ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Alane-dimethylethylamine complex

Revision Date:2026-11-08 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name	: Alane-dimethylethylamine complex
CBnumber	: CB5764554
CAS	: 124330-23-0
Synonyms	: alane-N,N-dimethylethylamine complex,ALANE-DIMETHYLETHYLAMINE COMPLEX

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

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word Danger

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P222 Do not allow contact with air.

P231+P232 Handle under inert gas. Protect from moisture.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P422 Store contents under …

Hazard statements

H225 Highly Flammable liquid and vapour

H250 Catches fire spontaneously if exposed to air

H261 In contact with water releases flammable gas

H304 May be fatal if swallowed and enters airways

H314 Causes severe skin burns and eye damage

H336 May cause drowsiness or dizziness

H373 May cause damage to organs through prolonged or repeated exposure

SECTION 3: Composition/information on ingredients

Substance

Product name	: Alane-dimethylethylamine complex
Synonyms	: alane-N,N-dimethylethylamine complex,ALANE-DIMETHYLETHYLAMINE COMPLEX
CAS	: 124330-23-0
MF	: C4H14AlN
MW	: 103.14

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

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

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Pulmonary failure possible after aspiration of vomit. Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

4.4 Notes to physician

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO_2) Dry powder

Unsuitable extinguishing media

Water Foam

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NOx)

Aluminum oxide

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

May not get in touch with: Water

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

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. Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. 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.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

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

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Keep workplace dry. Do not allow product to come into contact with water.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep away from heat and sources of ignition.

Never allow product to get in contact with water during storage.

Handle and store under inert gas.

Storage class

Storage class (TRGS 510): 4.2: Pyrophoric and self-heating hazardous materials

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

['Component', 'CAS-No.', 'Value', 'Control\nparameters', 'Basis']	['Toluene', '108-88-3', 'PC-TWA', '50 mg/m3', 'Occupational exposure limits for\nhazardous agents in the\nworkplace - Chemical\nhazardous agents.']	['', 'Remarks', 'Skin', None, None]	['', '', 'PC-STEL', '100 mg/m3', 'Occupational exposure limits for\nhazardous agents in the\nworkplace - Chemical\nhazardous agents.']	['', '', 'Skin', None, None]

Biological occupational exposure limits

['Component', 'CAS-No.', 'Parameters', 'Value', 'Biological\nspecimen', 'Basis']	['', '108-88-3', 'hippuric\nacid', '1mol/mo\nl\ncreatinin\ne', 'Urine', 'China. Biological\nOccupational\nExposure Indices']	['', 'Remarks', 'End of workshift (after exposure has ended)', None, None, None]	['', '', 'hippuric\nacid', '1.5g/g\ncreatinin\ne', 'Urine', 'China. Biological\nOccupational\nExposure Indices']	['', '', 'End of workshift (after exposure has ended)', None, None, None]	['', '', 'hippuric\nacid', '11Millim\noles per\nliter', 'Urine', 'China. Biological\nOccupational\nExposure Indices']

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards

relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

a) Physical state	liquid
b) Color	No data available
c) Odor	No data available
d) Melting point/freezing point	No data available
e) Initial boiling point and boiling range	50-55°C 0,05mm
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	-20 °C
i) Autoignition temperature	No data available
j) Decomposition temperature	No data available
k) pH	No data available
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	No data available
n) Partition coefficient n-octanol/water	No data available
o) Vapor pressure	< 10 hPa at 25 °C
p) Density	0.760 g/cm3
Relative density	0.837 g/mL at 25 °C
q) Relative vapor density	No data available
r) Particle characteristics	No data available
s) Explosive properties	Not classified as explosive.
t) Oxidizing properties	none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Chemical stability

Sensitive to air.

10.2 Possibility of hazardous reactions

No data available

10.3 Conditions to avoid

Exposure to air.

Warming.

Moisture.

