

## Chemical Safety Data Sheet MSDS / SDS

## Diethylaluminium chloride SDS

Revision Date:2024-04-25 Revision Number:1

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

Product name: Diethylaluminium chloride

CAS: 96-10-6

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

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Pyrophoric liquids, Category 1

Substances and mixtures, which in contact with water, emit flammable gases, Category 1

Skin corrosion, Sub-category 1A

### GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H250 Catches fire spontaneously if exposed to air

H260 In contact with water releases flammable gases which may ignite spontaneously

H314 Causes severe skin burns and eye damage

### Precautionary statement(s)

#### Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P222 Do not allow contact with air.

P233 Keep container tightly closed.

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

P231+P232 Handle and store contents under inert gas/....Protect from moisture.

P223 Do not allow contact with water.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash ... thoroughly after handling.

#### Response

P302+P334 IF ON SKIN: Immerse in cool water or wrap in wet bandages.

P370+P378 In case of fire: Use ... to extinguish.

P302+P335+P334 IF ON SKIN: Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages].

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### Storage

P402+P404 Store in a dry place. Store in a closed container.  
P405 Store locked up.

#### **Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### **Other hazards which do not result in classification**

no data available

### **SECTION 3: Composition/information on ingredients**

#### **Substance**

Chemical name: Diethylaluminium chloride

Common names and synonyms: Diethylaluminium chloride

CAS number: 96-10-6

EC number: 202-477-2

Concentration: 100%

### **SECTION 4: First aid measures**

#### **Description of necessary first-aid measures**

##### **If inhaled**

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

##### **Following skin contact**

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

##### **Following eye contact**

Rinse with pure water for at least 15 minutes. Consult a doctor.

### **Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### **Most important symptoms/effects, acute and delayed**

Excerpt from ERG Guide 135 [Substances - Spontaneously Combustible]: Fire will produce irritating, corrosive and/or toxic gases. Inhalation of decomposition products may cause severe injury or death. Contact with substance may cause severe burns to skin and eyes. Runoff from fire control may cause pollution. (ERG, 2016)

### **Indication of immediate medical attention and special treatment needed, if necessary**

no data available

## **SECTION 5: Firefighting measures**

### **Suitable extinguishing media**

Fight fire from protected location or maximum possible distance. DO NOT use water. Violent reaction may result. Use graphite powder, soda ash, or powdered sodium chloride to extinguish fire. On solvent based materials use dry chemical, foam, or carbon dioxide. Use water spray cautiously to keep fire-exposed containers cool.

### **Specific hazards arising from the chemical**

Excerpt from ERG Guide 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2016)

### **Special protective actions for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

## **SECTION 6: Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective

equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Approach release from upwind. Keep water away from release. Do not use foam to blanket release or suppress vapors. Stop or control the leak, if this can be done without undue risk. Control runoff and isolate discharged material for proper disposal.

## SECTION 7: Handling and storage

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Separate from oxidizing materials, acids, and alcohols, Store in a cool, dry, well-ventilated location. Must be stored in a dry location. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage warehouse, room, or cabinet.

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

Component	Diethylaluminium chloride
CAS No.	96-10-6
	Recommended Exposure Limit: 10-Hr Time-Weighted Avg: 10 mg/cu m (total). /Aluminum/ Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5 mg/cu m (resp). /Aluminum/ Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 2 mg/cu m. /Aluminum (soluble salts and alkyls, as Al)/ Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5 mg/cu m. /Aluminum (pyro powders and welding fumes, as Al)/

### Biological limit values

no data available

### **Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### **Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### **Skin protection**

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### **Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### **Thermal hazards**

no data available

## **SECTION 9: Physical and chemical properties and safety characteristics**

Physical state:	Diethyl aluminum chloride is a colorless liquid. Dangerous fire and explosion hazard. Used as an intermediate in production of organometallics.
Colour:	Colorless liquid
Odour:	no data available
Melting point/freezing point:	-74°C
Boiling point or initial boiling point and boiling range:	125°C(67 torr)

Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	-18°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	no data available
Partition coefficient n-octanol/water:	no data available
Vapour pressure:	0.210 Torr @ 25 deg C
Density and/or relative density:	0.887g/mL at 25°C
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

Pyrophoric in air [Hawley]. Reacts violently with water, Rose(1961).

### Chemical stability

Closed containers may rupture violently when heated.

### **Possibility of hazardous reactions**

Ignites spontaneously in air. Organometallics, such as DIETHYL ALUMINUM CHLORIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water.

### **Conditions to avoid**

no data available

### **Incompatible materials**

Reacts violently with air and water. Reacts with oxidizing materials, water, acids, and alcohols.

### **Hazardous decomposition products**

When heated to decomposition it emits toxic fumes of /hydrogen chloride/.

## **SECTION 11: Toxicological information**

### **Acute toxicity**

Oral: no data available

Inhalation: no data available

Dermal: no data available

### **Skin corrosion/irritation**

no data available

### **Serious eye damage/irritation**

no data available

### **Respiratory or skin sensitization**

no data available



**Germ cell mutagenicity**

no data available

**Carcinogenicity**

A4: Not classifiable as a human carcinogen. Aluminum metal and insoluble compounds

**Reproductive toxicity**

no data available

**STOT-single exposure**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

**SECTION 12: Ecological information****Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Other adverse effects**

no data available

**SECTION 13: Disposal considerations****Disposal methods****Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

**SECTION 14: Transport information****UN Number**

ADR/RID: UN3394 (For reference only, please check.)

IMDG: UN3394 (For reference only, please check.)

IATA: UN3394 (For reference only, please check.)

**UN Proper Shipping Name**

ADR/RID: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER- REACTIVE (For reference only, please check.)

IMDG: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER- REACTIVE (For reference only, please check.)

IATA: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER- REACTIVE (For reference only, please check.)

### **Transport hazard class(es)**

ADR/RID: 4.2 (For reference only, please check.)

IMDG: 4.2 (For reference only, please check.)

IATA: 4.2 (For reference only, please check.)

### **Packing group, if applicable**

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

### **Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

### **Special precautions for user**

no data available

### **Transport in bulk according to IMO instruments**

no data available

## **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

**SECTION 16: Other information**

**Abbreviations and acronyms**

CAS: Chemical Abstracts Service

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

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

## References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any