

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

| | |
|-----------------|--|
| Product form | : Substance |
| Physical state | : Liquid |
| Substance name | : CHLOROMETHYLMETHYLDICHLOROSILANE |
| Product code | : SIC2290.0 |
| Formula | : C ₂ H ₅ Cl ₃ Si |
| Synonyms | : (DICHLOROMETHYLSILYL)CHLOROMETHANE |
| Chemical family | : ORGANOSILANE, ORGANOCHLOROSILANE |

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.**

11 East Steel Road
Morrisville, PA 19067

USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com

GELEST INC.

Fritz-Klatte-Strasse 8
65933 Frankfurt

Germany

T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM

info@gelestde.com - www.gelestde.com

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 3 | H226 |
| 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) :



GHS02

GHS05

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H226 - Flammable liquid and vapour.
H318 - Causes serious eye damage.

Precautionary statements (CLP) :

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

CHLOROMETHYLMETHYLDICHLOROSILANE

Safety Data Sheet

P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical equipment.
P280 - Wear eye protection, protective clothing.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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 : CHLOROMETHYLMETHYLDICHLOROSILANE
CAS-No. : 1558-33-4
EC-No. : 216-319-5

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---------------------------------------|---|----------|---|
| Silane, dichloro(chloromethyl)methyl- | (CAS-No.) 1558-33-4 (EC-No.) 216-319-5 | 95 - 100 | Flam. Liq. 3, H226 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/....
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 medical advice/attention.
First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

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

Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Overexposure may cause: Headache. Nausea. Cough.
Symptoms/effects after skin contact : May cause skin irritation.
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 : Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
Explosion hazard : May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
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.

CHLOROMETHYLMETHYLDICHLOROSILANE

Safety Data Sheet

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

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

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.

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.

Precautions for safe handling : Containers must be properly grounded before beginning transfer. Provide good ventilation in process area to prevent formation of vapour. Take precautionary measures against static discharge. Use only non-sparking tools.

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

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.

Storage conditions : Keep container tightly closed.

Incompatible materials : Amines. Oxidizing agent. alcohols. Moisture. Water : Peroxides.

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

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

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:

Chemical 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/acid gas (yellow cartridge) respirator.

CHLOROMETHYLMETHYLDICHLOROSILANE

Safety Data Sheet

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--------------------------------------|
| Physical state | : Liquid |
| Appearance | : Clear liquid. |
| Molecular mass | : 163.51 g/mol |
| Colour | : Clear to straw. |
| Odour | : characteristic. Hydrochloric acid. |
| Odour threshold | : No data available |
| Refractive index | : 1.45 |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : \approx 1 |
| Melting point | : 0 °C |
| Freezing point | : -64 °C |
| Boiling point | : 121 - 122 °C |
| Flash point | : 35 °C |
| Auto-ignition temperature | : 375 °C |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Flammable liquid and vapour. |
| Vapour pressure | : 11 mm Hg 20°C |
| Relative vapour density at 20 °C | : > 1 |
| Relative density | : 1.26 |
| Solubility | : Reacts 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 | : 3.82 - 39.5 vol % |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating hydrogen chloride.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Amines. Oxidizing agent. alcohols. Moisture. Water : Peroxides.

10.6. Hazardous decomposition products

Organic acid vapors. Hydrogen chloride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Silane, dichloro(chloromethyl)methyl- (1558-33-4)

| | |
|-------------------|--------------|
| LD50 oral rat | > 2000 mg/kg |
| ATE CLP (vapours) | 6.8 mg/l/4h |

| | |
|-----------------------------------|------------------------------|
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Causes serious eye damage. |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |

CHLOROMETHYLMETHYLDICHLOROSILANE

Safety Data Sheet

| | |
|-------------------------------------|---|
| 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 | : May cause irritation to the respiratory tract. Overexposure may cause: Headache. Nausea. Cough. |
| Symptoms/effects after skin contact | : May cause skin irritation. |
| Symptoms/effects after eye contact | : Causes serious eye damage. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. |

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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--|--|
| 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. |
| Additional information | : Handle empty containers with care because residual vapours are flammable. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

14.1. UN number

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

14.1. UN number

| | |
|---------------|--------|
| UN-No. (ADR) | : 2985 |
| UN-No. (IMDG) | : 2985 |
| UN-No. (IATA) | : 2985 |
| UN-No. (ADN) | : 2985 |
| UN-No. (RID) | : 2985 |

