RANKIN

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Xylene
PRODUCT CODE: 6300-4X1
CAS NUMBER: 1330-20-7
CHEMICAL FORMULA: C6H4(CH3)2

MANUFACTURER: Rankin Biomedical
ADDRESS: 10399 Enterprise Dr. Davisburg, MI 48350

EMERGENCY PHONE NUMBER: 800-424-9300
RECOMMENDED USE: For laboratory, scientific, R&D or manufacturing use.

SECTION 2: HAZARDS IDENTIFICATION

Classification: SHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	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 2
Aspiration toxicity	Category 1
Flammable liquids	Category 3

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

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. 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.

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention.
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.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. In case of fire: Use CO2, dry chemical, or foam for extinction.

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

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight - %
Xylenes (o-, m-, p- isomers)	1330-20-7	80-95
Ethylbenzene	100-41-4	5-20

SECTION 4: FIRST AID MEASURES

Description of first aid measures:

Eye contact: Immediately flush with plenty of water for at least 15 minutes, separating eyelids occasionally. Remove contact lenses if present. Get immediate medical attention if irritation develops or persists.
Skin Contact: Wash thoroughly with soap and water while removing contaminated garments. Get medical attention if irritation develops.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Potential for aspiration if swallowed. If vomiting occurs, have person lean forward, keeping the head low so that stomach content doesn't get into the lungs. Clean mouth with water.

Most important symptoms and effects, both acute and delayed:

Symptoms: May cause CNS depression, dizziness, nausea, vomiting. Causes skin and eye irritation. If inhaled, may cause breathing difficulties.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media
Water spray (fog) Carbon dioxide (CO2) Foam Dry chemical

Specific hazards arising from the chemical
No Data Available.

Hazardous combustion products
Carbon oxides.

Protective equipment and precautions for firefighters
Firefighters should wear self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

NFPA **Health hazards** 2 **Flammability** 3 **Instability** 0 **Physical and Chemical Properties** -

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal precautions	Use personal protective equipment as required. Remove all sources of ignition.
Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up:

Methods for containment	Prevent further leakage or spillage if safe to do so. Prevent material from entering drains.
Methods for cleaning up	Soak up with inert absorbent material. Absorb spill with inert material, scoop up and containerize for disposal. Clean contaminated surface thoroughly.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Use personal protective equipment as required Handle in accordance with good industrial hygiene and safety practice.
Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible materials	Strong acids. Strong oxidizing agents.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational exposure limits:

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Xylenes (o-, m-, p- isomers) 1330-20-7	STEL: 150 pp, TWA: 100 ppm	TWA: 435 mg/m3 (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m3 (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m3	-
Ethylbenzene 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m3 (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m3 (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m3	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m3 STEL: 125 ppm STEL: 545 mg/m3

Appropriate engineering controls

Engineering Controls	Emergency showers, eyewash stations, ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection: Tight sealing safety goggles.
Skin and body protection: Wear protective gloves and protective clothing. Wear fire/flame resistant/retardant clothing.
Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear, colorless
Odor	Sweet, Hydrocarbon
Odor threshold	No Data Available

pH	No Data Available
Melting point / freezing point	-25 °C
Boiling point / boiling range	137 °C - 140 °C
Flash point	24 °C
Evaporation rate	0.8 (BuAc=1)
Flammability (solid, gas)	No Data Available
Flammability Limit in Air	
Upper flammability limit:	7% (Vol)
Lower flammability limit:	1% (Vol)
Vapor pressure	No Data Available
Vapor density	3.67
Relative density	.865
Water solubility	No Data Available
Solubility in other solvents	No Data Available
Partition coefficient	No Data Available
Autoignition temperature	463 °C
Decomposition temperature	No Data Available
Kinematic viscosity	<0.9 mm2/s

SECTION 10: EXPOSURE CONTROL/PERSONAL PROTECTION

Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous Decomposition Products	Carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May cause irritation of respiratory tract. Harmful by inhalation.
Eye contact	Irritating to eyes.
Skin contact	Irritating to skin. Harmful in contact with skin.
Ingestion	No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Xylenes (o-, m-, p- isomers) 1330-20-7	= 3500 mg/kg (Rat)	> 1700 mg/kg (Rabbit) > 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Ethylbenzene 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.4 mg/L (Rat) 4 h

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

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/eye irritation	Irritating to eyes.
Sensitization	No Data Available.
Germ cell mutagenicity	No Data Available.

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

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylenes (o-, m-, p- isomers) 1330-20-7	-	Group 3	-	-
Ethylbenzene 100-41-4	A3	Group 2B	-	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not classifiable as to carcinogenicity in humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Xylenes (o-, m-, p- isomers) 1330-20-7	-	30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 13.4: 96 h Pimephales promelas mg/L LC50 flow-through 780: 96 h Cyprinus carpio mg/L LC50 semi-static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 19: 96 h Lepomis macrochirus mg/L LC50 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static	0.6: 48 h Gammarus lacustris mg/L LC50 3.82: 48 h water flea mg/L EC50
Ethylbenzene 100-41-4	2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 9.6: 96 h Poecilia reticulata mg/L LC50 static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 32: 96 h Lepomis macrochirus mg/L LC50 static	1.8 - 2.4: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No Data Available.

Bioaccumulation

No Data Available.

Chemical Name	Partition coefficient
Xylenes (o-, m-, p- isomers) 1330-20-7	3.15
Ethylbenzene 100-41-4	3.2

Other adverse effects No Data Available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Emptied containers may contain residue. Continue to follow label warnings after container is emptied.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Xylenes (o-, m-, p- isomers) 1330-20-7	-	Included in waste stream: F039	-	U239
Ethylbenzene 100-41-4	-	Included in waste stream: F039	-	-

Chemical Name	California Hazardous Waste Status
Xylenes (o-, m-, p- isomers) 1330-20-7	Toxic Ignitable
Ethylbenzene 100-41-4	Toxic Ignitable

SECTION 14: TRANSPORT INFORMATION

Transportation information is provided as a general reference only and may not be applicable in all situations. This information applies to non-bulk shipments only. Per 49 CFR §173.22, it is the shipper's responsibility to ensure that all materials are properly packaged, classified and labeled prior to shipment.

DOT

UN/ID no.	1307
Proper shipping name	Xylenes
Hazard Class	3
Packing Group	III
Reportable Quantity (RQ)	100

IATA

UN/ID no.	1307
Proper shipping name	Xylenes
Hazard Class	3
Packing Group	III

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Xylenes (o-, m-, p- isomers) 1330-20-7	1.0
Ethylbenzene 100-41-4	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylenes (o-, m-, p- isomers) 1330-20-7	100 lb	-	-	X
Ethylbenzene 100-41-4	1000 lb	X	X	X

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)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylenes (o-, m-, p- isomers) 1330-20-7	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Ethylbenzene 100-41-4	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

WARNING California Proposition 65. Cancer and Reproductive Harm. This product contains the following Proposition 65 chemicals

Chemical Name	WARNING California Proposition 65. Cancer and Reproductive Harm.
Ethylbenzene - 100-41-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Xylenes (o-, m-, p- isomers) 1330-20-7	X	X	X
Ethylbenzene 100-41-4	X	X	X

SECTION 16: OTHER INFORMATION

Disclaimer

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