SAFETY DATA SHEET

XYLENE (MIXED ISOMERS)

CAS No.: 1330-20-7

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

XYLENE (MIXED ISOMERS)
Dimethylbenzene; Xylol
CAS: 1330-20-7

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Solvent (paints, coatings, inks, adhesives), thinner, chemical intermediate, cleaning/degreasing agent. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Flam. Liq. 3	Flammable liquid, Category 3, H226
Acute Tox. 4	Acute toxicity (inhalation), Category 4, H332
Acute Tox. 4	Acute toxicity (dermal), Category 4, H312
Skin Irrit. 2	Skin irritation, Category 2, H315
Eye Irrit. 2	Eye irritation, Category 2, H319
STOT SE 3	Narcotic effects, single exposure, Category 3, H335
Asp. Tox. 1	Aspiration hazard, Category 1, H304
STOT RE 2	Specific target organ toxicity, repeated exposure, Category 2, H373

GHS label elements, including precautionary statements

GHS: Danger

Hazard statements

Flam. Liq. 3: H226 – Flammable liquid and vapour.
Acute Tox. 4: H332 – Harmful if inhaled.
Acute Tox. 4: H312 – Harmful in contact with skin.
Skin Irrit. 2: H315 – Causes skin irritation.
Eye Irrit. 2: H319 – Causes serious eye irritation.
STOT SE 3: H335 – May cause respiratory irritation.
Asp. Tox. 1: H304 – May be fatal if swallowed and enters airways.
STOT RE 2: H373 – May cause damage to organs (hearing organs, central nervous system) through prolonged or repeated exposure.

Precautionary statements

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P261: Avoid breathing vapours.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection.
P301+P310: IF SWALLOWED: Immediately call a doctor. Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of water.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331: Do NOT induce vomiting.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of the contents/containers in accordance with regulations on hazardous waste.

Other hazards which do not result in classification

Vapours are heavier than air and may travel along the ground to a source of ignition and flash back. Does not meet the PBT/vPvB criteria.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Xylene, mixed isomers (ortho-, meta-, para-xylene and ethylbenzene)

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 1330-20-7	Xylene (mixed isomers) — Flam. Liq. 3: H226; Acute Tox. 4: H332, H312; Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335; Asp. Tox. 1: H304; STOT RE 2: H373 – Danger	≥ 98%
CAS: 100-41-4	Ethylbenzene (typical co-isomer) — Flam. Liq. 2: H225; Acute Tox. 4: H332	< 20% (typical)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Non-applicable – supplied as the technical mixed-isomer substance

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance immediately, showing the SDS of this product.

By inhalation

Remove the person affected from the area of exposure, provide fresh air and keep at rest. Seek medical attention if symptoms (headache, dizziness, drowsiness) persist.

By skin contact

Remove contaminated clothing and footwear, wash skin thoroughly with water and soap. Prolonged contact may cause defatting/irritation. Seek medical attention if irritation persists.

By eye contact

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek medical attention.

By ingestion/aspiration

Do NOT induce vomiting – high aspiration hazard into the lungs. Rinse the mouth with water. Seek immediate medical attention, showing this SDS.

Most important symptoms/effects, acute and delayed

Acute and delayed effects are indicated in sections 2 and 11.

Indication of immediate medical attention and special treatment needed, if necessary

Aspiration into the lungs during ingestion or vomiting can cause chemical pneumonitis; manage as an aspiration hazard emergency.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Foam (alcohol-resistant), dry chemical powder, carbon dioxide, water spray/fog for cooling containers
Unsuitable: Do not use a solid water jet as it may scatter and spread the fire

Specific hazards arising from the chemical

Flammable liquid and vapour. Vapours are heavier than air, may accumulate in low-lying areas and travel to an ignition source causing flash-back. Vapour/air mixtures are explosive within the flammability range.

Special protective actions for fire-fighters

Evacuate all non-essential personnel. Intervention only by capable personnel who are trained and aware of the hazards of the product. In all cases wear self-contained breathing apparatus. When intervention in close proximity, wear full protective chemical-resistant suit. After intervention, proceed to clean the equipment (take a shower, remove clothing carefully, clean and check).

