Revision date: 3/28/2024

Page

Safety Data Sheet

1. Chemical product and company identification

Product name : Mesitylene

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.

Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP

Name of section : Business Administration Department, Reagent Division

Telephone number : +81-3-6214-1090Facsimile number : +81-3-3241-1047Mail address : BC32@kanto.co.jp

Reference No : 25147

Product numbers applied by the : 25147, 26192

SDS

Recommended use : For research use only

Restrictions on use : Seek expert judgment when using the product for applications other

than those recommended.

2. Hazards identification

GHS classification

Physical hazards Flammable liquids Category 3
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye Category 2B

irritation

Specific target organ toxicity Category 3 (narcosis)

(single exposure)

Specific target organ toxicity

Specific target organ toxicity

(single exposure)

(Single exposure)

(repeated exposure)organs)Aspiration hazardCategory 1Aquatic acuteCategory 2

Environmental hazards

Aquatic chronic Category 2

Hazard pictograms









Category 3 (respiratory tract irritation.)

Category 1 (central nervous system, respiratory

Signal word : Danger

Hazard statements : Flammable liquid and vapor

May be fatal if swallowed and enters airways

Causes skin and eye irritation May cause respiratory irritation May cause drowsiness or dizziness

Causes damage to organs (central nervous system, respiratory

organs) through prolonged or repeated exposure

Toxic to aquatic life

Issue date: 9/30/2003

Page

Revision date: 3/28/2024

Toxic to aquatic life with long lasting effects

Precautionary statements

Prevention : 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 only non-sparking tools.

Take action to prevent static discharges.

Do not breathe mist/vapors.

Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face

protection.

Response : IF SWALLOWED: Immediately call a POISON CENTER or doctor.

IF ON SKIN: Wash with plenty of water.

 $\label{eq:contaminated} \mbox{IF ON SKIN (or hair): Take off immediately all contaminated}$

clothing. Rinse skin with water.

 $\ensuremath{\mathsf{IF}}$ INHALED: Remove person to fresh air and keep comfortable for

breathing.

 $\mbox{IF IN EYES: Rinse cautiously with water for several minutes.}$ Remove contact lenses, if present and easy to do. Continue

rinsing.

Call a POISON CENTER or doctor if you feel unwell. Get medical advice/attention if you feel unwell.

Do not induce vomiting.

If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Collect spillage.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal : Dispose of contents/container to hazardous or special waste

collection point, in accordance with local, regional, national

and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or : Substance

mixture

Storage

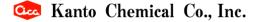
Synonyms : 1, 3, 5-Trimethylbenzene

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Mesitylene	≥ 98	С9Н12	Listed	203-604-4	108-67-8

4. First aid measures

First aid measures

First-aid measures after : Remove the victim to fresh air, and make him blow his nose and



<< 25147 Mesitylene >>

Page

3/7

Issue date: 9/30/2003

Revision date: 3/28/2024

inhalation

gargle.

First-aid measures after skin

contact

Wash the affected areas under running water.

First-aid measures after eye

contact

: Wash the affected areas under running water for at least 15

minutes. If necessary, get medical treatment.

First-aid measures after

ingestion

The chemical is volatile. Do not induce vomiting because it increases the risk of aspiration into the lungs. Get medical attention immediately. If necessary, rinse mouth with water.

Personal Protection in First Aid and Measures

: Rescuers should wear proper protective equipment like rubber gloves, goggles.

Most Important Symptoms/Effects

Symptoms/effects

Inhalation causes confusion, cough, dizziness, lethargy, headache, throat ache, vomiting.

5. Fire fighting measures

Suitable extinguishing media

Dry chemical, CO2, dry sand, or alcohol-resistant foam

Unsuitable extinguishing media

Water spray, Foam extinguisher

Firefighting instructions

Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and

protect surrounding area.

Fight fire from windward.

Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Alcohol-resistant foam extinguisher is effective

for a large scale fire.

