

## SAFETY DATA SHEET

Version 6.3  
Revision Date 04/26/2021  
Print Date 02/11/2022

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

Product name : Dichlorodimethylsilane

Product Number : 80430

Brand : Sigma-Aldrich

Index-No. : 014-003-00-X

CAS-No. : 75-78-5

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

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 3), H331

Skin corrosion (Category 1A), H314

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



|                            |                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal word                | Danger                                                                                                                                                                     |
| Hazard statement(s)        |                                                                                                                                                                            |
| H225                       | Highly flammable liquid and vapor.                                                                                                                                         |
| H302                       | Harmful if swallowed.                                                                                                                                                      |
| H314                       | Causes severe skin burns and eye damage.                                                                                                                                   |
| H331                       | Toxic if inhaled.                                                                                                                                                          |
| H335                       | May cause respiratory irritation.                                                                                                                                          |
| Precautionary statement(s) |                                                                                                                                                                            |
| P210                       | Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.                                                                                                        |
| P233                       | Keep container tightly closed.                                                                                                                                             |
| P240                       | Ground/bond container and receiving equipment.                                                                                                                             |
| P241                       | Use explosion-proof electrical/ ventilating/ lighting/ equipment.                                                                                                          |
| P242                       | Use only non-sparking tools.                                                                                                                                               |
| P243                       | Take precautionary measures against static discharge.                                                                                                                      |
| P261                       | Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.                                                                                                                      |
| P264                       | Wash skin thoroughly after handling.                                                                                                                                       |
| P270                       | Do not eat, drink or smoke when using this product.                                                                                                                        |
| P271                       | Use only outdoors or in a well-ventilated area.                                                                                                                            |
| P280                       | Wear protective gloves/ protective clothing/ eye protection/ face protection.                                                                                              |
| P301 + P312 + P330         | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.                                                                                                |
| P301 + P330 + P331         | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.                                                                                                                         |
| P303 + P361 + P353         | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.                                                                       |
| P304 + P340 + P310         | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.                                                       |
| P305 + P351 + P338 + P310  | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. |
| P363                       | Wash contaminated clothing before reuse.                                                                                                                                   |
| P370 + P378                | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.                                                                                       |
| P403 + P233                | Store in a well-ventilated place. Keep container tightly closed.                                                                                                           |
| P403 + P235                | Store in a well-ventilated place. Keep cool.                                                                                                                               |
| P405                       | Store locked up.                                                                                                                                                           |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.                                                                                                        |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |                                                    |
|------------------|----------------------------------------------------|
| Synonyms         | : Dimethyldichlorosilane<br>DMDCS<br>Silane M2     |
| Formula          | : C <sub>2</sub> H <sub>6</sub> Cl <sub>2</sub> Si |
| Molecular weight | : 129.06 g/mol                                     |
| CAS-No.          | : 75-78-5                                          |

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EC-No. : 200-901-0  
Index-No. : 014-003-00-X

| Component                     | Classification                                                                                                                 | Concentration |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>dichlorodimethylsilane</b> |                                                                                                                                |               |
|                               | Flam. Liq. 2; Acute Tox. 4;<br>Acute Tox. 3; Skin Corr.<br>1A; Eye Dam. 1; STOT SE<br>3; H225, H302, H331,<br>H314, H318, H335 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 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. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### 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). 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 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Dry powder

#### Unsuitable extinguishing media

Foam Water

## 5.2 Special hazards arising from the substance or mixture

Carbon oxides

Hydrogen chloride gas

silicon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

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.

## 5.4 Further information

Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas. 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.

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## 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.

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## 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.

#### Advice on protection against fire and explosion

Flash back possible over considerable distance. Container explosion may occur under fire conditions.

#### 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

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Keep away from water.

Handle and store under inert gas.