Additional provisions

Cool fire-exposed containers with water spray from a safe distance. Approach from upwind. Contain fire-fighting water to prevent environmental release.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Isolate leaks provided there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (see section 8). Evacuate the area and keep out those who do not have protection.

For emergency responders

Wear protective equipment. Keep unprotected persons away. See section 8.

Environmental precautions

Eliminate all ignition sources. Avoid release to drains, watercourses or soil. Contain spillage with inert absorbent material. Notify the relevant authority in case of significant environmental release.

Methods and materials for containment and cleaning up

Absorb with inert non-combustible absorbent material (sand, vermiculite) and place in a labelled, closed container for disposal (preferably recovered for recycling). Ventilate the area after clean-up.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Keep away from heat, sparks, open flame and other ignition sources. Use only in well-ventilated areas with explosion-proof electrical equipment. Ground and bond containers during transfer to prevent static discharge.

B. Technical recommendations for the prevention of fires and explosions

Store and handle away from oxidizing agents and ignition sources. Use bonding/grounding for all transfer operations. Keep containers tightly closed when not in use.

C. Technical recommendations on general occupational hygiene

Do not eat or drink during the process; wash hands afterwards with suitable cleaning products.

D. Technical recommendations to prevent environmental risks

Provide tight electrical equipment well protected against corrosion. Avoid atmospheric emissions. Warn people about the dangers of the product. Follow the protective measures given in the exposure controls/personal protection section. In industrial installations, apply the rules for the prevention of major accidents (consult an expert).

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Minimum Temp.	5°C
Maximum Temp.	35°C
Maximum time	24 Months in original sealed packaging

B. General conditions for storage

Store in a cool, dry, well-ventilated area away from heat, ignition sources, direct sunlight and oxidizing agents, in tightly closed containers, in accordance with local flammable liquid storage regulations. For additional information see subsection 10.5.

Specific end use(s)

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Substances whose occupational exposure limits have to be assessed in the workplace, per the Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987):

Identification	Occupational Exposure Limit Type	Value
Xylene (mixed isomers) CAS: 1330-20-7	ACGIH TLV – TWA (8 hrs)	100 ppm
Xylene (mixed isomers) CAS: 1330-20-7	ACGIH TLV – STEL (15 min)	150 ppm

Appropriate engineering controls

It is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding occupational exposure limits, in addition to individual protective equipment (PPE) as needed. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.

B. Respiratory protection

Not normally required with adequate ventilation. For higher vapour concentrations, use an organic vapour cartridge respirator.

C. Specific protection for the hands

Chemical-resistant gloves (e.g. nitrile, Viton®).

D. Eye and face protection

Chemical splash goggles.

E. Bodily protection

Flame-retardant / antistatic clothing where flammable atmospheres may be present.

F. Additional emergency measures

Emergency shower (ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011) and eyewash stations (DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011) should be available.

Environmental exposure controls

Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Liquid
Appearance	Clear, mobile liquid
Color	Colorless
Odor	Aromatic, sweet
Odour threshold	~0.05–1 ppm
Volatility	
Boiling point at atmospheric pressure	138–144°C
Vapour pressure at 20°C	~0.8 kPa (6 mmHg)
Evaporation rate (n-BuAc = 1)	<1 (slow)
Product Description	
Density / Relative density at 20°C	0.86–0.87 g/cm³
Dynamic / Kinematic viscosity at 20°C	~0.62 mPa·s
Concentration	≥ 98%
pH	Not applicable (non-aqueous)
Vapour density (air = 1)	~3.7
Partition coefficient n-octanol/water (log Pow)	~3.15
Solubility in water at 20°C	~0.16 g/L (practically insoluble)
Decomposition temperature	Not established
Melting point/freezing point	-25°C to -48°C (isomer dependent)
Flammability	
Flash Point	~27–32°C (closed cup)
Flammability (solid, gas)	Non-applicable (liquid); flammable
Autoignition temperature	~465°C
Lower / Upper flammability limit	~1.0% / 7.0% (vol. in air)
Particle Characteristics	
Median equivalent diameter	Non-applicable (liquid)

Values are typical literature/reference values for this substance and may vary slightly by isomer ratio/batch.