Personal protection (Emergency

response)

Wear breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures

Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Environmental precautions

Environmental precautions

: Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment

Absorb spill with inert material (e.g, diatomaceous earth, sand) and flush spillage area with copious amounts of water.

Prevention Measures for Secondary Accidents

Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage

Handling

Technical measures

: Wear proper protective equipment to avoid contact with skin or

inhalation of vapor. Fire is strictly prohibited.

Ventilate well at working places.

Page

Precautions for safe handling : Use with an enclosed system or a local exhaust ventilation. Use

in well-ventilated areas.

Do not allow contact with oxidizing substances.

Storage

Storage conditions : Store in a dark, cool place and tightly closed.

Material used in : Glass, fluorine resin, stainless steel.

packaging/containers

Do not use vinyl chloride resin, acrylic resin, polystyrene etc.

8. Exposure controls / Personal protection equipment

ACGIH TWA 10 ppm

Appropriate engineering

controls

: Use with an enclosed system or a local exhaust ventilation.

Protective equipment

Respiratory protection : Chemical cartridge respirator with an organic vapor cartage or

airline respirator

Hand protection : Impervious protective gloves

Eye protection : Safety goggles

Skin and body protection : Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Liquid
Color : Colorless.
Odor : Aromatic

pH : No data available

Melting point : -44.72 ° C

Freezing point : No data available Boiling point : $164.716 \, ^{\circ}$ C Flash point : $50 \, ^{\circ}$ C (C.C.)

Auto-ignition temperature : 550 $^{\circ}$ C

Decomposition temperature : No data available

Flammability : Flammable
Vapor pressure : 2 hPa (20°C)
Relative density : No data available

Density : $0.862 - 0.867 \text{ g/cm}^3 (20^{\circ}\text{C})$

Relative gas density : 4.15

Solubility : Water: Insoluble. Organic solvents: Soluble in ethanol, diethyl

ether.

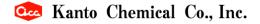
Partition coefficient n- : 3.42

octanol/water (log Pow)

Explosive limits (vol %) : No data available
Viscosity, kinematic : 0.843 mm²/s (20°C)
Particle characteristics : No data available

10. Stability and reactivity

Reactivity : Oxidation with potassium permanganate produces ubithenic acid and



Page

trimesic acid.

When boiled with aluminum chloride, the methyl group is transferred

to produce m-xylene, zulene, isozulene etc..

Chemical stability : Stable under normal conditions.

Possibility of hazardous

reactions

: May react violently when in contact with oxidizing substances.

Conditions to avoid : Light, heat.

Incompatible materials : Oxidizing substances.
Hazardous decomposition : Carbon monoxide.

products

11. Toxicological information

Acute toxicity (oral) : No classification

rat LD50=5000mg/kg

Acute toxicity (dermal) : Classification not possible Acute toxicity (inhalation) : No classification (gas)

Classification not possible (vapor) No classification (dust, mist)

rat LC50=24mg/L/4h

Skin corrosion/irritation : Causes skin irritation

In the skin irritation test (OECD TG 404) in rabbits, very slight redness was observed from 1 hour after application and became moderate to severe after 144 hours. In addition, it has been reported that slight edema was observed from 1 hour, but disappeared after 144 hours. Thus, it was classified into

category2.

Serious eye damage/irritation : Causes eye irritation

In an eye irritation study in rabbits (24-hour application), slight irritation was reported in the eyes. Thus, it was classified into

category 2B.

Respiratory sensitization : Classification not possible

Besides, among 37 individuals exposed for 7 years to vapours of a mixed solvent containing the isomer of the substance, 70% of humans exposed to the highest concentration reported onset of asthmatic bronchitis, although the possibility of benzene contamination has

not been ruled out.

Skin sensitization : Classification not possible

Germ cell mutagenicity : No classification

As for in vivo, both the micronucleus test with mouse bone marrow cells and the sister chromatid exchange test with mouse bone marrow cells were reported to be negative. Subsequent evaluation revealed negative results in the micronucleus test in mice, whereas the sister chromatid exchange test results were judged to be positive at higher doses. However, the maximum intraperitoneal dose reached 80% of LD50 level, and the maximum increase in SCE frequency was also reported to be only 1.5 times that of the control group. As for in vitro, the bacterial reverse mutation assay was negative with or without metabolic activity. EPA concluded that both isomers

of trimethylbenzene are poorly evidenced to be genotoxic.

