

MATERIAL SAFETY DATA SHEET

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Version 1.7

Section 1 - Product and Company Information

Product Name XYLENES, ISOMERS PLUS
ETHYLBENZENE, 98.5+%, A.C.S. REAGENT
Product Number 247642
Brand ALDRICH
Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

| Substance Name | CAS # | SARA 313 |
|----------------------------|-----------|----------|
| XYLENE, MIXTURE OF ISOMERS | 1330-20-7 | Yes |

| Ingredient Name | CAS # | Percent | SARA 313 |
|-----------------|----------|---------|----------|
| ETHYLBENZENE | 100-41-4 | < 25 | Yes |

Formula C₈H₁₀

Synonyms Benzene, dimethyl- * Dimethylbenzene (OSHA) *
Ksylen (Polish) * Methyl toluene * NCI-C55232 *
RCRA waste number U239 * Violet 3 * Xiloli
(Italian) * Xylene (ACGIH:OSHA) * Xylenen (Dutch)
* Xylol * Xylole (German)

RTECS Number: ZE2100000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable. Harmful.

Harmful by inhalation and in contact with skin. Irritating to skin. Risk of serious damage to eyes.

Target organ(s): Liver. Kidneys.

HMIS RATING

HEALTH: 2*

FLAMMABILITY: 3

REACTIVITY: 0

NFPA RATING

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION HAZARDS

Container explosion may occur under fire conditions. May form explosive mixtures with air

FLASH POINT

77 °F 25 °C Method: closed cup

EXPLOSION LIMITS

Lower: 1.1 % Upper: 7 %

AUTOIGNITION TEMP

464 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable: Water may be effective for cooling, but may not effect extinguishment.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back.

Emits toxic fumes under fire conditions.

Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

| | | |
|-----------------------|----------------------------|--------------------|
| Vapor Density | 3.7 g/l | |
| Saturated Vapor Conc. | N/A | |
| SG/Density | 0.865 g/cm3 | |
| Bulk Density | N/A | |
| Odor Threshold | N/A | |
| Volatile% | N/A | |
| VOC Content | N/A | |
| Water Content | N/A | |
| Solvent Content | N/A | |
| Evaporation Rate | N/A | |
| Viscosity | N/A | |
| Surface Tension | N/A | |
| Partition Coefficient | N/A | |
| Decomposition Temp. | N/A | |
| Flash Point | 77 °F 25 °C | Method: closed cup |
| Explosion Limits | Lower: 1.1 % Upper: 7 % | |
| Flammability | N/A | |
| Autoignition Temp | 464 °C | |
| Refractive Index | 1.497 | |
| Optical Rotation | N/A | |
| Miscellaneous Data | N/A | |
| Solubility | N/A | |

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: Harmful if absorbed through skin.

Eye Contact: Causes eye irritation.

Inhalation: Harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Nerves. Liver. Kidneys. Blood. Eyes. Ears. Heart. Bone marrow.

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: CNS depression. Dermatitis. Anorexia.

Dyspnea. Bronchitis. Tremors. Blurred vision. Incoordination.

Headache. Nausea. Vomiting. Dizziness. Weakness. Anemia.

Prolonged or repeated exposure to skin causes defatting and dermatitis.

TOXICITY DATA

Oral

Human

50 mg/kg
LDLO

Inhalation

Man

10,000 ppm

LCLO

Remarks: Behavioral:General anesthetic. Lungs, Thorax, or
Respiration:Cyanosis. Blood:Other changes.

Oral

Rat

4300 mg/kg

LD50

Remarks: Liver:Other changes. Kidney, Ureter, Bladder:Other
changes.

Inhalation

Rat

5,000 ppm

LC50

Intraperitoneal

Rat

2459 MG/KG

LD50

Subcutaneous

Rat

1700 MG/KG

LD50

Oral

Mouse

2119 mg/kg

LD50

Intraperitoneal

Mouse

1548 MG/KG

LD50

Skin

Rabbit

> 1700 mg/kg

LD50

Oral

Mammal

4300 mg/kg

LD50

Inhalation

Mammal

30,000 mg/m³

LC50

IRRITATION DATA

Eyes

Human

200 ppm

Skin
Rabbit
100 %
Remarks: Moderate irritation effect

Skin
Rabbit
500 mg
24H
Remarks: Moderate irritation effect

Eyes
Rabbit
87 mg
Remarks: Mild irritation effect

Eyes
Rabbit
5 mg
24H
Remarks: Severe irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC CARCINOGEN LIST

Rating: Group 3

ACGIH CARCINOGEN LIST

Rating: A4

CHRONIC EXPOSURE - TERATOGEN

Result: Laboratory experiments have shown teratogenic effects.

Species: Rat
Dose: 250 MG/M3/24H
Route of Application: Inhalation
Exposure Time: (7-15D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 50 MG/M3/6H
Route of Application: Inhalation
Exposure Time: (1-21D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Other developmental abnormalities. Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Rat
Dose: 200 PPM/6H
Route of Application: Inhalation
Exposure Time: (4-20D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Effects on Newborn: Behavioral.

Species: Mouse
Dose: 20600 UG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system.

Species: Mouse
Dose: 2000 PPM/6H
Route of Application: Inhalation
Exposure Time: (6-12D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse
Dose: 1 GM/M3/12H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rabbit
Dose: 500 MG/M3/24H
Route of Application: Inhalation
Exposure Time: (7-20D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 50 MG/M3/6H
Route of Application: Inhalation
Exposure Time: (1-21D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Species: Mouse
Dose: 31 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Mouse
Dose: 4000 PPM/6H
Route of Application: Inhalation
Exposure Time: (6-12D PREG)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Physical.

Species: Rabbit
Dose: 1 GM/M3/24H
Route of Application: Inhalation
Exposure Time: (7-20D PREG)
Result: Effects on Fertility: Abortion.

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. 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.

Section 14 - Transport Information

DOT

Proper Shipping Name: Xylenes
UN#: 1307
Class: 3
Packing Group: Packing Group III
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Xylenes
IATA UN Number: 1307
Hazard Class: 3
Packing Group: III

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 10 20/21 38
Risk Statements: Flammable. Harmful by inhalation and in contact with skin. Irritating to skin.
S: 25
Safety Statements: Avoid contact with eyes.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable. Harmful.
Risk Statements: Harmful by inhalation and in contact with skin. Irritating to skin. Risk of serious damage to eyes.
Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.
US Statements: Target organ(s): Liver. Kidneys.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
DEMINIMIS: 1 %
NOTES: This product is subject to SARA section 313 reporting requirements.
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.