

Safety Data Sheet

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

Product identifier:

Product name: o-Toluidine

Product code(SDS NO): 50025jis_J_E2-1

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

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

Division: Quality Assurance Department

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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

Physical and chemical hazards

Flammable liquids: Category 4

HEALTH HAZARDS

Acute toxicity Oral: Category 4

Acute toxicity Inhalation: Category 4

Serious eye damage/eye irritation: Category 2A

Germ cell mutagenicity: Category 2

Carcinogenicity: Category 1A

Specific target organ toxicity – single exposure: Category 1 (central nervous system, blood system, urinary bladder)

Specific target organ toxicity – single exposure: Narcosis Category 3

Specific target organ toxicity – repeated exposure: Category 1 (blood system, urinary bladder)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment – acute hazard: Category 1

Hazardous to the aquatic environment – long-term hazard: Category 1

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements



Signal word: Danger

HAZARD STATEMENT

Combustible liquid

Harmful if swallowed

Harmful if inhaled

Causes serious eye irritation

Suspected of causing genetic defects

May cause cancer

Causes damage to organs after single exposure

May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

- Do not handle until all safety precautions have been read and understood.
- Avoid release to the environment.
- Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
- Do not breathe dust/mist.
- Use only outdoors or in a well-ventilated area.
- Wash contaminated parts thoroughly after handling.
- Wear protective gloves and face protection.
- Wear 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 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 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 or doctor/physician if you feel unwell.

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.

Physical and Chemical hazards

- Heating may cause fire.

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Common name, synonyms: 2-Methylaniline

Ingredient name: o-Toluidine

Content(%): 99.0 <

Chemical formula: C₇H₉N

Chemicals No, Japan: 3-186

CAS No.: 95-53-4

MW: 107.16

ECNO: 202-429-0

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.
- 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.

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

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Blue lips, fingernails and skin. Confusion. Dizziness. Headache. Shortness of breath. Weakness. Convulsions. Nausea. Unconsciousness.

(Symptoms when skin and/or eye contact)

Redness. Blue lips, fingernails and skin. Eye's pain.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

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/ 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

Keep unauthorized personnel away.

Ventilate area after material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

Environmental precautions

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

Fire or Explosion : Runoff may pollute waterways.

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.

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.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/mist.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Exhaust/ventilator

Exhaust/ventilator should be available.

Safety treatments

Avoid contact with skin.

Avoid contact with eyes.

Avoid breathing dust or mist.

Safety Measures/Incompatibility

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 or face protection.

Wear protective gloves and face protection.

Wear eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

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

Keep cool. Protect from sunlight.

Store locked up.

8. Exposure controls/personal protection

Control parameters

Control value

Japan control value (2016) ≤ 1 ppm

Adopted value(The odor warning when the exposure limit value is exceeded is insufficient.)

JSOH(1991) 1ppm; 4.4mg/m³ (dermal)

ACGIH(1984) TWA: 2ppm (MeHb-emia; skin, eye, kidney & bladder irr)

Notation...Skin

OSHA-PEL

TWA 5ppm, 22mg/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.

Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Wear protective gloves. Recommended material(s): butyl rubber, impermeable or chemical resistant rubber

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.

Safety and Health measures

Wash ... thoroughly after handling.

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

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Liquid

Color: Colorless~Yellow

Odor: Characteristic odor (aniline-like odor)

pH data N.A.

Phase change temperature

Initial Boiling Point/Boiling point: 200°C

Melting point/Freezing point: -15.5°C

Decomposition temperature data N.A.

Flash point: (c.c.) 85°C

Auto-ignition temperature: 480°C

Explosive properties: Flammability or explosive limit

Lower limit: 1.5 vol %

Upper limit: 7.5 vol %

Vapor pressure: 34.5 Pa (25°C)

Relative Vapor Density (Air=1): 3.7

Relative density of the Vapor/air-mixture at 20°C (Air = 1): 1.00

Specific gravity/Density: 0.997~1.002 g/ml (20°C)

Viscosity: 3.39mPas(20°C)

Solubility

Solubility in water: 1.62 g/100 ml (20 °C)

n-Octanol /water partition coefficient: log Pow1.32

10. Stability and Reactivity

Chemical stability

Stable under normal storage/handling conditions.