10.4 Incompatible materials

Water, Bases, Oxidizing agents, Strong oxidizing agents, Oxygen, Alcohols, acids

10.5 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture Acute toxicity

Oral: No data available

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Acute toxicity estimate Inhalation - 4 h - 27.1 mg/l - vapor(Calculation method)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Remarks: Mixture causes burns.

Serious eye damage/eye irritation

Remarks: No data available

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Classified based on available data. For more details, see section 2

Suspected of damaging the unborn child.

Suspected of damaging fertility.

Specific target organ toxicity - single exposure

Remarks: No data available

Mixture may cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

Remarks: No data available

Mixture may cause damage to organs through prolonged or repeated exposure.

- Central nervous system

Aspiration hazard

Classified based on available data. For more details, see section 2Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

11.2 Additional Information

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Components Toluene

Acute toxicity

LD50 Oral - Rat - male - 5,580 mg/kg (Directive 67/548/EEC, Annex V, B.1.)

LC50 Inhalation - Rat - male - 4 h - 25.7 mg/l - vapor (OECD Test Guideline 403)

LD50 Dermal - Rabbit - male - > 5,000 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit

Result: irritating - 4 h (Regulation (EC) No. 440/2008, Annex, B.4)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative (Regulation (EC) No. 440/2008, Annex, B.6)

Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Result: negative

Test Type: Ames test

Test system: S. typhimurium

Result: negative

Species: Rat - Bone marrow

Result: negative

Remarks: (ECHA)

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

Inhalation - May cause drowsiness or dizziness. - Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

Inhalation - May cause damage to organs through prolonged or repeated exposure.

- Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Aspiration hazard

Aspiration may cause pulmonary edema and pneumonitis.

N,N-Dimethylethylamine alane

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Classified based on available data. For more details, see section 2

SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

Components Toluene

Toxicity to fish flow-through test LC50 - Oncorhynchus kisutch (coho salmon) - 5.5 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia EC50 - Ceriodaphnia dubia (water flea) - 3.78 mg/l - 48 h and other aquatic (US-EPA) invertebrates

Toxicity to bacteria static test EC50 - Bacteria - 84 mg/l - 24 h

Remarks: (ECHA)

Toxicity to flow-through test NOEC - Oncorhynchus kisutch (coho salmon) fish(Chronic toxicity) - 1.39 mg/l - 40 d

Remarks: (ECHA)

Toxicity to daphnia NOEC - Ceriodaphnia dubia (water flea) - 0.74 mg/l - 7 d and other aquatic (US-EPA) invertebrates(Chronic toxicity)

N,N-Dimethylethylamine alane

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3394

IMDG: 3394

IATA-DGR: 3394

14.2 UN proper shipping name

ADR/RID: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (Toluene, N,N-Dimethylethylamine alane) (Toluene, N,N-Dimethylethylamine alane)

IMDG: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (Toluene, N,N-Dimethylethylamine alane) (Toluene, N,N-Dimethylethylamine alane)

IATA-DGR: Organometallic substance, liquid, pyrophoric, water-reactive (Toluene, N,N-Dimethylethylamine alane) (Toluene, N,N-Dimethylethylamine alane)

Passenger Aircraft: Not permitted for transport

Cargo Aircraft: Not permitted for transport

14.3 Transport hazard class(es)

ADR/RID: 4.2 (4.3)

IMDG: 4.2 (4.3)

IATA-DGR: 4.2 (4.3)

14.4 Packaging group

ADR/RID: I

IMDG: I

IATA-DGR: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

14.6 Special precautions for user

Based on chemical properties, choose appropriate tools and conditions of transport.

Transporting tools shall be equipped with appropriate and sufficient firefighting equipment and emergency leaking installations. If transporting by road, please go along the specified route.

14.7 Incompatible materials

Water, Bases, Oxidizing agents, Strong oxidizing agents, Oxygen, Alcohols, acids

SECTION 15: Regulatory information

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

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

Disclaimer:
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