



## ALANE-DIMETHYLETHYLAMINE COMPLEX

Safety Data Sheet OMAL005

Date of issue: 02/11/2015

Revision date: 05/03/2019

Version: 1.1

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

#### 1.1. Product identifier

Product form	: Substance
Physical state	: Liquid
Substance name	: ALANE-DIMETHYLETHYLAMINE COMPLEX
Product code	: OMAL005
Formula	: C4H14AIN
Synonyms	: DMEAA; (N,N-DIMETHYLETHANAMINE)TRIHYDROALUMINUM
Chemical family	: METAL HYDRIDE

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Chemical intermediate

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### GELEST, INC.

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##### USA

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#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Pyrophoric Liquids, Category 1	H250
Substances and Mixtures which, in contact with water, emit flammable gases, Category 1	H260
Skin corrosion/irritation, Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Full text of H statements : see section 16	

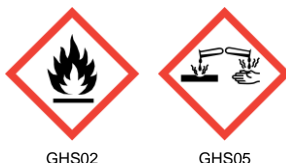
##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



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Signal word (CLP)	: Danger
Hazard statements (CLP)	: H225 - Highly flammable liquid and vapour. 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 statements (CLP)	: P280 - Wear protective gloves/protective clothing/eye protection/face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P222 - Do not allow contact with air. P223 - Do not allow contact with water. P231+P232 - Handle under inert gas. Protect from moisture. P310 - Immediately call a POISON CENTER or doctor/physician
EUH-statements	: EUH014 - Reacts violently with water.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type	: Mono-constituent
Name	: ALANE-DIMETHYLETHYLAMINE COMPLEX
CAS-No.	: 124330-23-0

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Alane-dimethylethylamine complex	(CAS-No.) 124330-23-0	95 - 100	Flam. Liq. 2, H225 Pyr. Liq. 1, H250 Water-react. 1, H260 Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of water/.... Get immediate medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: Direct respiratory contact is usually not possible, but will cause burns. Inhalation of combustion products can cause irritation.
Symptoms/effects after skin contact	: Causes (severe) skin burns.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Dry chemical powder followed by sand or dolomite.
Unsuitable extinguishing media	: Water.

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### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour. In contact with water releases flammable gases which may ignite spontaneously. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

### 5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Mildly self-heating- may ignite on contact with combustible materials.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapour and mist.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate every possible source of ignition. Use special care to avoid static electric charges.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Cover with dry chemical extinguishing powder, lime, sand or soda ash. Remove sources of ignition. Remove combustible materials in the vicinity of the spill. Allow time for decomposition or fire to burn out, then sweep material and transfer to a suitable container for disposal. Use only non-sparking tools.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Do not allow contact with water. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent formation of vapour. Do not allow contact with air. Do not allow contact with water. Handle under inert gas. Protect from moisture. Take precautionary measures against static discharge. Use only non-sparking tools.

Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Laboratory and production areas must be equipped with special fire-extinguishing media for pyrophorics. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.

Storage conditions : Keep container tightly closed. Flammable and combustible materials should not be stored in or near working areas. Store in a dry place. Store in a closed container. Keep in a cool place. Store locked up. Store < 5°C.

Incompatible materials : Alkalis. Bromine. Chlorine. Metal salts. Oxidizing agent. Precious metals.

Storage area : Store in a well-ventilated place. Store away from heat.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Alane-dimethylethylamine complex (124330-23-0)

Italy - Portugal - USA ACGIH | ACGIH TWA (mg/m<sup>3</sup>)

2 mg/m<sup>3</sup> as Al

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### Alane-dimethylethylamine complex (124330-23-0)

USA OSHA

OSHA PEL (TWA) (mg/m<sup>3</sup>)

2 mg/m<sup>3</sup> as Al

### 8.2. Exposure controls

#### Appropriate engineering controls:

Glove box or sealed system under inert atmosphere is required. Provide local exhaust or general room ventilation.

#### Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

#### Hand protection:

Neoprene or nitrile rubber gloves

#### Eye protection:

Full face shield with chemical workers goggles. Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor - amine gas (brown cartridge) respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid. Fumes in air.
Molecular mass	: 103.12 g/mol
Colour	: No data available
Odour	: Irritating. Amine. fishy.
Odour threshold	: No data available
Refractive index	: No additional information available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 76 °C
Freezing point	: No data available
Boiling point	: 50 - 55 °C @ 0.05 mm Hg
Flash point	: -20 °C
Auto-ignition temperature	: < 100 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour, In contact with water releases flammable gases which may ignite spontaneously.
Vapour pressure	: < 1 mm Hg
Relative vapour density at 20 °C	: > 1
Relative density	: 0.78
Solubility	: Reacts violently with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

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### 10.2. Chemical stability

Stable when stored <5°C in sealed containers under dry inert atmosphere.

### 10.3. Possibility of hazardous reactions

The product can generate small amounts of hydrogen when exposed to alkalis and protic materials such as water and alcohol.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks. May ignite on contact with combustible materials in air.

### 10.5. Incompatible materials

Alkalis. Bromine. Chlorine. Metal salts. Oxidizing agent. Precious metals.

### 10.6. Hazardous decomposition products

Aluminium oxides. Carbon monoxide. Formaldehyde. Hydrogen. Organic acid vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: Direct respiratory contact is usually not possible, but will cause burns. Inhalation of combustion products can cause irritation.
Symptoms/effects after skin contact	: Causes (severe) skin burns.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.
Reason for classification	: Expert judgment

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility. This is a RCRA hazardous waste: 40 CFR 261.21 (i.e. ignitable) 40 CFR 261.23 (i.e. reactive).
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Avoid release to the environment.

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### SECTION 14: Transport information

#### 14.1. UN number

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 2845
UN-No. (IMDG)	: 2845
UN-No. (IATA)	: 2845
UN-No. (ADN)	: 2845
UN-No. (RID)	: 2845

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: PYROPHORIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (IMDG)	: PYROPHORIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (IATA)	: Pyrophoric liquid, organic, n.o.s.
Proper Shipping Name (ADN)	: PYROPHORIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (RID)	: PYROPHORIC LIQUID, ORGANIC, N.O.S.
Transport document description (ADR)	: UN 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. (ALANE-DIMETHYLETHYLAMINE COMPLEX), 4.2, I, (B/E)
Transport document description (IMDG)	: UN 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. (ALANE-DIMETHYLETHYLAMINE COMPLEX), 4.2, I
Transport document description (IATA)	: UN 2845 Pyrophoric liquid, organic, n.o.s. (ALANE-DIMETHYLETHYLAMINE COMPLEX), 4.2
Transport document description (ADN)	: UN 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. (ALANE-DIMETHYLETHYLAMINE COMPLEX), 4.2, I
Transport document description (RID)	: UN 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. (ALANE-DIMETHYLETHYLAMINE COMPLEX), 4.2, I

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: 4.2
Danger labels (ADR)	: 4.2



##### IMDG

Transport hazard class(es) (IMDG)	: 4.2
Danger labels (IMDG)	: 4.2



##### IATA

Transport hazard class(es) (IATA)	: 4.2
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##### ADN

Transport hazard class(es) (ADN)	: 4.2
Danger labels (ADN)	: 4.2



##### RID

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Transport hazard class(es) (RID) : 4.2  
Danger labels (RID) : 4.2



### 14.4. Packing group

Packing group (ADR) : I  
Packing group (IMDG) : I  
Packing group (IATA) : Not applicable  
Packing group (ADN) : I  
Packing group (RID) : I

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : IDMG Code: 4254

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : S1  
Special provisions (ADR) : 274  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E0  
Packing instructions (ADR) : P400  
Mixed packing provisions (ADR) : MP2  
Portable tank and bulk container instructions (ADR) : T22  
Portable tank and bulk container special provisions (ADR) : TP2, TP7  
Tank code (ADR) : L21DH  
Tank special provisions (ADR) : TU14, TC1, TE21, TM1  
Vehicle for tank carriage : AT  
Transport category (ADR) : 0  
Special provisions for carriage - Packages (ADR) : V1  
Special provisions for carriage - Operation (ADR) : S20  
Hazard identification number (Kemler No.) : 333  
Orange plates :



Tunnel restriction code (ADR) : B/E

#### - Transport by sea

Special provisions (IMDG) : 274  
Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P400  
Special packing provisions (IMDG) : PP31  
Tank instructions (IMDG) : T22  
Tank special provisions (IMDG) : TP2, TP7  
EmS-No. (Fire) : F-G  
EmS-No. (Spillage) : S-M  
Stowage category (IMDG) : D  
Stowage and handling (IMDG) : H1  
Segregation (IMDG) : SG63, SG26

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Properties and observations (IMDG) : Highly flammable liquids, may ignite spontaneously in moist air. In contact with air, evolve irritating and slightly toxic fumes.

### - Air transport

PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA packing instructions (IATA) : Forbidden  
PCA max net quantity (IATA) : Forbidden  
CAO packing instructions (IATA) : Forbidden  
CAO max net quantity (IATA) : Forbidden  
ERG code (IATA) : 4W

### - Inland waterway transport

Classification code (ADN) : S1  
Special provisions (ADN) : 274  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E0  
Equipment required (ADN) : PP  
Number of blue cones/lights (ADN) : 0

### - Rail transport

Classification code (RID) : S1  
Special provisions (RID) : 274  
Limited quantities (RID) : 0  
Excepted quantities (RID) : E0  
Packing instructions (RID) : P400  
Mixed packing provisions (RID) : MP2  
Portable tank and bulk container instructions (RID) : T22  
Portable tank and bulk container special provisions (RID) : TP2, TP7  
Tank codes for RID tanks (RID) : L21DH  
Special provisions for RID tanks (RID) : TU14, TU38, TC1, TE21, TE22, TE25, TM1  
Transport category (RID) : 0  
Special provisions for carriage – Packages (RID) : W1  
Hazard identification number (RID) : 333

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

ALANE-DIMETHYLETHYLAMINE COMPLEX is not on the REACH Candidate List

ALANE-DIMETHYLETHYLAMINE COMPLEX is not on the REACH Annex XIV List

ALANE-DIMETHYLETHYLAMINE COMPLEX is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

ALANE-DIMETHYLETHYLAMINE COMPLEX is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

#### 15.1.2. National regulations

##### Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed



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NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed  
Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Abbreviations and acronyms:

	Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor
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Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Pyr. Liq. 1	Pyrophoric Liquids, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Water-react. 1	Substances and Mixtures which, in contact with water, emit flammable gases, Category 1
H225	Highly flammable liquid and vapour.
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.
H318	Causes serious eye damage.
EUH014	Reacts violently with water.

SDS EU (REACH Annex II) - Custom

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