



## Safety Data Sheet

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### Section 1. Identification of the substance/mixture and of the company/undertaking

#### Product identifier:

Product name: Xylene

SDS No. : 86144E-3

#### Relevant identified uses of the substance or mixture and uses advised against

Research and Development

#### Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

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### Section 2. Hazards identification

#### GHS classification and label elements of the product

#### Classification of the substance or mixture

##### PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 3

##### HEALTH HAZARDS

Acute toxicity (Dermal): Category 4

Acute toxicity (Inhalation): Category 4

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2

Carcinogenicity: Category 2

Reproductive toxicity: Category 1B

Specific target organ toxicity – single exposure: Category 1 (liver, central nervous system, respiratory system, kidneys)

Specific target organ toxicity – single exposure: Category 3 (Narcotic effects)

Specific target organ toxicity – repeated exposure: Category 1 (auditory organ, nervous system, respiratory system)

Aspiration hazard: Category 1

##### ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 2

Hazardous to the aquatic environment, long-term (chronic): Category 2

(Note) GHS classification without description: Not classified/Classification not possible

#### Label elements



Signal word: Danger

#### HAZARD STATEMENT

Flammable liquid and vapor

Harmful in contact with skin

Harmful if inhaled

Causes skin irritation

Causes serious eye irritation

Suspected of causing cancer



May damage fertility or the unborn child

Causes damage to organs (liver, central nervous system, respiratory system, kidneys)

May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure (auditory organ, nervous system, respiratory system)

May be fatal if swallowed and enters airways

Toxic to aquatic life with long lasting effects

#### PRECAUTIONARY STATEMENT

##### Prevention

Avoid release to the environment.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not eat, drink or smoke when using this product.

##### Response

In case of fire: Use appropriate media to extinguish.

Collect spillage.

Get medical advice/attention if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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 SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

##### Storage

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

##### Disposal

Dispose of contents/container in accordance with local/national regulation.

#### Specific Physical and Chemical hazards

Flammable liquid. Vapor/air mixture may explode.

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### Section 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Substance

Ingredient name:o-,m-,p-Xylene

Content (%):80(min)

Chemical formula:C<sub>24</sub>H<sub>30</sub>

Chemicals No, Japan:3-3; 3-60

CAS No.:1330-20-7



MW:106.16

Note : The figures shown above are not the specifications of the product.

## Impurities

Ethylbenzene 13-17% (CAS No. 100-41-4)

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Section 4. First-aid measures

## Descriptions of first-aid measures

## General measures

Get medical advice/attention if you feel unwell.

## IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

## IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: 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 SWALLOWED

Rinse mouth.

Do NOT induce vomiting.

Immediately call a POISON CENTER/doctor/physician.

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Section 5. Fire-fighting measures

## Extinguishing media

## Suitable extinguishing media

In case of fire, use foam, dry powder, CO2 to extinguish.

## Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – other (except for phosphate etc.,hydrogen carbonate etc.)

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – other (except for phosphate etc.,hydrogen carbonate etc.)

Bucket of water or tank of water

## Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

## Advice for firefighters

## Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

## Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.



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**Section 6. Accidental release measures****Personnel precautions, protective equipment and emergency procedures**

Ventilate area until material pick up is complete.

Wear proper protective equipment.

**Environmental precautions**

Prevent spills from entering sewers, watercourses or low areas.

**Methods and materials for containment and cleaning up**

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

**Preventive measures for secondary accident**

Collect spillage.

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**Section 7. Handling and storage****Precautions for safe handling****Preventive measures**

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

**Safety Measures**

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

When using do not eat, drink or smoke.

**Any incompatibilities**

See "10.Stability and Reactivity"

**Advice on general occupational hygiene**

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off contaminated clothing and wash it before reuse.

**Storage****Conditions for safe storage**

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Keep under lock and key.

