

**SIGMA-ALDRICH**

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**Material Safety Data Sheet**

Version 4.3  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Xylenes  
Product Number : 247642  
Brand : Sigma-Aldrich  
Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555  
Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

**OSHA Hazards**

Flammable liquid, Carcinogen, Target Organ Effect, Harmful by skin absorption., Irritant

**Target Organs**

Liver, Kidney, Blood, Eyes, ears, Heart, Bone marrow, Central nervous system

**GHS Classification**

Flammable liquids (Category 3)  
Acute toxicity, Oral (Category 5)  
Acute toxicity, Inhalation (Category 4)  
Acute toxicity, Dermal (Category 4)  
Skin irritation (Category 2)  
Serious eye damage (Category 1)  
Acute aquatic toxicity (Category 2)

**GHS Label elements, including precautionary statements**

Pictogram 

Signal word : Danger

Hazard statement(s)  
H226 : Flammable liquid and vapour.  
H303 : May be harmful if swallowed.  
H312 + H332 : Harmful in contact with skin or if inhaled  
H315 : Causes skin irritation.  
H318 : Causes serious eye damage.  
H401 : Toxic to aquatic life.

Precautionary statement(s)  
P280 : Wear protective gloves/ eye protection/ face protection.  
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

**HMIS Classification**

Health hazard: 2  
Chronic Health Hazard: \*  
Flammability: 3  
Physical hazards: 0

**NFPA Rating**

Health hazard: 2  
Fire: 3  
Reactivity Hazard: 0

**Potential Health Effects**

**Inhalation** : May be harmful if inhaled. Causes respiratory tract irritation.  
**Skin** : Causes skin irritation.  
**Eyes** : Causes eye irritation.  
**Ingestion** : May be harmful if swallowed.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Xylene mixture of isomers

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

Component	Classification	Concentration
<b>Xylene</b>		
CAS-No. 1330-20-7 EC-No. 215-535-7 Index-No. 601-022-00-9	Flam. Liq. 3; Acute Tox. 4; Skin Irrit. 2; H226, H312, H315, H332	-
<b>Ethylbenzene</b>		
CAS-No. 100-41-4 EC-No. 202-849-4 Index-No. 601-023-00-4	Flam. Liq. 2; Acute Tox. 4; H225, H332	10 - 30 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

**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. FIREFIGHTING MEASURES**

**Conditions of flammability**

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

00001005

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

**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. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Conditions for safe 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.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Xylene	1330-20-7	TWA	100 ppm 435 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	100 ppm 435 mg/m <sup>3</sup>	
		STEL	150 ppm 655 mg/m <sup>3</sup>	
		TWA	100 ppm 434 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Not classifiable as a human carcinogen			
		STEL	150 ppm 651 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
	Not classifiable as a human carcinogen			
		TWA	100 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Eye & Upper Respiratory Tract irritation Central Nervous System impairment Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen			

		STEL	150 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Eye & Upper Respiratory Tract irritation Central Nervous System impairment Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen			
		TWA	100 ppm 435 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m <sup>3</sup> is approximate.			
		TWA	100 ppm 435 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	150 ppm 655 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
Ethylbenzene	100-41-4	TWA	100 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed animal carcinogen with unknown relevance to humans			
		STEL	125 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed animal carcinogen with unknown relevance to humans			
		TWA	100 ppm 435 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	125 ppm 545 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	100 ppm 435 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m <sup>3</sup> is approximate.			
		TWA	100 ppm 435 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		ST	125 ppm 545 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits

**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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**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 clear, liquid  
Colour colourless

**Safety data**

pH no data available  
Melting point/freezing point < 0 °C (< 32 °F)  
Boiling point 137 - 140 °C (279 - 284 °F) - lit.  
Flash point 25 °C (77 °F) - closed cup  
Ignition temperature 464 °C (867 °F)  
Autoignition temperature no data available  
Lower explosion limit 1.1 %(V)  
Upper explosion limit 7 %(V)  
Vapour pressure 24 hPa (18 mmHg) at 37.70 °C (99.86 °F)  
Density 0.86 g/mL at 25 °C (77 °F)  
Water solubility no data available  
Partition coefficient: n-octanol/water no data available  
Relative vapour density 3.67 - (Air = 1.0)  
Odour no data available  
Odour Threshold no data available  
Evaporation rate no data available

**10. STABILITY AND REACTIVITY****Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

Vapours may form explosive mixture with air.

**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  
Other decomposition products - no data available

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

Oral LD50  
no data available

Inhalation LC50  
no data available

Dermal LD50  
no data available

Other information on acute toxicity  
no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

Eyes: no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Xylene)

3 - Group 3: Not classifiable as to its carcinogenicity to humans (Xylene)

IARC: 2B - 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.

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.  
Ingestion May be harmful if swallowed.  
Skin Causes skin irritation.  
Eyes Causes eye irritation.

**Signs and Symptoms of Exposure**

Sigma-Aldrich - 247642  
Delivery 0342027630-000010 Purchase Order CREDIT CARD

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**  
no data available

**Additional Information**  
RTECS: Not available

## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

**Persistence and degradability**  
no data available

**Bioaccumulative potential**  
no data available

**Mobility in soil**  
no data available

**PBT and vPvB assessment**  
no data available

### Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

## 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. Offer surplus and non-recyclable solutions to a licensed disposal company. 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: 1307 Class: 3 Packing group: III  
Proper shipping name: Xylenes  
Reportable Quantity (RQ): 100 lbs  
Marine pollutant: No  
Poison Inhalation Hazard: No

### IMDG

UN number: 1307 Class: 3 Packing group: III EMS-No: F-E, S-D  
Proper shipping name: XYLENES  
Marine pollutant: No

### IATA

UN number: 1307 Class: 3 Packing group: III  
Proper shipping name: Xylenes

## 15. REGULATORY INFORMATION

### OSHA Hazards

Flammable liquid, Carcinogen, Target Organ Effect, Harmful by skin absorption., Irritant

### 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

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Ethylbenzene	100-41-4	2007-07-01
Xylene	1330-20-7	1989-08-11

### 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	2007-07-01
Xylene	1330-20-7	1989-08-11

### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Ethylbenzene	100-41-4	2007-07-01
Xylene	1330-20-7	1989-08-11

### New Jersey Right To Know Components

	CAS-No.	Revision Date
Ethylbenzene	100-41-4	2007-07-01
Xylene	1330-20-7	1989-08-11

### California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer.	100-41-4	2007-09-28
Ethylbenzene		

## 16. OTHER INFORMATION

### Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H332	Harmful if inhaled.
Skin Irrit.	Skin irritation

### Further Information

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