Turns reddish-brown on exposure to air and light.

Possibility of hazardous reactions

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

Decomposes on heating and on burning. This produces toxic fumes including nitrogen oxides.

Reacts with strong oxidants and strong acids.

Attacks some forms of plastic(e.g. Polyvinyl chloride).

Conditions to avoid

Contact with incompatible materials.

Open flames. Heat. Air. Light.

Incompatible materials

Strong acids, Strong oxidizing agents

Hazardous decomposition products

Carbon oxides, Nitrogen oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

rat LD50=635~940 mg/kg (PATY 6th, 2012)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

rabbit LD50=3250 mg/kg (NITE primary risk assesment data, 2008)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

mist : rat LC50=3.827 mg/L/4hr (SIDS, 2006)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

rabbit : not irritating (SIDS, 2006)

Serious eye damage /irritation

[GHS Cat. Japan, base data]

rabbit : highly irritating (SIDS, 2006)

No Allergenic and sensitizing effects data available

Germ cell mutagenicity

[GHS Cat. Japan, base data]

cat.2; mouse/rat : NITE primary risk assessment, 2008

Reverse-mutation assay in bacteria (Ames test) :Negative(SIDS, 2005 et al.)

Chromosome aberration test :Positive(SIDS, 2005 et al.)

Carcinogenicity

[GHS Cat. Japan, base data]

cat.1A; IARC (100F, 2012) Gr.1

IARC-Gr.1 : Carcinogenic to humans

ACGIH-A3(1984) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

JSOH-1: Classifiable as to Human Carcinogenicity

EU-Category 1B; Substances presumed to have carcinogenic potential for humans

NTP-Reasonably Anticipated To Be Human Carcinogen

No reproductive toxicity data available

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

STOT

STOT-single exposure

[cat.1]

[Japan published data]

CNS; blood/blood system; bladder (NITE risk primary assessment, 2008; DFGOT vol. 3, 1992)

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

[Japan published data]

Narcosis (NITE risk primary assessment, 2008)

STOT-repeated exposure

[cat.1]

[Japan published data]

blood/blood system; bladder (DFGMAK-Doc.3, 1992; SIDS, 2006)

No Aspiration hazard data available

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

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Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

Crustacea (Daphnia magna) EC50 = 0.52mg/L/48hr (SIDS, 2008)

Aquatic chronic toxicity component(s) data

[GHS Cat. Japan, base data]

Crustacea (Daphnia magna) NOEC = 0.0126 mg/L/21 days (SIDS, 2008)

Water solubility

poor (ICSC, 2009)

Persistence and degradability

Not degrade rapidly [BOD_Degradation : 5% (Registered chemicals data check & review, Japan, 2000)]

Bioaccumulative potential

log Pow=1.32 (PHYSPROP Database, 2005)

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, UN CLASS

UN number: 1708

UN proper shipping name: TOLUIDINES, LIQUID / TOLUIDINES, SOLID

Transport hazard class(es): 6.1

Packing group: II

ERG GUIDE NO.: 153

15. Regulatory Information

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

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Y

o-Toluidine

US major regulations

TSCA

o-Toluidine

Other regulatory information

We are not able to check up the regulatory information in 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.

16. Other information

GHS classification and labelling

Flam. Liq. 4: H227 Combustible liquid

Acute Tox. 4: H302 Harmful if swallowed

Acute Tox. 4: H332 Harmful if inhaled

Eye Irrit. 2: H319 Causes serious eye irritation

Muta. 2: H341 Suspected of causing genetic defects

Carc. 1A: H350 May cause cancer

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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

Aquatic Acute 1: H400 Very toxic to aquatic life

Aquatic Chronic 1: H410 Very 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 19th edit., 2015 UN

Classification, labelling and packaging of substances and mixtures (table 3-1 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2018 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

NITE Chemical Risk Information Platform (NITE-CHRIP) <http://www.safe.nite.go.jp/japan/db.html>

GHS Classification Guidance for Enterprises 2013 Revised Edition (Aug. 2013, METI)

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 is advised to make their own tests to determine 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 2016).