, 1996).**

KTV: 450 mg/m<sup>3</sup>

KTV: 100 ppm

NGV: 200 mg/m<sup>3</sup>

NGV: 50 ppm  
**EH40-OES (United Kingdom (UK), 1997).**  
 STEL: 552 mg/m<sup>3</sup>  
 STEL: 125 ppm  
 MEL: 441 mg/m<sup>3</sup>  
 MEL: 100 ppm  
**ACGIH (United States, 1994).**  
 STEL: 543 mg/m<sup>3</sup>  
 STEL: 125 ppm  
 TWA: 434 mg/m<sup>3</sup>  
 TWA: 100 ppm  
**NIOSH REL (United States, 1994).**  
 STEL: 545 mg/m<sup>3</sup>  
 STEL: 125 ppm  
 TWA: 435 mg/m<sup>3</sup> Period: 10 hour(s).  
 TWA: 100 ppm Period: 10 hour(s).  
**OSHA Final Rule (United States, 1989).**  
 STEL: 545 mg/m<sup>3</sup>  
 STEL: 125 ppm  
 TWA: 435 mg/m<sup>3</sup>  
 TWA: 100 ppm

## Section 9. Physical and Chemical Properties

<b>Odor</b>	Aromatic.
<b>Color</b>	Clear.
<b>Physical State and Appearance</b>	Liquid. (Colorless.)
<b>Molecular Weight</b>	106.18 g/mole
<b>Molecular Formula</b>	C <sub>8</sub> -H <sub>10</sub>
<b>pH</b>	Not applicable.
<b>Boiling/Condensation Point</b>	136.1°C (277°F)
<b>Melting/Freezing Point</b>	-94.95°C (-138.9°F)
<b>Critical Temperature</b>	344°C (651.2°F)
<b>Specific Gravity</b>	0.867 (Water = 1)
<b>Vapor Pressure</b>	Not available.
<b>Vapor Density</b>	3.7 (Air = 1)
<b>Odor Threshold</b>	Not available.
<b>Evaporation Rate</b>	0.84 compared to (n-BUTYL ACETATE=1)
<b>LogKow</b>	Not available.
<b>Solubility</b>	Insoluble in water.

## 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>	Highly reactive with oxidizing agents, acids, alkalis.
<b>Rem/Incompatibility</b>	Not available.
<b>Hazardous Decomposition Products</b>	Not available.
<b>Hazardous Polymerization</b>	Will not occur.

## Section 11. Toxicological Information

<b>RTECS Number:</b>	Ethylbenzene, For Synthesis	DA0700000
<b>Toxicity</b>	Acute oral toxicity (LD50): 3500 mg/kg [Rat].	
<b>Chronic Effects on Humans</b>	<b>CARCINOGENIC EFFECTS:</b> Classified 2B (Possible for human.) by IARC.	
<b>Acute Effects on Humans</b>	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. May be hazardous in case of inhalation. May be hazardous in case of ingestion.	
<b>Synergetic Products (Toxicologically)</b>	Not available.	
<b>Irritancy</b>	Draize Test (Rabbit): Skin: 15mg/24h. Reaction: Mild.	
<b>Sensitization</b>	Not available.	
<b>Carcinogenic Effects</b>	Classified 2B (Possible for human.) by IARC.	
<b>Toxicity to Reproductive System</b>	Tests on laboratory animals for reproductive effects are cited in Registry of Toxic Effects on Chemical Substances (RTECS).	
<b>Teratogenic Effects</b>	Not available.	
<b>Mutagenic Effects</b>	Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS).	

## Section 12. Ecological Information

<b>Ecotoxicity</b>	Not available.
<b>BOD5 and COD</b>	Not available.
<b>Toxicity of the Products of Biodegradation</b>	The products of degradation are less toxic than the product itself.

## Section 13. Disposal Considerations

**EPA Waste Number Treatment** D001  
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.

## Section 14. Transport Information

**DOT Classification** Proper Shipping Name: ETHYLBENZENE  
Hazard Class: 3  
UN number: UN1175  
Packing Group: II  
RQ: 1000 lbs. (453.6 kg)

**TDG Classification** Not available.  
**IMO/IMDG Classification** Not available.  
**ICAO/IATA Classification** Not available.

## Section 15. Regulatory Information

**U.S. Federal Regulations** TSCA 8(b) inventory: ETHYL BENZENE  
TSCA 8(d) H and S data reporting: ETHYL BENZENE: 1987  
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: ETHYL BENZENE  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ETHYL BENZENE: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard  
SARA 313 toxic chemical notification and release reporting: ETHYL BENZENE  
Clean Water Act (CWA) 307: ETHYL BENZENE  
Clean Water Act (CWA) 311: ETHYL BENZENE  
Clean air act (CAA) 112 accidental release prevention: No products were found.  
Clean air act (CAA) 112 regulated flammable substances: No products were found.  
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: ETHYL BENZENE  
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** ETHYL BENZENE 202-849-4  
**DSCL (EEC)** R11- Highly flammable.  
R20- Harmful by inhalation.

**International Lists** Australia (NICNAS): ETHYL BENZENE  
  
Japan (MITI): ETHYL BENZENE  
  
Korea (TCCL): ETHYL BENZENE  
  
Philippines (RA6969): ETHYL BENZENE  
China: No products were found.

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

## Section 16. Other Information

**National Fire Protection Association (U.S.A.)**

	<b>3</b>	<b>Fire Hazard</b>
<b>Health</b>	<b>2 0</b>	<b>Reactivity</b>
		<b>Specific Hazard</b>

**Changed Since Last Revision** +

### Notice to Reader

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