

SAFETY DATA SHEET

1. Identification

Product identifier: XYLENES

Other means of identification

Product No.: X516, 8802, 8668, 8664, 9516, 9493, 9490, 5377, 9483

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Details of the supplier of the safety data sheet

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax: 610-573-2610
Contact Person: Environmental Health & Safety
E-mail: info@avantormaterials.com

Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada
CHEMTREC: 1-703-527-3887 outside US and Canada

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 3

Health Hazards

Acute toxicity (Dermal) Category 4
Acute toxicity (Inhalation - vapor) Category 4
Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 2A
Carcinogenicity Category 2
Specific Target Organ Toxicity - Single Exposure Category 3
Specific Target Organ Toxicity - Repeated Exposure Category 1
Aspiration Hazard Category 1

Unknown toxicity - Health

Acute toxicity, oral	0.08 %
Acute toxicity, dermal	0.08 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Environmental Hazards

Acute hazards to the aquatic environment

Category 2

Unknown toxicity - Environment

Acute hazards to the aquatic environment	0.07 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Flammable liquid and vapor.
Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
Suspected of causing cancer.
Causes damage to organs through prolonged or repeated exposure.
Toxic to aquatic life.

Precautionary Statement

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
XYLENES		1330-20-7	60 - 100%
ETHYL BENZENE		100-41-4	15 - 40%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion:	Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation:	Move to fresh air. Get medical attention if symptoms persist.
Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Flammable liquid and vapor. In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, fog, CO2, dry chemical, or alcohol resistant foam.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Heat may cause the containers to explode. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment.

Methods and material for containment and cleaning up:

Eliminate all ignition sources if safe to do so. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal. Take precautionary measures against static discharges. Use only non-sparking tools. Stop leak if possible without any risk.

Notification Procedures:

Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental Precautions:

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling:

Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe mist or vapor. Use only with adequate ventilation. Avoid contact with eyes. Avoid contact with skin.

Conditions for safe storage, including any incompatibilities:

Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Store in a well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure controls/personal protection

Control Parameters
Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
XYLENES	TWA	100 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	150 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	150 ppm 655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm 435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm 655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm 435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm 655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm 435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	100 ppm 435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	150 ppm 655 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
ETHYL BENZENE	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)

	REL	100 ppm	435 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	125 ppm	545 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	100 ppm	435 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	100 ppm	435 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	125 ppm	545 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	30 ppm	130 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2013)
	TWA PEL	5 ppm	22 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2013)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
XYLENES (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEL (03 2013)
ETHYL BENZENE (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL (02 2014)

Appropriate Engineering Controls

Use explosion-proof ventilation equipment to stay below exposure limits.

Individual protection measures, such as personal protective equipment

General information:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection:

Wear safety glasses with side shields (or goggles). Wear face shield if there is risk of splashes.

Skin Protection

Hand Protection:

Chemical resistant gloves

Other:

Wear suitable protective clothing.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator.

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Provide eyewash station and safety shower. Wash hands before breaks and immediately after handling the product. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse.

9. Physical and chemical properties

Appearance

Physical state:

liquid

Form:

liquid

Color:	Colorless
Odor:	Characteristic
Odor threshold:	No data available.
pH:	not applicable
Melting point/freezing point:	-41.5 °C
Initial boiling point and boiling range:	139 °C
Flash Point:	29 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	7 %(V)
Flammability limit - lower (%):	1 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	1.1 kPa
Vapor density:	No data available.
Relative density:	0.86 (20 °C)
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	464 °C
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, sparks, flames. Contact with incompatible materials.
Incompatible Materials:	Strong oxidizing agents. Strong acids.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be harmful if swallowed.
Inhalation:	Harmful if inhaled.
Skin Contact:	Harmful in contact with skin. Causes skin irritation.
Eye contact:	Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix (Rat): 4,125.89 mg/kg

Dermal

Product: ATEmix (Rabbit): 1,358.02 mg/kg

Inhalation

Product: No data available.

Specified substance(s):

XYLENES
LC 50 (Rat, 4 h): 6,350 mg/l
LC Lo (Rat, 4 h): 8,000 mg/l

Repeated dose toxicity

Product: None known.

Skin Corrosion/Irritation

Product: Causes skin irritation.

Serious Eye Damage/Eye Irritation

Product: Causes serious eye irritation.

Respiratory or Skin Sensitization

Product: Not a skin sensitizer.

Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

ETHYL BENZENE Overall evaluation: 2B. Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive toxicity

Product: May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: Narcotic effect. Respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure

Product: Central nervous system. Lungs. auditory organs

Aspiration Hazard

Product: May be fatal if swallowed and enters airways.

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

XYLENES
LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 10.464 - 13.762 mg/l Mortality
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 25.62 - 32.64 mg/l Mortality
LC 50 (Rainbow trout, donaldson trout (*Oncorhynchus mykiss*), 96 h): 6.7 - 10 mg/l Mortality

ETHYL BENZENE
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 9.1 - 15.6 mg/l Mortality
LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 93 - 211 mg/l Mortality
LC 50 (Carp (*Leuciscus idus melanotus*), 48 h): 44 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

XYLENES
LC 50 (Water flea (*Daphnia magna*), 24 h): 150 mg/l Mortality
LC 50 (Daggerblade grass shrimp (*Palaemonetes pugio*), 96 h): 7.4 mg/l Mortality
LC 50 (Calanoid copepod (*Diaptomus forbesi*), 96 h): 99.5 mg/l Mortality
LC 50 (Water flea (*Daphnia magna*), 24 h): > 100 - 1,000 mg/l Mortality

ETHYL BENZENE
EC 50 (Water flea (*Daphnia magna*), 48 h): 1.37 - 4.4 mg/l Intoxication
EC 50 (Brine shrimp (*Artemia* sp.), 48 h): 3.58 - 9.46 mg/l Intoxication
LC 50 (Water flea (*Daphnia magna*), 48 h): 10.6 - 17.2 mg/l Mortality
LC 50 (Brine shrimp (*Artemia* sp.), 48 h): 3.91 - 13.7 mg/l Mortality
LC 50 (Opossum shrimp (*Americamysis bahia*), 24 h): > 5.2 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

XYLENES Log Kow: 3.12 - 3.20

ETHYL BENZENE Log Kow: 3.15

Mobility in Soil: The product is insoluble in water and will spread on the water surface.

Other Adverse Effects: Toxic to aquatic life.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information
DOT

UN Number:	UN 1307
UN Proper Shipping Name:	Xylenes
Transport Hazard Class(es)	
Class(es):	3
Label(s):	3
Packing Group:	III
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	—

IMDG

UN Number:	UN 1307
UN Proper Shipping Name:	XYLENES
Transport Hazard Class(es)	
Class(es):	3
Label(s):	3
EmS No.:	F-E, S-D
Packing Group:	III
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	—

IATA

UN Number:	UN 1307
Proper Shipping Name:	Xylenes
Transport Hazard Class(es):	
Class(es):	3
Label(s):	3
Marine Pollutant:	Not a Marine Pollutant
Packing Group:	III
Special precautions for user:	—

15. Regulatory information
US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
XYLENES	100 lbs.
ETHYL BENZENE	1000 lbs.
TOLUENE	1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute (Immediate)
Chronic (Delayed)
Fire

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
XYLENES	100 lbs.
ETHYL BENZENE	1000 lbs.
TOLUENE	1000 lbs.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
XYLENES	10000 lbs
ETHYL BENZENE	10000 lbs
TOLUENE	10000 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
XYLENES	10000 lbs	25000 lbs.
ETHYL BENZENE	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

<u>Chemical Identity</u>	<u>Reportable quantity</u>
XYLENES	Reportable quantity: 100 lbs.
ETHYL BENZENE	Reportable quantity: 1000 lbs.
TOLUENE	Reportable quantity: 1000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

ETHYL BENZENE	Carcinogenic.
TOLUENE	Developmental toxin.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
XYLENES
ETHYL BENZENE

US. Massachusetts RTK - Substance List

Chemical Identity

XYLENES
ETHYL BENZENE

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

XYLENES
ETHYL BENZENE

US. Rhode Island RTK

Chemical Identity

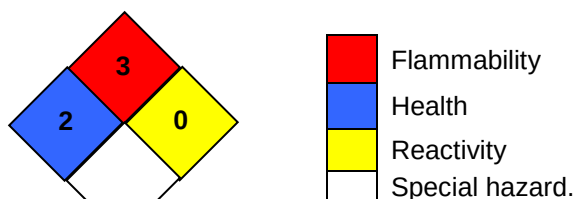
XYLENES
ETHYL BENZENE

Inventory Status:

China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Canada NDSL Inventory:	not applicable
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	06-24-2016
Revision Date:	No data available.
Version #:	2.0
Further Information:	No data available.

Disclaimer:

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