14.2. UN proper shipping name

| | |
|---------------------------------------|--|
| Proper Shipping Name (ADR) | : CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. |
| Proper Shipping Name (IMDG) | : CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. |
| Proper Shipping Name (IATA) | : Chlorosilanes, flammable, corrosive, n.o.s. |
| Proper Shipping Name (ADN) | : CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. |
| Proper Shipping Name (RID) | : CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. |
| Transport document description (ADR) | : UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. (CHLOROMETHYLMETHYLDICHLOROSILANE), 3 (8), II, (D/E) |
| Transport document description (IMDG) | : UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. (CHLOROMETHYLMETHYLDICHLOROSILANE), 3 (8), II |
| Transport document description (IATA) | : UN 2985 Chlorosilanes, flammable, corrosive, n.o.s. (CHLOROMETHYLMETHYLDICHLOROSILANE), 3 (8), II |
| Transport document description (ADN) | : UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. (CHLOROMETHYLMETHYLDICHLOROSILANE), 3 (8), II |

CHLOROMETHYLMETHYLDICHLOROSILANE

Safety Data Sheet

Transport document description (RID) : UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.
(CHLOROMETHYLMETHYLDICHLOROSILANE), 3 (8), II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3 (8)
Danger labels (ADR) : 3, 8



IMDG

Transport hazard class(es) (IMDG) : 3 (8)
Danger labels (IMDG) : 3, 8



IATA

Transport hazard class(es) (IATA) : 3 (8)
Hazard labels (IATA) : 3, 8



ADN

Transport hazard class(es) (ADN) : 3 (8)
Danger labels (ADN) : 3, 8



RID

Transport hazard class(es) (RID) : 3 (8)
Danger labels (RID) : 3, 8



14.4. Packing group

Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No

CHLOROMETHYLMETHYLDICHLOROSILANE

Safety Data Sheet

Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : FC
Special provisions (ADR) : 548
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P010
Mixed packing provisions (ADR) : MP19
Portable tank and bulk container instructions (ADR) : T14
Portable tank and bulk container special provisions (ADR) : TP2, TP7, TP27
Tank code (ADR) : L4BH
Vehicle for tank carriage : FL
Transport category (ADR) : 2
Special provisions for carriage - Operation (ADR) : S2, S20
Hazard identification number (Kemler No.) : X338
Orange plates :

X338

2985

Tunnel restriction code (ADR) : D/E
EAC code : 4WE
APP code : A(fl)

- Transport by sea

Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P010
Tank instructions (IMDG) : T14
Tank special provisions (IMDG) : TP2, TP7, TP13, TP27
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-C
Stowage category (IMDG) : B
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : White or slightly yellowish deliquescent crystals or sticks. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Mixtures with ammonium compounds or cyanides may explode. Harmful if swallowed.

- Air transport

PCA Excepted quantities (IATA) : E0
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) : 377
CAO max net quantity (IATA) : 5L
ERG code (IATA) : 3C

- Inland waterway transport

Classification code (ADN) : FC
Special provisions (ADN) : 548
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP, EP, EX, A
Ventilation (ADN) : VE01

CHLOROMETHYLMETHYLDICHLOROSILANE

Safety Data Sheet

Number of blue cones/lights (ADN) : 1

- Rail transport

Classification code (RID) : FC
Special provisions (RID) : 548
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P010
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T14
Portable tank and bulk container special provisions (RID) : TP2, TP7, TP27
Tank codes for RID tanks (RID) : L4BH
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : X338

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

CHLOROMETHYLMETHYLDICHLOROSILANE is not on the REACH Candidate List

CHLOROMETHYLMETHYLDICHLOROSILANE is not on the REACH Annex XIV List

CHLOROMETHYLMETHYLDICHLOROSILANE 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.

CHLOROMETHYLMETHYLDICHLOROSILANE 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

Reference to AwSV : Water hazard class (WGK) 2, Significantly hazardous to water (Classification according to AwSV; ID No. 8968)

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

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

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H318>; 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:

CHLOROMETHYLMETHYLDICHLOROSILANE

Safety Data Sheet

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

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. 3 | Flammable liquids, Category 3 |
| H226 | Flammable liquid and vapour. |
| H318 | Causes serious eye damage. |
| EUH014 | Reacts violently with water. |

SDS EU (REACH Annex II) - Custom

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2019 Gelest Inc. Morrisville, PA 19067

The logo for Gelest, Inc. features the word "Gelest" in a large, white, serif font. The letters are set against a light blue background that is shaped like a right-angled triangle pointing to the right. The "G" is partially cut off by the left edge of the frame.