

Safety Data Sheet

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

Product identifier:

Product name: Xylene

Reference number(SDS): 25165jis_J_E1-6

Product type:

Reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

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 (central nervous system, respiratory system, liver, kidney)

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

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

Specific target organ toxicity – repeated exposure: Category 2 (auditory organ)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 2

Hazardous to the aquatic environment (Long-term): Category 2

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

Label elements

Signal word: Danger

HAZARD STATEMENT

H226-Flammable liquid and vapor

H312-Harmful in contact with skin

H332-Harmful if inhaled

H315-Causes skin irritation

H319-Causes serious eye irritation

H351-Suspected of causing cancer

H360–May damage fertility or the unborn child

H370–Causes damage to organs

H336–May cause drowsiness or dizziness

H372–Causes damage to organs through prolonged or repeated exposure

H373–May cause damage to organs through prolonged or repeated exposure

H411–Toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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.

Use personal protective equipment as required.

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

Response

In case of fire: Use appropriate media other than water to extinguish.

Collect spillage.

Get medical advice/attention if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

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

IF exposed or concerned: Call a POISON CENTER/doctor/physician.

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.

Storage

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

Store locked up.

Disposal

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

Specific Physical and Chemical hazards

Flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name: Xylene (Mixture of isomers)

Content (%): 80.0

Chemical formula: C₈H₁₀

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

CAS No.:1330-20-7

MW:106.17

ECNO:215-535-7

Ingredient name:Ethylbenzene

Content (%):10~20

Chemical formula:C8H10

Chemicals No, Japan:3-28;3-60

CAS No.:100-41-4

MW:106.17

ECNO:202-849-4

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

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

Keep victim warm and quiet.

Call emergency medical service.

Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Give artificial respiration if victim is not breathing.

Administer oxygen if breathing is difficult.

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 skin irritation 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.

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

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Dizziness. Drowsiness. Headache. Nausea. Burning sensation. Abdominal pain.

(Symptoms when skin and/or eye contact)

Dry skin. Conjunctival redness of the eyes. Redness of the skin. Pain of the eyes.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

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

Runoff from fire control or dilution water may cause pollution.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Cool container with water spray.

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.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

Do not touch or walk through spilled material.

Environmental precautions

Runoff to sewer may create fire or explosion hazard.

Vapors may form explosive mixtures with air.

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Use clean non-sparking tools to collect absorbed material.

All equipment used when handling the product must be grounded.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Prevent entry into waterways, sewers, basements or confined areas.

Keep out of low areas.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe vapors/fume.

(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

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Use personal protective equipment as required.
- When using do not eat, drink or smoke.

Any incompatibilities

- Strong acids, Strong oxidizing agents should not be mixed with the chemicals.

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**

- Store in a well-ventilated place. Keep container tightly closed.
- Keep cool. Protect from sunlight.
- Store in accordance with local/national regulation.
- Store locked up.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

- See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

8. Exposure controls/personal protection**Control parameters****Control value**

- (Xylene (Mixture of isomers))
Japan control value (2004) \leq 50ppm
- (Ethylbenzene)
Japan control value (2012) \leq 20ppm

Adopted value

- (Xylene (Mixture of isomers))
JSOH(2001) 50ppm; 217mg/m³
ACGIH(1996) TWA: (100ppm)
STEL: (150ppm) (URT & eye irr; CNS impair)
- (Ethylbenzene)
JSOH(2020) 20ppm; 87mg/m³
ACGIH(2011) TWA: 20ppm
(URT irr; kidney dam(nephropathy); cochlear impair)

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. Recommended material(s): viton
- Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear safety glasses with side-shields.

Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Physical state: Liquid

Color: Colorless

Odor: Characteristic odor

Odor threshold: 60 mg/m³(Xylene (Mixture of isomers)); 8.7~870.0 mg/m³(Ethylbenzene)

Melting point/Freezing point: <-25°C (Xylene (Mixture of isomers))

Boiling point or initial boiling point: 137~140°C(Xylene (Mixture of isomers))

Boiling range data is not available.

Flammability (gases, liquids and solids): Ignitable

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 1.0 vol %(Ethylbenzene)

Upper explosion limit: 6.7 vol %(Ethylbenzene)

Flash point: 25°C(Xylene (Mixture of isomers))

Auto-ignition temperature: 432°C(Ethylbenzene)

Decomposition temperature data is not available.

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH data is not available.

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Insoluble

Solubility in solvent: Miscible with the usual organic solvents.

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

Vapor pressure data is not available.

Vapor density data is not available.

VOC data is not available.

Evaporation rate data is not available.

Density and/or relative density: 0.860~0.870 g/ml (20°C)

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

Relative density of the Vapor/air - mixture at 20°C (Air = 1) data is not available.

Critical temperature data is not available.

Particle characteristics data is not available.

10. Stability and Reactivity**Reactivity**

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.

Flammable.

Possibility of hazardous reactions

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

Reacts with strong acids and strong oxidants.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heat. Sparks.

