

SAFETY DATA SHEET

Creation Date 12-Feb-2010

Revision Date 17-Jan-2018

Revision Number 6

1. Identification

Product Name Xylenes, mixed isomers with ethylbenzene (Flash Point 26.1°C / 79°F; PG III)

Cat No. : X5-1; X5-20; X5-200; X5-4; X5-500; X5FB115; X5FB19; X5FB200; X5FB50; X5P-1GAL; X5RB50; X5RB115; XTRB200; X5RS115; X5RS19; X5RS200; X5RS28; X5RS50; X5S-4; X5SK-4; X5SS50; X5SS115; X5SS200; X5SS28; XXX5ET200LI; NC1114875; NC1385278

Synonyms Xylol; Methyltoluene; Dimethylbenzene; (Histological/Laboratory/Certified ACS/Scintanalyzed)

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system, Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney, Liver, Blood.	
Aspiration Toxicity	Category 1

Label Elements

Signal Word
Danger

Hazard Statements

Flammable liquid and vapor
May be fatal if swallowed and enters airways
Harmful in contact with skin
Causes skin irritation
Causes serious eye irritation
Harmful if inhaled
May cause respiratory irritation
May cause drowsiness or dizziness
Suspected of causing cancer
May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

Call a POISON CENTER or doctor/physician if you feel unwell
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Xylenes (o-, m-, p- isomers)	1330-20-7	96
Ethylbenzene	100-41-4	4

4. First-aid measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Most important symptoms and effects	Breathing difficulties. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.
Unsuitable Extinguishing Media	Water may be ineffective
Flash Point	25.6 - 32.2 °C / 78.1 - 90 °F
Method -	No information available
Autoignition Temperature	527 °C / 980.6 °F
Explosion Limits	
Upper	7.0 vol %
Lower	1.1 vol %
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO₂) Aldehydes Hydrocarbons

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
3

Flammability
3

Instability
0

Physical hazards
N/A

6. Accidental release measures

Personal Precautions

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods for Containment and Clean Up

Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Take precautionary measures against static discharges.

7. Handling and storage

Handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Xylenes (o-, m-, p- isomers)	TWA: 100 ppm STEL: 150 ppm	(Vacated) TWA: 100 ppm (Vacated) TWA: 435 mg/m ³ (Vacated) STEL: 150 ppm (Vacated) STEL: 655 mg/m ³ TWA: 100 ppm TWA: 435 mg/m ³		TWA: 100 ppm TWA: 435 mg/m ³ STEL: 150 ppm STEL: 655 mg/m ³
Ethylbenzene	TWA: 20 ppm	(Vacated) TWA: 100 ppm (Vacated) TWA: 435 mg/m ³ (Vacated) STEL: 125 ppm (Vacated) STEL: 545 mg/m ³ TWA: 100 ppm TWA: 435 mg/m ³	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m ³ STEL: 125 ppm STEL: 545 mg/m ³	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 125 ppm STEL: 545 mg/m ³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Clear
Odor	aromatic
Odor Threshold	No information available
pH	Not applicable
Melting Point/Range	-34 °C / -29.2 °F
Boiling Point/Range	136 - 140 °C / 276.8 - 284 °F
Flash Point	25.6 - 32.2 °C / 78.1 - 90 °F
Evaporation Rate	0.7 (Butyl Acetate = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	7.0 vol %
Lower	1.1 vol %
Vapor Pressure	8.29 mmHg @ 25 °C
Vapor Density	3.66 (Air = 1.0)
Specific Gravity	0.865 (H2O=1)
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	527 °C / 980.6 °F
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C8H10
Molecular Weight	106.17

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents, Strong acids
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Aldehydes, Hydrocarbons
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50

Dermal LD50

Vapor LC50

Component Information

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Category 4. ATE = 1000 - 2000 mg/kg.
Category 4. ATE = 10 - 20 mg/l.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Xylenes (o-, m-, p- isomers)	LD50 = 3500 mg/kg (Rat)	LD50 > 4350 mg/kg (Rabbit) LD50 > 1700 mg/kg (Rabbit)	29.08 mg/L [MOE Risk Assessment Vol.1, 2002]
Ethylbenzene	3500 mg/kg (Rat)	15400 mg/kg (Rabbit)	17.2 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes, respiratory system and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Xylenes (o-, m-, p- isomers)	1330-20-7	Not listed	Not listed	Not listed	Not listed	Not listed
Ethylbenzene	100-41-4	Group 2B	Not listed	A3	X	Not listed

IARC: (International Agency for Research on Cancer)

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*Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans*

ACGIH: (American Conference of Governmental Industrial Hygienists)

*A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)*

Mutagenic Effects No information available

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects Developmental effects have occurred in experimental animals.