**Container and packaging materials for safe handling**

Glass

Stainless steel



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## Section 8. Exposure controls/personal protection

### Control parameters

#### Adopted value

(o-,m-,p-Xylene)

ACGIH(2021) TWA: 20ppm (Eye & URT irr; hematologic eff; ototoxicity; CNS impair)

(Ethylbenzene)

ACGIH(2021) TWA: 20ppm

(URT & eye irr; ototoxicity; kidney eff; CNS impair)

#### Notation

(o-,m-,p-Xylene)

OTO

(Ethylbenzene)

OTO

#### OSHA-PEL

(Ethylbenzene)

TWA: 100ppm, 435mg/m<sup>3</sup>

(o-,m-,p-Xylene)

TWA: 100ppm, 435mg/m<sup>3</sup>

### Exposure controls

#### Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures

##### Respiratory protection

Wear respiratory protection.

##### Hand protection

Wear protective gloves.

##### Eye protection

Wear eye/face protection.

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## Section 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless, Clear

Odor: Characteristic odor

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point: 25–33°C

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Insoluble

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density: 0.86–0.87g/ml(20°C)

Relative vapor density (Air=1) data is not available.



Particle characteristics data is not available.

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## Section 10. Stability and Reactivity

### Reactivity

Not available.

### Chemical stability

Stable under normal storage/handling conditions.

### Possibility of hazardous reactions

(o-,m-,p-Xylene)

As a result of flow, agitation, etc., electrostatic charges can be generated.

Reacts with strong acids and strong oxidants. (ICSC 0084,0085,0086)

### Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

### Incompatible materials

Strong acids, Strong oxidizing agents

### Hazardous decomposition products

Carbon oxides

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## Section 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[Data for components of the product]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

rat LD50=3500 – 8800mg/kg (NITE risk assessment, 2008)

(Ethylbenzene)

rat LD50=3500–4700mg/kg (AICIS IMAP, 2020)

##### Acute toxicity (Dermal)

[Data for components of the product]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

rabbit LD50=1700mg/kg (EPA Pesticide, 2005)

(Ethylbenzene)

rabbit LD50=15400mg/kg (ACGIH, 2011)

##### Acute toxicity (Inhalation)

[Data for components of the product]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

vapor: rat LC50=6350–6700ppm/4hr (NITE Initial Risk Assessment Report, 2008)

(Ethylbenzene)

vapor: rat LC50=4000ppm/4hr (OEL Documentations (JSOH), 2020)

mist: rat LC50=55mg/L/2hr (cal.: 27.5mg/L/4hr) (MOE Result of the initial environmental risk assessment of chemicals, 2015)

#### Irritant properties

##### Skin corrosion/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

rabbit erythema, edema, necrosis (CERI/NITE Hazard Assessment Report, 2008)

##### Serious eye damage/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

rabbit mild to moderate irritation (CERI/NITE Hazard Assessment Report, 2008)

(Ethylbenzene)

rabbit mild irritation (NITE Initial Risk Assessment Report, 2007 et al)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[Data for components of the product]

[GHS Cat. Japan, base data]

(Ethylbenzene)

cat.2; IARC Gr. 2B (IARC, 2000 et al.)

[IARC]

(o-,m-,p-Xylene)

Group 3 : Not classifiable as to its carcinogenicity to humans

(Ethylbenzene)

Group 2B : Possibly carcinogenic to humans

[ACGIH]

(o-,m-,p-Xylene)

A4(2021) : Not Classifiable as a Human Carcinogen

(Ethylbenzene)

A3(2021) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity

[Data for components of the product]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

cat. 1B; ATSDR, 2007

(Ethylbenzene)

cat. 1B; Recommendation of Occupational Exposure Limits (JSOH), 2021; 2021; ACGIH 7th, 2011 et al.

Specific target organ toxicity (STOT)

STOT-single exposure

[Data for components of the product]

[cat.1]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

liver, central nervous system, respiratory system, kidneys (CERI/NITE Hazard Assessment Report, 2008)

[cat.3 (respiratory tract irritation)]

[GHS Cat. Japan, base data]

(Ethylbenzene)

respiratory tract irritation (ACGIH, 2011; AICIS IMAP, 2020)

[cat.3 (narcotic effects)]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

narcotic effect (CERI/NITE Hazard Assessment Report, 2008)

(Ethylbenzene)

narcotic effect (ACGIH, 2011)

STOT-repeated exposure

[Data for components of the product]

[cat.1]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)



nervous system, respiratory system (CERI/NITE Hazard Assessment Report, 2008)  
(Ethylbenzene)

auditory organ, nervous system (JSOH OEL Documentations, 2020)