Incompatible materials

Strong acids, Strong oxidizing agents

Hazardous decomposition products

Carbon oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers)) rat LD50=3500~8800mg/kg (NITE risk assessment, 2008)

(Ethylbenzene) rat LD50=3500mg/kg (EHC 186, 1996)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers)) rabbit LD50=1700mg/kg (EPA Pesticide, 2005)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers))

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

(Ethylbenzene)

vapor: rat LC50=4000ppm/4hr (PATTY 6th, 2012)

Labor standard law, Japan; Toxic

Xylene (Mixture of isomers)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers)) rabbit erythema, edema, necrosis (NITE risk assessment, 2008, 2008)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers)) rabbit mild ~ moderate irritation (NITE risk assessment, 2008)

(Ethylbenzene) rabbit mild (EHC 186, 1996)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[GHS Cat. Japan, base data]

(Ethylbenzene)

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

IARC-Gr.2B : Possibly carcinogenic to humans

ACGIH-A3(2011) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

EPA-Group D; Not Classifiable as to Human Carcinogenicity(1986)

JSOH-2B: Insufficient Evidence of Carcinogenicity for Humans

(Xylene (Mixture of isomers))

IARC-Gr.3 : Not Classifiable as a Human Carcinogen

ACGIH-A4(1996) : Not Classifiable as a Human Carcinogen

EPA-I; "Inadequate Information to Assess Carcinogenic Potential"(2005)

Reproductive toxicity

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers)) cat. 1B; ATSDR, 2007

(Ethylbenzene) cat. 1B; JSOH, 2014

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers))

central nervous system; respiratory system; liver; kidney (NITE risk assessment, 2008)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Ethylbenzene)

respiratory tract irritation (MOE risk assessment, 2015)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers)) narcotic effect (NITE risk assessment, 2008)

(Ethylbenzene) narcotic effect (ATSDR, 2010)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers)) nervous system; respiratory system (NITE risk assessment, 2008)

[cat.2]

[GHS Cat. Japan, base data]

(Ethylbenzene) hearing organ (ACGIH 7th, 2011)

Aspiration hazard

[cat.1]

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers))

cat. 1; kinematic viscosity=0.86(o-), 0.67(m-), 0.70(p-) mm²/s (25°C) (HSDB, Access on December 2014)

(Ethylbenzene)

cat. 1; hydrocarbon, kinematic viscosity=0.738 mm²/s (25°C)

Information on other hazards

Data on the preparation itself is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

H401-Toxic to aquatic life

H411-Toxic to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Xylene (Mixture of isomers))

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)

[GHS Cat. Japan, base data]

(Ethylbenzene)

Crustacea (Ceriodaphnia reticulata) NOEC=0.956mg/L/7days

(Environmental Risk Assessment for Chemicals by MOE in Japan vol. 13, 2015)

Water solubility

(Xylene (Mixture of isomers)) 106 mg/L (25°C) (HSDB)

(Ethylbenzene) 0.015 g/100 ml (20°C) (ICSC, 2007)

Persistence and degradability

(Xylene (Mixture of isomers))

Not degrade rapidly (BOD_Degradation : 39% (NITE Initial Risk Assessment Report, 2005))

(Ethylbenzene)

Not degrade rapidly (BOD_Degradation : 0% (MITI official bulletin, 1990))

Bioaccumulative potential

(Xylene (Mixture of isomers)) log Pow=3.16 (PHYSPROP DB, 2005)

(Ethylbenzene) log Pow=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.

Additional data

Data on the preparation itself is not available.

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.

14. Transport Information

UN No., UN CLASS

UN No. or ID No.: 1307

UN Proper Shipping Name : XYLENES

Class or division (Transport hazard class) : 3

Packing group : III

ERG GUIDE No.: 130

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1307

Proper Shipping Name : XYLENES

Class or division : 3

Packing group : III

IATA Dangerous Goods Regulations

UN No.: 1307

Proper Shipping Name : XYLENES

Class or division : 3

Hazard labels : Flamm.liquid

Packing group : III

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

MARPOL Annex V – Prevention of pollution by garbage discharge

Reproductive toxicity: cat.1, 1A, 1B

Xylene (Mixture of isomers); Ethylbenzene

Specific target organ toxicity – repeated exposure: cat.1

Xylene (Mixture of isomers)

Hazardous to the aquatic environment – long-term hazard: cat.1, 2

Xylene (Mixture of isomers); Ethylbenzene

Maritime transport in bulk according to IMO instruments

Noxious Liquid ; Cat. Y

Ethylbenzene(Y-92); Xylene (Mixture of isomers)(Y-130)

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Ethylbenzene; Xylene (Mixture of isomers)

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

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

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

16. Other information

GHS classification and labelling

H226-Flam. Liq. 3: H226 Flammable liquid and vapor

H312-Acute Tox. 4: H312 Harmful in contact with skin

H332-Acute Tox. 4: H332 Harmful if inhaled

H315-Skin Irrit. 2: H315 Causes skin irritation

H319-Eye Irrit. 2: H319 Causes serious eye irritation

H351-Carc. 2: H351 Suspected of causing cancer

H360-Repr. 1B: H360 May damage fertility or the unborn child

H370-STOT SE 1: H370 Causes damage to organs

H336-STOT SE 3: H336 May cause drowsiness or dizziness

H372-STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

H373-STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure

H401-Aquatic Acute 2: H401 Toxic to aquatic life

H411-Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN

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

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2021 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019

2020 Recommendation on TLVs (JISOH)

Supplier's data/information

Chemicals safety data management system "GHS Assistant" Version 4.13 (<https://www.asahi-ghs.com/>)

NITE Chemical Risk Information Platform "NITE-CHRIP"

(https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)

GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

Definitions and Abbreviations

SDS (Safety Data Sheet)

LD50 (Lethal Dose, 50%)

LC50 (Lethal Concentration, 50%)

IARC (International Agency for Research on Cancer)
ACGIH (American Conference of Governmental Industrial Hygienists)
EPA (US Environmental Protection Agency)
NTP (US National Toxicology Program)
JSOH (Japan Society for Occupational Health)
EU (European Union)
EC50 (Effective Concentration, 50%)
NOEC (No Observed Effect Concentration)
BOD (Biochemical Oxygen Demand)
COD (Chemical Oxygen Demand)
BCF (Bioconcentration Factor)
anh (anhydride)

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 2020).