1. Identification of the substance/mixture and of the company/undertaking
   Product identifier:
   Product name: Xylene
   Product code (SDS NO): 86143E-1

Details of the supplier of the safety data sheet
Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku, Osaka 540-0029, JAPAN
Division: Safety Management Dept. of Chemicals
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607
e-mail address: kagakuhinanzenkanri@kishida.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 (CNS; respiratory apparatus; liver; kidney)
   Specific target organ toxicity – single exposure: Category 3 (Narcosis)
   Specific target organ toxicity – repeated exposure: Category 1 (Nerve/nervous system; respiratory apparatus)
   Aspiration hazard: Category 1
   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 applicable/Out of classification/Not classifiable

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 after single exposure
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways
Toxic to aquatic life
Toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention
Avoid release to the environment.
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.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves or protective clothing.
Wear protective gloves and face protection.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response
In case of fire: Use appropriate media other than water for extinction.
Collect spillage.
Get medical advice/attention if you feel unwell.
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/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.
Do NOT induce vomiting.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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.

3. Composition/information on ingredients
Mixture/Substance selection:
Substance
Ingredient name:o-, m-, p-Xylene
Content(%):90(min)
Chemical formula:C_{24}H_{30}
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 and stabilizing additives
Ethylbenzene 5.0–8.0% (CAS No. 100-41-4)

4. First-aid measures
Descriptions of first-aid measures
General measures
Get medical attention/advice if you feel unwell.
IF INHALED
Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair)
Take off immediately all contaminated clothing. Rinse skin with water/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.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures
Extinguishing media
Suitable extinguishing media
Use appropriate extinguishing media suitable for surrounding facilities.
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/flame resistant/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
Ventilate area until material pick up is complete.
Wear proper protective equipment.
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.
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/sparks/open flames/hot surfaces. - No smoking.
   Ground/bond container and receiving equipment.
   Use explosion-proof electrical/ventilating/lighting equipment.
   Use only non-sparking tools.
   Take precautionary measures against static discharge.
   Exhaust/ventilator
   Exhaust/ventilator should be available.
   Safety treatments
   Avoid contact with skin.
   Avoid contact with eyes.
   Safety Measures/Incompatibility
   Use only outdoors or in a well-ventilated area.
   Wear protective gloves, protective clothing or face protection.
   Wear eye protection/face protection.
   When using do not eat, drink or smoke.
   Conditions for safe storage, including any incompatibilities
   Recommendation for storage
   Keep container tightly closed.
   Store in a cool, dry place. Do not store in direct sunlight.
   keep under lock and key.

8. Exposure controls/personal protection
   Control parameters
   Adopted value
   (Ethylbenzene)
   ACGIH(2010) TWA: 20ppm
   (URT irr; kidney dam; nephropathy; cochlear impair)
   (o-,m-,p-Xylene)
   ACGIH(1992) TWA: 100ppm
   STEL: 150ppm (URT & eye irr; CNS impair)
   OSHA–PEL
   (Ethylbenzene)
   TWA: 100ppm, 435mg/m3
   (o-,m-,p-Xylene)
   TWA: 100ppm, 435mg/m3
   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
9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties
- Appearance: Liquid
- Color: Colorless
- Odor: Characteristic odor
- pH data N.A.

Phase change temperature
- Initial Boiling Point/Boiling point data N.A.
- Boiling range data N.A.
- Melting point/Freezing point data N.A.
- Decomposition temperature data N.A.
- Flash point: 25–33℃
- Auto-ignition temperature data N.A.
- Explosive properties data N.A.
- Vapor pressure data N.A.
- Specific gravity/Density data N.A.
- Solubility
  - Solubility in water: 0.2g/100ml
  - n-Octanol/water partition coefficient data N.A.

10. Stability and Reactivity

Reactivity
- N.A.

Chemical stability
- Stable under normal storage/handling conditions.

Possibility of hazardous reactions
- (Ethylbenzene)
  - Reacts with strong oxidants. Attacks plastics and rubber. (ICSC 0268)

Conditions to avoid
- Contact with incompatible materials.
- Contact with fire source.

Incompatible materials
- 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]
    - (Ethylbenzene)
    - rat LD50=3500mg/kg (EHC 186, 1996)
    - (o-,m-,p-Xylene)
rat LD50=3500 – 8800mg/kg (NITE risk assessment, 2008)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]
(o-,m-,p-Xylene)
rabbit LD50=1700mg/kg (EPA Pesticide, 2005)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]
(Ethylbenzene)

vapor: rat LC50=4000ppm/4hr (PATTY 6th, 2012)
(o-,m-,p-Xylene)

vapor: rat LC50=6350–6700ppm/4hr (NITE primary risk assessment, 2008)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]
(o-,m-,p-Xylene)
rabbit erythema, edema, necrosis (NITE primary risk assessment, 2008)