Teratogenicity Teratogenic effects have occurred in experimental animals.

STOT - single exposure Respiratory system Central nervous system (CNS)

STOT - repeated exposure Kidney Liver Blood

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. Contains a substance which is: Toxic to aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Xylenes (o-, m-, p- isomers)	Not listed	LC50: 30.26 - 40.75 mg/L, 96h static (Poecilia reticulata) LC50: > 780 mg/L, 96h (Cyprinus carpio) LC50: = 780 mg/L, 96h semi-static (Cyprinus carpio) LC50: 23.53 - 29.97 mg/L,	EC50 = 0.0084 mg/L 24 h	LC50: = 0.6 mg/L, 48h (Gammarus lacustris) EC50: = 3.82 mg/L, 48h (water flea)

		96h static (Pimephales promelas) LC50: 7.711 - 9.591 mg/L, 96h static (Lepomis macrochirus) LC50: = 19 mg/L, 96h (Lepomis macrochirus) LC50: 13.1 - 16.5 mg/L, 96h flow-through (Lepomis macrochirus) LC50: 13.5 - 17.3 mg/L, 96h (Oncorhynchus mykiss) LC50: 2.661 - 4.093 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 13.4 mg/L, 96h flow-through (Pimephales promelas)		
Ethylbenzene	EC50: 1.7 - 7.6 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: 2.6 - 11.3 mg/L, 72h static (Pseudokirchneriella subcapitata) EC50: > 438 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: = 4.6 mg/L, 72h (Pseudokirchneriella subcapitata)	LC50: 11.0 - 18.0 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 4.2 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: = 32 mg/L, 96h static (Lepomis macrochirus) LC50: 7.55 - 11 mg/L, 96h flow-through (Pimephales promelas) LC50: 9.1 - 15.6 mg/L, 96h static (Pimephales promelas) LC50: = 9.6 mg/L, 96h static (Poecilia reticulata)	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	EC50: 1.8 - 2.4 mg/L, 48h (Daphnia magna)

Persistence and Degradability Persistence is unlikely

Bioaccumulation/ Accumulation No information available.

Mobility .

Component	log Pow
Xylenes (o-, m-, p- isomers)	3.15
Ethylbenzene	3.2

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Xylenes (o-, m-, p- isomers) - 1330-20-7	U239	-

14. Transport information

DOT

UN-No UN1307
 Proper Shipping Name XYLENES
 Hazard Class 3
 Packing Group III

TDG

UN-No UN1307

Proper Shipping Name	XYLENES
Hazard Class	3
Packing Group	III
IATA	
UN-No	UN1307
Proper Shipping Name	XYLENES
Hazard Class	3
Packing Group	III
IMDG/IMO	
UN-No	UN1307
Proper Shipping Name	XYLENES
Hazard Class	3
Packing Group	III

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Xylenes (o-, m-, p- isomers)	X	X	-	215-535-7	-		X	X	X	X	X
Ethylbenzene	X	X	-	202-849-4	-		X	X	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Xylenes (o-, m-, p- isomers)	1330-20-7	96	1.0
Ethylbenzene	100-41-4	4	0.1

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Xylenes (o-, m-, p- isomers)	X	100 lb	-	-
Ethylbenzene	X	1000 lb	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Xylenes (o-, m-, p- isomers)	X		-
Ethylbenzene	X		-

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Xylenes (o-, m-, p- isomers)	100 lb	-
Ethylbenzene	1000 lb	-

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Ethylbenzene	100-41-4	Carcinogen	54 µg/day 41 µg/day	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Xylenes (o-, m-, p- isomers)	X	X	X	X	X
Ethylbenzene	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Serious risk, Grade 3

16. Other information

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS