

Shanghai Aladdin Biochemical Technology Co., Ltd.
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

SAFETY DATA SHEET

Version: v1
Revision Date: 2025-09-25
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Dimethylzinc
Product Number : D140708
Brand : aladdin
CAS-No. : 544-97-8(solution)

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Details of the supplier of the safety data sheet

Company : Shanghai Aladdin Biochemical Tech Co., Ltd
Address : 36 Xinjinqiao Road, Shanghai
Telephone : 400-620-6333
Fax : no data available

1.4 Emergency telephone number

Emergency Phone : 0532-83889090

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Physical hazards

Flammable liquids Category 2 (H225)

Substances/mixtures which, in contact with water, emit flammable gases Category 1 (H260)

Health hazards

Aspiration Toxicity Category 1 (H304)

Skin Corrosion/Irritation Category 1 B (H314)

Serious Eye Damage/Eye Irritation Category 1 (H318)

Reproductive Toxicity Category 2 (H361d)

Specific target organ toxicity - (single exposure) Category 3 (H336)

Specific target organ toxicity - (repeated exposure) Category 2 (H373)

Environmental hazards

Chronic aquatic toxicity Category 2 (H411)

2.2 GHS Label elements, including precautionary statements

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Pictogram



Danger

Signal word

Hazard statement(s)

| | |
|-------|---|
| H225 | Highly Flammable liquid and vapor |
| H250 | Catches fire spontaneously if exposed to air |
| H260 | In contact with water releases flammable gases which may ignite spontaneously |
| H304 | May be fatal if swallowed and enters airways |
| H314 | Causes severe skin burns and eye damage |
| H336 | May cause drowsiness or dizziness |
| H361d | Suspected of damaging the unborn child |
| H373 | Causes damage to organs through prolonged or repeated exposure |
| H411 | Toxic to aquatic life with long lasting effects |

Precautionary statement(s)

| | |
|----------------|--|
| P210 | Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking. |
| P222 | Do not allow contact with air. |
| P223 | Do not allow contact with water. |
| P231 | Handle under inert gas. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof [electrical/ventilating/lighting/.../] equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P260 | Do not breathe dust/fume/gas/mist/vapors/spray. |
| P264 | Wash hands [and ...] thoroughly after handling. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P231+P232 | Handle under inert gas/... Protect from moisture. |
| P321 | Specific treatment (see ... on this label). |
| P363 | Wash contaminated clothing before reuse. |
| P391 | Collect spillage. |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P302+P335+P334 | Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages]. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower]. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P370+P378 | In case of fire: Use ... to extinguish. |
| P405 | Store locked up. |
| P402+P404 | Store in a dry place. Store in a closed container. |

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| | |
|----------------|--|
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P501 | Dispose of contents/container to an approved waste disposal plant. |
| P264+P265 | Wash hands [and ...] thoroughly after handling. Do not touch eyes. |
| P305+P354+P338 | IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P317 | Get emergency medical help. |
| P302+P361+P354 | IF ON SKIN: Take off Immediately all contaminated clothing. Immediately rinse with water for several minutes. |
| P316 | Get emergency medical help immediately. |

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.2 Mixtures

| | |
|------------------|------------------------------------|
| Synonyms | : no data available |
| Formula | : C ₂ H ₆ Zn |
| Molecular weight | : 95.46 |

| Component | Classification | Concentration |
|--|---|---------------|
| Toluene | | |
| CAS-No.: 108-88-3 EC-No.: 203-625-9 | Flammable liquids Category 2; Acute toxicity Category 5; Skin corrosion/irritation Category 2; Reproductive toxicity Category 2; Specific target organ toxicity - single exposure Category 3; Specific target organ toxicity - repeated exposure Category 2; Aspiration hazard Category 2; Aquatic hazard Category 2; Long-term (chronic) aquatic hazard Category 3; H225, H333, H315, H361, H336, H373, H304, H401, H412 Concentration limits: 20 %: STOT SE 3, H336 | |
| Dimethylzinc | | |
| CAS-No.: 544-97-8 EC-No.: 208-884-1 | Pyrophoric liquids, Category 1; Substances and mixtures, which in contact with water, emit flammable gases, Category 1; Skin corrosion, Sub-category 1B; Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1; Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1 | |

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

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In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

CO 2, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon monoxide (CO), Carbon dioxide (CO₂), Toxic fumes, Zinc, Heavy metal oxides, Methane

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

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Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions(see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Stay away from heat and ignition sources.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Component | The United Kingdom | European Union | Ireland |
|-----------|---|---|---|
| Toluene | STEL: 100 ppm 15 min STEL: 384 mg/m ³ 15 min TWA: 50 ppm 8 hr TWA: 191 mg/m ³ 8 hr Skin | TWA: 50 ppm (8hr) TWA: 192 mg/m ³ (8hr) STEL: 100 ppm (15min) STEL: 384 mg/m ³ (15min) Skin | TWA: 192 mg/m ³ 8 hr. TWA: 50 ppm 8 hr. STEL: 384 mg/m ³ 15 min STEL: 100 ppm 15 min Skin |

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin protection

The gloves must be checked before use. Please use the correct method to remove the gloves (do not touch the

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outer surface of the gloves), and avoid any skin parts contacting the product. After use, please handle contaminated gloves carefully in accordance with relevant laws and regulations and effective laboratory procedures and procedures. Please clean and dry the protective gloves selected for your hands, which must comply with the specifications given in Regulation (EU) 2016/425 and the en 374 standard derived therefrom.

Body Protection

Impermeable clothing, flame-retardant and anti-static protective clothing, and the type of protective equipment must be selected according to the concentration and content of the dangerous substance in the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|-------------------------------|
| a) Appearance | form: liquid color: colorless |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | no data available |
| f) Initial boiling point and boiling range | no data available |
| g) Flash point | no data available |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure | no data available |
| l) Vapour density | no data available |
| m) Relative density | no data available |
| n) Water solubility | no data available |
| o) Partition coefficient: n-octanol/water | no data available |
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties N | no data available |
| t) Oxidizing properties N | no data available |

9.2 Other safety information

no data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Reacts violently with water.

10.4 Conditions to avoid

Excess heat. Exposure to moist air or water. Exposure to moisture. Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials

Acids. Water. Alcohols. oxygen. Oxidizing agent

10.6 Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). Toxic fumes. Zinc. Heavy metal oxides. Methane.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Toluene :

LD50 Oral - Rat - male - 5.580 mg/kg

(Tested according to Directive 92/69/EEC.)

LC50 Inhalation - Rat - male and female - 4 h - 25,7 mg/l

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - > 5.000 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit Result: irritating - 4 h Remarks: (ECHA)

Serious eye damage/eye irritation

Eyes - Rabbit Result: slight irritation (OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximization Test - Guinea pig Result: negative (Regulation (EC) No. 440/2008, Annex, B.6)

Germ cell mutagenicity

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Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay) Result: negative Test Type: Chromosome aberration test Species: Rat Cell type: Bone marrow Application Route: i.p. Result: negative Remarks: (ECHA)

Carcinogenicity

no data available

Reproductive toxicity

Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. - Central nervous system

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure. - Central nervous system

Aspiration hazard

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Additional Information

Toluene :

RTECS: XS5250000

Drowsiness, irritant effects, Dizziness, Convulsions, Headache, Nausea, Vomiting, Circulatory collapse, somnolence, inebriation, Unconsciousness, respiratory arrest, CNS disorders, respiratory paralysis, death.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

| Component | Freshwater Fish | Water Flea | Freshwater Algae | |
|-----------|--|--|--|--|
| Toluene | 50-70 mg/L LC50 96 h ; 5-7 mg/L LC50 96 h ; 15-19 mg/L LC50 96 h ; 28 mg/L LC50 96 h ; 12 mg/L LC50 96 h | EC50: = 11.5 mg/L, 48h (Daphnia magna) EC50: 5.46 - 9.83 mg/L, 48h Static (Daphnia magna) | EC50: = 12.5 mg/L, 72h static (Pseudokirchneriella subcapitata) EC50: > 433 mg/L, 96h (Pseudokirchneriella subcapitata) | |

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12.2 Persistence and degradability

aerobic - Exposure time 20 d Result: 86 % - Readily biodegradable. Remarks: (IUCLID)

12.3 Bioaccumulative potential

Leuciscus idus (Golden orfe) - 3 d - 0,05 mg/l(Toluene) Bioconcentration factor (BCF): 90

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 3399

Packing group: I

Class: 4.3(3)

Proper shipping name: DIMETHYLZINC, Reportable Quantity(RQ): no data
TOLUENE available

Poison Inhalation Hazard: no data
available

Environmental Hazards: No

IMDG

UN number: 3399

Packing group: I

EMS-No: no data available

Proper shipping name: DIMETHYLZINC, TOLUENE

IATA

UN number: 3399

Packing group: I

Class: 4.3(3)

Proper shipping name: DIMETHYLZINC, TOLUENE

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

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Further information

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