

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

Product form	: Substance
Physical state	: Liquid
Substance name	: 1-(CARBOMETHOXY)ETHYL-TRICHLOROSILANE tech 95
Product code	: SIC2069.4
Formula	: C4H7Cl3O2Si
Synonyms	: METHYL (2-TRICHLOROSILYL)PROPIONATE) PROPANOIC ACID, 2-(TRICHLOROSILYL)-, METHYL ESTER
Chemical family	: 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**

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**GELEST INC.**

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**Germany**

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[info@gelestde.com](mailto:info@gelestde.com) - [www.gelestde.com](http://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]**

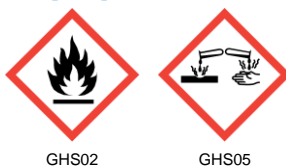
Flammable liquids, Category 3	H226
Skin corrosion/irritation, Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Full text of H statements : see section 16	

**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) :



GHS02

GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H226 - Flammable liquid and vapour.  
H314 - Causes severe skin burns and eye damage.

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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. P240 - Ground/bond container and receiving equipment. P260 - Do not breathe vapours. P264 - Wash hands thoroughly after handling. P310 - Immediately call a POISON CENTER or doctor/physician
EUH-statements	: EUH014 - Reacts violently with water.

### 2.3. Other hazards

Other hazards not contributing to the classification	: Hydrogen chloride may be formed by reaction with water and moisture in air. The US OSHA PEL (TWA) for hydrogen chloride is 5 ppm.
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## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type	: Multi-constituent
Name	: 1-(CARBOMETHOXY)ETHYL-TRICHLOROSILANE tech 95
CAS-No.	: 60839-24-9

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-(Carbomethoxy)ethyl-trichlorosilane	(CAS-No.) 60839-24-9	95 - 100	Flam. Liq. 3, H226 Skin Corr. 1B, H314 Eye Dam. 1, H318
Other Organosilanes		0 - 5	Not classified

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	: May cause irritation to the respiratory tract.
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	: Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	: Water.

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

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

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### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.
- 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 ignition sources. 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".

### 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 : Clean up any spills as soon as possible, using an absorbent material to collect it. 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. 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. 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 : Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.
- Storage conditions : Keep container tightly closed. Keep in a cool place.
- Incompatible materials : alcohols. Amines. Oxidizing agent.
- 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 or face shield. Contact lenses should not be worn

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### 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.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 221.54 g/mol
Colour	: No data available
Odour	: No data available
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	: No data available
Freezing point	: No data available
Boiling point	: 85 - 89 °C @ 25 mm Hg
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
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	: No data available

### 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 in sealed containers stored under a dry inert atmosphere.

### 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

alcohols. Amines. Oxidizing agent.

### 10.6. Hazardous decomposition products

Hydrogen chloride. Organic acid vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

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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
	None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
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.
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	: 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)	: 2986
UN-No. (IMDG)	: 2986
UN-No. (IATA)	: 2986
UN-No. (ADN)	: 2986
UN-No. (RID)	: 2986

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.
Proper Shipping Name (IMDG)	: CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.
Proper Shipping Name (IATA)	: Chlorosilanes, corrosive, flammable, n.o.s.
Proper Shipping Name (ADN)	: CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.
Proper Shipping Name (RID)	: CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.

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Transport document description (ADR)	: UN 2986 CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S. (1-(CARBOMETHOXY)ETHYL-TRICHLOROSILANE), 8 (3), II, (D/E)
Transport document description (IMDG)	: UN 2986 CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S. (2-(CARBOMETHOXY)ETHYLTRICHLOROSILANE), 8 (3), II
Transport document description (IATA)	: UN 2986 Chlorosilanes, corrosive, flammable, n.o.s. (2-(CARBOMETHOXY)ETHYLTRICHLOROSILANE), 8 (3), II
Transport document description (ADN)	: UN 2986 CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S. (2-(CARBOMETHOXY)ETHYLTRICHLOROSILANE), 8 (3), II
Transport document description (RID)	: UN 2986 CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S. (2-(CARBOMETHOXY)ETHYLTRICHLOROSILANE), 8 (3), II

### 14.3. Transport hazard class(es)

#### ADR

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



#### IMDG

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



#### IATA

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



#### ADN

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



#### RID

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



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### 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
Marine pollutant	: No
Other information	: No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR)	: CF1
Special provisions (ADR)	: 548
Limited quantities (ADR)	: 0
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P010
Mixed packing provisions (ADR)	: MP15
Portable tank and bulk container instructions (ADR)	: T14
Portable tank and bulk container special provisions (ADR)	: TP2, TP7, TP27
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: X83
Orange plates	: 
Tunnel restriction code (ADR)	: D/E
EAC code	: 4W
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)	: C
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Colourless, flammable liquids with a pungent odour. Immiscible with water. React violently with water or steam, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolve toxic gas. In the presence of moisture, highly corrosive to most metals. Cause burns to skin, eyes and mucous membranes.

#### - 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)	: 876

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CAO max net quantity (IATA) : 30L  
Special provisions (IATA) : A1  
ERG code (IATA) : 8F

### - Inland waterway transport

Classification code (ADN) : CF1  
Special provisions (ADN) : 548  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E0  
Equipment required (ADN) : PP, EP, EX, A  
Ventilation (ADN) : VE01  
Number of blue cones/lights (ADN) : 1

### - Rail transport

Classification code (RID) : CF1  
Special provisions (RID) : 548  
Limited quantities (RID) : 0  
Excepted quantities (RID) : E0  
Packing instructions (RID) : P010  
Mixed packing provisions (RID) : MP15  
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) : L4BN  
Transport category (RID) : 2  
Colis express (express parcels) (RID) : CE6  
Hazard identification number (RID) : X83

### 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

1-(CARBOMETHOXY)ETHYL-TRICHLOROSILANE tech 95 is not on the REACH Candidate List

1-(CARBOMETHOXY)ETHYL-TRICHLOROSILANE tech 95 is not on the REACH Annex XIV List

1-(CARBOMETHOXY)ETHYL-TRICHLOROSILANE tech 95 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.

1-(CARBOMETHOXY)ETHYL-TRICHLOROSILANE tech 95 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

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

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product



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### 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

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
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H226	Flammable liquid and vapour.
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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