Other information

Explosive properties	Not classified as explosive; vapour/air mixtures are flammable within the flammability limits
Oxidising properties	Not an oxidizer
Corrosive to metals	Not classified
Heat of combustion	~43 kJ/g (approx.)
Surface tension at 20°C	~28.5 mN/m
Refraction index	~1.495

10. STABILITY AND REACTIVITY

Reactivity

No reactivity hazard under normal conditions of storage, handling and use. Reacts with strong oxidizing agents (risk of fire).

Chemical stability

Chemically stable under the indicated conditions of storage, handling and use.

Possibility of hazardous reactions

Vapours can form explosive mixtures with air. Reaction with strong oxidizers can be vigorous/exothermic. Under recommended conditions no hazardous reactions are expected.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Vapour/air mixtures flammable	Avoid heat/ignition sources	Avoid prolonged direct exposure	Not applicable

Incompatible materials

Strong Oxidizing Agents	Strong Acids	Ignition Sources
Avoid contact – vigorous/exothermic reaction	Avoid contact	Avoid – flammable liquid/vapour

Hazardous decomposition products

Carbon monoxide and carbon dioxide on combustion; no hazardous decomposition under normal storage.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect)
Harmful/irritant to the gastrointestinal tract; high aspiration hazard if vomiting occurs.

B. Inhalation (acute effect)
Harmful if inhaled (H332). Vapours cause irritation of the respiratory tract, headache, dizziness and narcotic effects at high concentrations.

C. Contact with skin and eyes (acute effect)
Harmful in contact with skin (H312); causes skin and serious eye irritation.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)
Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not classifiable (Group 3).

E. Sensitizing effects
Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure
May cause respiratory irritation (H335) at high vapour concentrations.

G. Specific target organ toxicity (STOT) – repeated exposure
May cause damage to hearing organs and the central nervous system through prolonged or repeated exposure (H373).

H. Aspiration hazard
May be fatal if swallowed and enters airways (H304) due to low viscosity/surface tension.

Product-specific toxicological information

Identification	Acute Toxicity	Genus
Xylene (mixed isomers) CAS: 1330-20-7	LD50 oral: 4300 mg/kg	Rat
	LD50 dermal: >1700 mg/kg	Rabbit
	LC50 inhalation: ~29.08 mg/L (4h)	Rat

12. ECOLOGICAL INFORMATION

Harmful to aquatic organisms.

Toxicity

Identification	Acute Toxicity	Species	Genus
Xylene (mixed isomers) CAS: 1330-20-7	LC50: 13.4 mg/L (96h)	Pimephales promelas	Fish
	EC50: 3.82 mg/L (48h)	Daphnia magna	Crustacean

Persistence and degradability

Readily biodegradable under standard aerobic test conditions.

Bioaccumulative potential

Low-to-moderate bioaccumulation potential (log Pow ~3.15; BCF estimated ~10–30).

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
~240–690 (low-moderate)	~7.3×10⁻³ atm·m³/mol	Volatilises	Moderately mobile

Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of Annex XIII.

Other adverse effects

Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Preferably recover/recycle by distillation where feasible. Otherwise incinerate in a licensed hazardous waste incinerator with emission control, in accordance with local regulations. For packaging: drain thoroughly; empty containers may retain flammable vapour – do not cut, weld or drill.

Refer to national and local regulations on waste management, including the Hazardous and Other Wastes (Management and Transboundary Movement) Rules.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023)

14.1 UN number	UN1307
14.2 UN proper shipping name	XYLENES
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22)

14.1 UN number	UN1307
14.2 UN proper shipping name	XYLENES
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Marine pollutant	No
14.6 Special precautions for user	EmS Codes: F-E, S-D | Limited quantities: 5 L | Segregation group: Not relevant
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024)

14.1 UN number	UN1307
14.2 UN proper shipping name	XYLENES
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996
Public Liability Insurance Act, 1991

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

H226: Flammable liquid and vapour.
H332: Harmful if inhaled.
H312: Harmful in contact with skin.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H304: May be fatal if swallowed and enters airways.
H373: May cause damage to organs through prolonged or repeated exposure.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

PubChem (National Library of Medicine); European Chemicals Agency (ECHA) classification and labelling inventory; United Nations Economic Commission for Europe (UNECE) Model Regulations; ACGIH Threshold Limit Values.

Abbreviations and acronyms

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | COD: Chemical Oxygen Demand | BOD5: 5-day biochemical oxygen demand | BCF: Bioconcentration factor | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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