Carcinogenicity : Classification not possible Reproductive toxicity : Classification not possible

In a developmental toxicity study in rats following inhalation exposure, no developmental toxicity was reported. No developmental

effects were observed, but there are no data on effects on

fecundity.

Page

STOT-single exposure : May cause drowsiness or dizziness

May cause respiratory irritation

In a single inhalational exposure study in 5000-9000 ppm, central nervous system depression has been reported. In a single inhalation exposure study in rats, 2240 ppm was extended from anaesthetic effects to respiratory failure, resulting in 4/16 deaths. In addition, it has been reported that pulmonary congestion was observed at necropsy.

Thus, it was classified into category 3 (respiratory tract

irritation, narcosis).

STOT-repeated exposure : Causes damage to organs (central nervous system, respiratory

organs) through prolonged or repeated exposure

A study was conducted on painters exposed for several years to thinners containing >30% of the substance and >50% of the isomers of the substance. High rates of headache, fatigue, dizziness, and numbness were seen in these workers, bronchitis with asthma was common, and gastrointestinal symptoms were also seen in many workers. In addition, blood effects were observed, but it has been reported that benzene mixed with solvent may be the cause. In a 4-week inhalation exposure study in rats, it was reported that the duration of passive avoidance behavior was shortened and the number of active avoidance behavior was increased in 25 ppm and above. Thus, it was classified into category 1 (central nervous system,

respiratory organs).

Aspiration hazard : May be fatal if swallowed and enters airways

It has been reported that persistence of this substance in the lungs may cause chemical pneumonitis. The kinematic viscosity at 20°C and 50°C has been reported to be 0.843 and 0.630 mm2/s,

respectively.

12. Ecological information

Ecotoxicity

Aquatic acute : Toxic to aquatic life

Daphnia magna LC50=6mg/L/48h

Aquatic chronic : Toxic to aquatic life with long lasting effects

Daphnia magna NOEC=0.4mg/L/21-day

Persistence and degradability

Not readily biodegradable

BOD : 0%

Bioaccumulative potential

Low bioconcentration

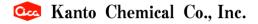
BCF : $23-342 (150 \mu \text{ g/L}), 42-328 (15 \mu \text{ g/L})$

Mobility in soil

Low mobility Koc : 602

Hazardous to the ozone layer

Ozone : Classification not possible



Page

13. Disposal considerations

Ecological waste information : Burn in a chemical incinerator equipped with an afterburner

and a scrubber. Or entrust approved waste disposal companies

with the disposal.

Contaminated container and

packaging

In case of disposal of empty bottles, dispose bottles after

removing the content thoroughly.

14. Transport information

International Regulations Transport by sea (IMDG)

UN-No. (IMDG) : 2325

Proper Shipping Name (IMDG) : 1, 3, 5-TRIMETHYLBENZENE

Packing group (IMDG) : III Transport hazard class(es) : 3

(IMDG)

Air transport(IATA)

UN-No. (IATA) : 2325

Proper Shipping Name (IATA) : 1,3,5-Trimethylbenzene

Packing group (IATA) : III Transport hazard class(es) : 3

(IATA)

Marine pollutant : Applicable

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

Pollutant category : X MFAG-No : 129

15. Regulatory information

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

16. Other information

Data sources : Solvents Handbook, T, Asahara el, Kodansha Scientific Ltd.

(1976) .

Handbook of Dangerous Substances Springer-Verlag Tokyo

(1991).

Handbook of 17322 Chemical Products, The Chemical Daily Co.

(2022) .

NITE Chemical Risk Information Platform (NITE-CHRIP), National

Institute of Technology and Evaluation.

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet (SDS) is prepared based on JIS Z7253.