Serious eye damage /irritation

[GHS Cat. Japan, base data]
(Ethylbenzene)
rabbit mild (EHC 186, 1996)
(o-,m-,p-Xylene)
rabbit mild to moderate (NITE primary risk assessment, 2008)

No Allergenic and sensitizing effects data available

No Mutagenic effects data available

Carcinogenicity

[GHS Cat. Japan, base data]
(Ethylbenzene)
cat.2; IARC Gr. 2B (IARC, 2000 et al.)
(Ethylbenzene)
IARC-Gr.2B : Possibly carcinogenic to humans
(o-,m-,p-Xylene)
IARC-Gr.3 : Not Classifiable as a Human Carcinogen
(o-,m-,p-Xylene)
ACGIH-A4(1992) : Not Classifiable as a Human Carcinogen
(Ethylbenzene)
ACGIH-A3(2010) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity

[GHS Cat. Japan, base data]
(o-,m-,p-Xylene)
cat. 1B; ATSDR, 2007
(Ethylbenzene)
cat. 1B; JSOH, 2014

No Teratogenic effects data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure

STOT

STOT—single exposure

[cat.1]

[GHS Cat. Japan, base data]
(o-,m-,p-Xylene)
CNS; respiratory apparatus; liver; kidney (NITE risk assessment, 2008)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]
(Ethylbenzene)
Respiratory tract irritation (MOE risk assessment, 2015)
12. Ecological Information

Ecotoxicity

Aquatic toxicity
- Toxic to aquatic life
- Toxic to aquatic life with long lasting effects

Aquatic acute toxicity component(s) data
[GHS Cat. Japan, base data]
\((\alpha-,m-,p-\text{Xylene})\)
Fish (rainbow trout) LC50=3.3mg/L/96hr (NITE primary risk assessment, 2005)
(Ethylbenzene)
Crustacea (bayshrimp) LC50=0.42mg/L/96hr (NITE primary risk assessment, 2007)

Aquatic chronic toxicity component(s) data
[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
\((\alpha-,m-,p-\text{Xylene})\)
Not degrade rapidly (BOD_Degradation : 39% (NITE primary risk assessment, 2005))
(Ethylbenzene)
Not degrade rapidly (BOD_Degradation : 0% (MITI official bulletin, 1990))

Bioaccumulative potential
\((\alpha-,m-,p-\text{Xylene})\)
\(\log\text{Pow}=3.16\) (PHYSPROP DB, 2005)
(Ethylbenzene)
\(\log\text{Kow}=3.15\) (PHYSPROP DB, 2005)

No Mobility in soil data available
Ozone depleting chemical data not available
13. Disposal considerations
   Waste treatment methods
   Avoid release to the environment (– if this is not the intended use).
   Dispose of contents/container in accordance with local/national regulation.

14. Transport Information
   UN No.: 1307
   Proper Shipping Name: XYLENES
   Class or division: 3
   Packing group: III
   ERG GUIDE No.: 130
   Special provisions No.: 223
   IMDG Code (International Maritime Dangerous Goods Regulations)
   UN No.: 1307
   Proper Shipping Name: XYLENES
   Class or division: 3
   Packing group: III
   Special provisions No.: 223
   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
   o-,m-,p-Xylene, Ethyl benzene
   Specific target organ toxicity – repeated exposure: cat.1
   o-,m-,p-Xylene
   Hazardous to the aquatic environment – long-term hazard: cat.1, 2
   o-,m-,p-Xylene, Ethyl benzene
   Transport in bulk according to Annex II of MARPOL73/78 and IBC Code
   Noxious Liquid; Cat. Y
   Ethyl benzene; o-,m-,p-Xylene

15. Regulatory Information
   Safety, health and environmental regulations/legislation specific for the substance or mixture
   US major regulations
   TSCA
   Ethyl benzene; o-,m-,p-Xylene
   Other regulatory information
   Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information
GHS classification and labelling

- Flam. Liq. 3: H226 Flammable liquid and vapor
- Acute Tox. 4: H312 Harmful in contact with skin
- Acute Tox. 4: H332 Harmful if inhaled
- Skin Irrit. 2: H315 Causes skin irritation
- Eye Irrit. 2: H319 Causes serious eye irritation
- Carc. 2: H351 Suspected of causing cancer
- Repr. 1B: H360 May damage fertility or the unborn child
- STOT SE 1: H370 Causes damage to organs after single exposure
- STOT SE 3: H336 May cause drowsiness or dizziness
- STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
- Asp. Tox. 1: H304 May be fatal if swallowed and enters airways
- Aquatic Acute 2: H401 Toxic to aquatic life
- Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects

Reference Book

- Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN
- Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
- Classification, labelling and packaging of substances and mixtures (table 31 ECN06182012)
- 2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
- 2018 TLVs and BEIs. (ACGIH)
- Supplier’s data/information

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

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 2017).