#### Aspiration hazard

[Data for components of the product]

[cat.1]

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

cat. 1; kinematic viscosity=0.86(o-), 0.67(m-), 0.70(p-) mm<sup>2</sup>/s (25°C) (HSDB, 2014)

(Ethylbenzene)

cat. 1; hydrocarbon, kinematic viscosity=0.63 mm<sup>2</sup>/s (40°C) (CLH Report, 2010)

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## Section 12. Ecological Information

### Toxicity

#### Aquatic toxicity

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

(o-,m-,p-Xylene)

Fish (rainbow trout) LC50=3.3mg/L/96hr (NITE Initial Risk Assessment, 2005)

(Ethylbenzene)

Crustacea (bayshrimp) LC50=0.42mg/L/96hr (NITE Initial Risk Assessment Report, 2007)

Hazardous to the aquatic environment, long-term (chronic)

[GHS Cat. Japan, base data]

(Ethylbenzene)

Crustacea (Ceriodaphnia reticulata) NOEC=0.956mg/L/7days (MOE Japan, 2015)

#### Water solubility

(Ethylbenzene)

0.015 g/100 ml (20°C) (ICSC, 2007)

#### Persistence and degradability

[Data for components of the product]

(o-,m-,p-Xylene)

Not rapidly degradable (BOD\_Degradation : 39% (NITE Initial Risk Assessment Report, 2005))

(Ethylbenzene)

Not rapidly degradable (BOD\_Degradation : 0% (MITI official bulletin, 1990))

#### Bioaccumulative potential

[Data for components of the product]

(o-,m-,p-Xylene)

log Pow=3.16 (PHYSPROP DB, 2005)

(Ethylbenzene)

log Kow=3.15 (PHYSPROP DB, 2005)

#### Mobility in soil

Mobility in soil data is not available.

#### Other adverse effects

Ozone depleting chemical data is not available.

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## Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

#### Waste treatment methods

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.





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**Section 14. Transport Information**

UN Number or ID Number : 1307

UN Proper Shipping Name :

XYLENES

Class or division (Transport hazard class) : 3

Packing group : III

ERG GUIDE No.: 130

Special provisions No.: 223

**IMDG Code (International Maritime Dangerous Goods Regulations)**

UN Number or ID Number : 1307

UN Proper Shipping Name :

XYLENES

Class or division (Transport hazard class) : 3

Packing group : III

Special provisions No.: 223

**IATA (Dangerous Goods Regulations)**

UN Number or ID Number : 1307

UN Proper Shipping Name :

XYLENES

Class or division (Transport hazard class) : 3

Hazard labels : Flamm.liquid

Packing group : III

Special provisions No.: A3

**Environmental hazards**

Marine pollutants (yes/no) : yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Noxious Liquid Substances ; Cat. Y

Ethylbenzene; o-,m-,p-Xylene

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**Section 15. Regulatory Information**

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Ethylbenzene; o-,m-,p-Xylene

**Other regulatory information**

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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**Section 16. Other information****GHS classification and labelling**

Flammable liquids, Category 3: H226 Flammable liquid and vapour

Acute toxicity, Category 4: H312 Harmful in contact with skin

Acute toxicity, Category 4: H332 Harmful if inhaled

Skin corrosion/irritation, Category 2: H315 Causes skin irritation

Serious eye damage/eye irritation, Category 2: H319 Causes serious eye irritation

Carcinogenicity, Category 2: H351 Suspected of causing cancer

Reproductive toxicity, Category 1B H360 May damage fertility or the unborn child

STOT – single exposure, Category 1: H370 Causes damage to organs

STOT – single exposure, Category 3, Narcotic effects: H336 May cause drowsiness or dizziness.

STOT – Repeated exposure, Category 1: H372 Causes damage to organs through prolonged or



repeated exposure

Aspiration hazard, Category 1: H304 May be fatal if swallowed and enters airways

Hazardous to the aquatic environment, short-term (acute), Category 2: H401 Toxic to aquatic life

Hazardous to the aquatic environment, long-term (chronic), Category 2: H411 Toxic to aquatic life with long lasting effects

#### References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2020 Edition (Incorporating Amendment 40-20)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2022 TLVs and BEIs. (ACGIH)

Supplier's data/information

#### General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2021).