



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.10

Section 1 - Product and Company Information

Product Name ORTHO-XYLENE, 97%
Product Number X1040
Brand Aldrich Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country St. Louis, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052

Emergency Phone: 414 273 3850 Ext.5996

Section 2 - Composition/Information on Ingredient

Substance Name
O-XYLENE

CAS #
95-47-6

SARA 313
Yes

Formula C₈H₁₀
Synonyms o-Dimethylbenzene, 1,2-Dimethylbenzene, o-Methyltoluene, 1,2-Xylene, o-Xylene (ACGIH:OSHA), o-Xylol

Section 3 - Hazards Identification

Emergency Overview

Flammable. Toxic.

May impair fertility. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system, and skin. Readily absorbed through skin. Target organ(s): Nerves. Liver. Kidneys.

HMIS Rating

Health: 3 Flammability: 3 Reactivity: 0

NFPA Ratings

Health: 3 Flammability: 3 Reactivity: 0

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.

Inhalation Exposure

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

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

Explosion Hazards

Vapor may travel considerable distance to source of ignition and flash back.
Container explosion may occur under fire conditions.
Forms explosive mixtures in air.

| | | | |
|---------------------------|---------------------|----------------------|-----|
| Flash Point: | 87.8 °F | 31 °C | |
| 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)

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

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.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with an activated carbon adsorbent, take up and place in closed containers. Transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place. Handle and store under nitrogen.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

NIOSH/MSHA-approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash thoroughly after handling.

Exposure Limits, RTECS

| <u>Country</u> | <u>Source</u> | <u>Type</u> | <u>Value</u> |
|----------------|-------------------|-------------|----------------------------|
| USA | ACGIH | STEL | 651 MG/M3 (150 PPM) |
| USA | ACGIH | TWA | 434 MG/M3 (100 PPM) |
| USA | MSHA Standard-air | TWA | 100 PPM (440 MG/M3) (SKIN) |
| USA | OSHA. | PEL | 8H TWA 100 PPM (435 MG/M3) |
| USA | NIOSH | TWA STEL | 100 PPM 150 PPM |

Section 9 - Physical/Chemical Properties

Appearance**Physical State**

Liquid

Color

Colorless

Molecular Weight: 106.17 AMU

| <u>Property</u> | <u>Value</u> | <u>At Temperature or Pressure</u> |
|-----------------------|----------------------------|-----------------------------------|
| pH | N/A | |
| BP/BP Range | 143 - 145 °C | |
| MP/MP Range | -25 - -23 °C | |
| Freezing Point | N/A | |
| Vapor Pressure | < 76 mmHg | 21.1 °C |
| Vapor Density | 3.7 g/l | |
| Saturated Vapor Conc. | N/A | |
| SG/Density | 0.88 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 | |
| Partition Coefficient | N/A | |
| Decomposition Temp. | N/A | |
| Flash Point °F | 87.8 °F | |
| Flash Point °C | 31 °C | |
| Explosion Limits | Lower: 1.1 % Upper: 7 % | |
| Autoignition Temp | 464 °C | |
| Refractive Index | 1.505 | |
| Solubility | N/A | |

Section 10 - Stability and Reactivity

Stability**Stable**

Stable.

Conditions to Avoid

Hygroscopic.

Materials to Avoid

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.

Eye Contact

Causes eye irritation.

Inhalation

Material is irritating to mucous membranes and upper respiratory tract.

Multiple Routes

Harmful if swallowed, inhaled, or absorbed through skin.

Target Organ(s) or System(s)

Liver. Kidneys. Nerves.

Signs and Symptoms of Exposure

Exposure can cause: Narcotic effect. Lung irritation, chest pain, and edema which may be fatal. CNS depression. Dermatitis. Gastrointestinal disturbances. Damage to the liver. Damage to the kidneys. Blood effects.

RTECS Number: ZE2450000

Toxicity Data

Inhalation - Human: 6,125 ppm (LCLO)

Intraperitoneal - Mouse: 1550 UL/KG (LD50)

IARC Carcinogen ListRating

Group 3

ACGIH Carcinogen ListRating

A4

Chronic Exposure - Teratogen

| <u>Species</u> | <u>Dose</u> | <u>Route of Application</u> | <u>Exposure Time</u> |
|--|----------------|-----------------------------|----------------------|
| Rat | 150 MG/M3/24H | Inhalation | (7-14D PREG) |
| Result: Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord). | | | |
| Rat | 1500 MG/M3/24H | Inhalation | (7-14D PREG) |
| Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). | | | |
| Rat | 3000 MG/M3/24H | Inhalation | (7-14D PREG) |
| Result: Specific Developmental Abnormalities: Musculoskeletal system. | | | |
| Mouse | 500 MG/M3/12H | Inhalation | (6-15D PREG) |
| Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). | | | |
| Specific Developmental Abnormalities: Musculoskeletal system. | | | |

Chronic Exposure - Reproductive Hazard

| <u>Species</u> | <u>Dose</u> | <u>Route of Application</u> | <u>Exposure Time</u> |
|---|-------------|-----------------------------|----------------------|
| Result: May cause reproductive disorders. | | | |

Rat 500 MG/KG Intraperitoneal (2D MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Section 12 - Ecological Information

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. 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
PIH: Not PIH

IATA

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

Section 15 - Regulatory Information

US Classification and Label Text

Indication of Danger

Flammable. Toxic.

Risk Statements

May impair fertility. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system, and skin.

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

Readily absorbed through skin. Target organ(s): Nerves. Liver. Kidneys.

United States Regulatory Information

SARA 313 Listed: Yes

Deminimis: 1 %

Notes: This product is subject to SARA section 313 reporting requirements.

TSCA Inventory Item: Yes

Section 16 - Other Information

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. 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 2000 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.