

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Ethylbenzene  
Product Number : 03079  
Brand : Fluka  
Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +18003255832  
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Emergency Phone # : (314) 776-6555

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C<sub>8</sub>H<sub>10</sub>  
Molecular Weight : 106.17 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Ethylbenzene</b>			
100-41-4	202-849-4	601-023-00-4	-

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Flammable Liquid, Irritant, Carcinogen

##### Target Organs

Central nervous system, Blood

#### HMIS Classification

Health Hazard: 2

Chronic Health Hazard: \*

Flammability: 3

Physical hazards: 0

#### NFPA Rating

Health Hazard: 3

Fire: 3

Reactivity Hazard: 0

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes**  
**Ingestion**

Causes eye irritation.  
May be harmful if swallowed.

#### 4. FIRST AID MEASURES

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 5. FIRE-FIGHTING MEASURES

**Flammable properties**

Flash point 15.0 °C (59.0 °F) - closed cup

Ignition temperature 432 °C (810 °F)

**Suitable extinguishing media**

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**

Use water spray to cool unopened containers.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods for cleaning up**

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 7. HANDLING AND STORAGE

**Handling**

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Storage**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

hygroscopic

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Ethylbenzene	100-41-4	TWA	100 ppm	2002-01-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs ) and Biological Exposure Indices (BEIs)
Remarks	Confirmed animal carcinogen with unknown relevance to humans. Substances for which there is a Biological Exposure Index or Indices. 2002 Adoption.				
		STEL	125 ppm	2002-01-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs ) and Biological Exposure Indices (BEIs)
	Confirmed animal carcinogen with unknown relevance to humans. Substances for which there is a Biological Exposure Index or Indices. 2002 Adoption.				
		TWA	100 ppm 435 mg/m3	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		STEL	125 ppm 545 mg/m3	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		TWA	100 ppm 435 mg/m3	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

## Personal protective equipment

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Hand protection

Handle with gloves.

### Eye protection

Safety glasses

### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	liquid
Colour	colourless

### Safety data

pH	no data available
Melting point	-95 °C (-139 °F)
Boiling point	136 °C (277 °F)
Flash point	15.0 °C (59.0 °F) - closed cup
Ignition temperature	432 °C (810 °F)
Lower explosion limit	1 %(V)
Upper explosion limit	6.7 %(V)
Vapour pressure	25.3 hPa (19.0 mmHg) at 37.7 °C (99.9 °F) 13.3 hPa (10.0 mmHg) at 20.0 °C (68.0 °F)
Density	0.867 g/mL at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 2.92

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Conditions to avoid

Heat, flames and sparks.

**Materials to avoid**

Strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

**Hazardous reactions**

Vapours may form explosive mixture with air.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Dermal - rabbit - 15,433 mg/kg

**Irritation and corrosion**

Eyes - rabbit - Risk of serious damage to eyes.

**Sensitisation**

no data available

**Chronic exposure**

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC: Group 2B - Possibly carcinogenic to humans (Ethylbenzene)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Signs and Symptoms of Exposure**

Central nervous system depression, Nausea, Headache, Vomiting, Ataxia., Tremors

**Potential Health Effects**

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Target Organs</b>	Central nervous system, Blood,

**Additional Information**

RTECS: DA0700000

**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

Toxicity to fish	LC50 - Cyprinodon variegatus (sheepshead minnow) - 88.00 mg/l - 96 h
	LC50 - Lepomis macrochirus (Bluegill) - 80.00 mg/l - 96 h
	NOEC - Cyprinodon variegatus (sheepshead minnow) - 88 mg/l - 96 h
	LC50 - Oncorhynchus mykiss (rainbow trout) - 4.2 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 2.90 mg/l - 48 h

**Further information on ecology**

no data available

**13. DISPOSAL CONSIDERATIONS**

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION**

**DOT (US)**

UN-Number: 1175 Class: 3 Packing group: II  
Proper shipping name: Ethylbenzene  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN-Number: 1175 Class: 3 Packing group: II EMS-No: F-E, S-D  
Proper shipping name: ETHYLBENZENE  
Marine pollutant: No

**IATA**

UN-Number: 1175 Class: 3 Packing group: II  
Proper shipping name: Ethylbenzene

**15. REGULATORY INFORMATION**

**OSHA Hazards**

Flammable Liquid, Irritant, Carcinogen

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

	CAS-No.	Revision Date
Ethylbenzene	100-41-4	1987-01-01

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Ethylbenzene	100-41-4	1987-01-01

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Ethylbenzene	100-41-4	1987-01-01

**New Jersey Right To Know Components**

Ethylbenzene

CAS-No.  
100-41-4Revision Date  
1987-01-01**California Prop. 65 Components**

WARNING! This product contains a chemical known in the State of California to cause cancer.  
Ethylbenzene

CAS-No.  
100-41-4Revision Date  
2004-06-11**16. OTHER INFORMATION****Further information**

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