Storage class (TRGS 510): 3: Flammable liquids

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

| Component              | CAS-No. | Value | Control parameters | Basis                                               |
|------------------------|---------|-------|--------------------|-----------------------------------------------------|
| dichlorodimethylsilane | 75-78-5 | CEIL  | 2 ppm              | USA. Workplace Environmental Exposure Levels (WEEL) |

### 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

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Viton®

Minimum layer thickness: 0.7 mm

Break through time: 480 min

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

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm  
Break through time: 30 min  
Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

### **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.

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

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

|                                                 |                                                                     |
|-------------------------------------------------|---------------------------------------------------------------------|
| a) Appearance                                   | Form: liquid<br>Color: colorless                                    |
| b) Odor                                         | No data available                                                   |
| c) Odor Threshold                               | No data available                                                   |
| d) pH                                           | No data available                                                   |
| e) Melting point/freezing point                 | Melting point/range: -76 °C (-105 °F)                               |
| f) Initial boiling point and boiling range      | 70 °C 158 °F                                                        |
| g) Flash point                                  | 1 °C (34 °F) - closed cup                                           |
| h) Evaporation rate                             | No data available                                                   |
| i) Flammability (solid, gas)                    | No data available                                                   |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 10.4 %(V)<br>Lower explosion limit: 5.5 %(V) |
| k) Vapor pressure                               | 146.26 hPa at 20 °C (68 °F)                                         |
| l) Vapor density                                | No data available                                                   |
| m) Relative density                             | No data available                                                   |
| n) Water solubility                             | hydrolyzes                                                          |
| o) Partition coefficient: n-octanol/water       | log Pow: 1.81                                                       |
| p) Autoignition temperature                     | 425 °C (797 °F) at 1,013 hPa                                        |
| q) Decomposition temperature                    | No data available                                                   |
| r) Viscosity                                    | No data available                                                   |
| s) Explosive properties                         | No data available                                                   |

t) Oxidizing properties No data available

## **9.2 Other safety information**

No data available

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## **SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

Vapors may form explosive mixture with air.

### **10.2 Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

### **10.3 Possibility of hazardous reactions**

Exothermic reaction with:

Water

Alcohols

Acetone

Esters

Ketones

Aldehydes

Amines

alkalines

Oxidizing agents

acids

Risk of ignition or formation of inflammable gases or vapours with:

Ammonia

### **10.4 Conditions to avoid**

Do not allow water to enter container because of violent reaction.

Warming.

### **10.5 Incompatible materials**

No data available

### **10.6 Hazardous decomposition products**

In the event of fire: see section 5

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## **SECTION 11: Toxicological information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

LD50 Oral - Rat - male and female - 595 mg/kg  
(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - 2.77 mg/l  
(OECD Test Guideline 403)

Dermal: No data available

No data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: Causes severe burns. - 4 h  
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

Test Type: Ames test

Test system: *S. typhimurium*

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Species: Rat

Application Route: Intraperitoneal

Method: OECD Test Guideline 475

Result: negative

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

No data available

No data available

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

RTECS: VV3150000

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,

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wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish                      LC0 - Danio rerio (zebra fish) -  $\geq 1,000$  mg/l - 96 h  
Remarks: (External MSDS)

### 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 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

### DOT (US)

UN number: 1162    Class: 3 (8)                      Packing group: II  
Proper shipping name: Dimethyldichlorosilane  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

### IMDG

UN number: 1162    Class: 3 (8)                      Packing group: II                      EMS-No: F-E, S-C  
Proper shipping name: DIMETHYLDICHLOROSILANE

### IATA

UN number: 1162    Class: 3 (8)                      Packing group: II  
Proper shipping name: Dimethyldichlorosilane

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**SECTION 15: Regulatory information****SARA 302 Components**

dichlorodimethylsilane

CAS-No.  
75-78-5

Revision Date  
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**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

dichlorodimethylsilane

CAS-No.  
75-78-5

Revision Date  
2008-11-03

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

dichlorodimethylsilane

CAS-No.  
75-78-5

Revision Date  
2008-11-03

**New Jersey Right To Know Components**

dichlorodimethylsilane

CAS-No.  
75-78-5

Revision Date  
2008-11-03

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**SECTION 16: Other information****Further information**

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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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