

Safety Data Sheet SID3391.0

Date of issue: 07/11/2014 Revision date: 12/04/2014 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 : DICYCLOPENTYLDIMETHOXYSILANE

Product code : SID3391.0 Formula : C12H24O2Si

Synonyms : DIMETHOXYDICYCLOPENTYLCYCLOHEXANE

Chemical family : ORGANOMETHOXYSILANE

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

Use of the substance/mixture : Chemical intermediate

For research and industrial use only

### 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

### 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 (GHS-US)

Skin Irrit. 2 H315 Eye Irrit. 2A H319

Full text of H-phrases: see section 16

### 2.2. Label elements

### **GHS-US** labeling

Hazard pictograms (GHS-US)



GHS07

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H315 - Causes skin irritation H319 - Causes serious eye irritation

Precautionary statements (GHS-US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection

P264 - Wash hands thoroughly after handling

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing P337+P313 - If eye irritation persists: Get medical advice/attention

P302+P352 - If on skin: Wash with plenty of water

P332+P313 - If skin irritation occurs: Get medical advice/attention P362 - Take off contaminated clothing and wash before reuse

# 2.3. Other hazards

Other hazards not contributing to the classification

: Note: The hydrolysis product of this product is methanol. Swallowing methanol can cause drowsiness, unconsciousness, blindness and death.

### 2.4. Unknown acute toxicity (GHS-US)

No data available

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

# 3.1. Substance

Substance type : Multi-constituent

12/04/2014 EN (English US) SDS ID: **SID3391.0** Page 1

# Safety Data Sheet

Name : DICYCLOPENTYLDIMETHOXYSILANE

CAS No : 126990-35-0 EC no : 404-370-8 EC index no : 014-032-00-8

Name	Product identifier	%	Classification (GHS-US)
Dicyclopentyldimethoxysilane	(CAS No) 126990-35-0	> 95	Skin Irrit. 2, H315 Eye Irrit. 2A, H319
Methanol	(CAS No) 67-56-1	< 0.5	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 1, H370 STOT SE 3, H336

### 3.2. Mixture

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 to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell,

seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and 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/injuries after inhalation : May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache.

Nausea.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms/injuries after ingestion : May be harmful if swallowed.

Chronic symptoms : On contact with water this compound liberates methanol which is known to have a chronic

effect on the central nervous system.

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

NOTE TO PHYSICIAN: This product reacts with water in the acid contents of the stomach to form methanol. The combination of visual disturbances, metabolic acidosis and formic acid in urine is evidence of methanol poisoning. The therapeutic intravenous administration of ethanol (10 mls/hour) allows methanol to be preferentially oxidized and reduces production of methanol metabolites. Acidosis must be treated with intravenous administration of sodium bicarbonate and methanol elimination may be increased by hemodialysis, as indicated. Treatment should be based on blood methanol levels and acid-base balance.

# **SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.

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

Fire hazard : 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 : Use water spray to cool exposed surfaces. 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 vapor and mist.

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

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

# 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.

12/04/2014 EN (English US) SDS ID: **SID3391.0** 2/8

# Safety Data Sheet

### 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

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in

process area to prevent accumulation of vapors.

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

Storage conditions : Keep container tightly closed.

Incompatible materials : Moisture. Water.

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

Methanol (67-56-1)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	260 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m³)	325 mg/m³
USA NIOSH	NIOSH REL (STEL) (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA IDLH	US IDLH (ppm)	6000 ppm

# 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 : NIOSH-certified organic vapor (black cartridge) respirator.

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

# 9.1. Information on basic physical and chemical properties

Physical state: LiquidAppearance: Clear liquid.Molecular mass: 228.4 g/molColor: Straw.Odor: Mild.

Odor threshold : No data available

Refractive index : 1.4663

pH : No data available Relative evaporation rate (butyl acetate=1) : No data available Melting point : No data available

Freezing point : < 0 °C

12/04/2014 EN (English US) SDS ID: **SID3391.0** 3/8

# Safety Data Sheet

**Boiling point** : 120 °C @ 6 mm Hg

: 102 °C Flash point Auto-ignition temperature : 235 °C

Decomposition temperature : No data available Flammability (solid, gas) No data available < 1 mm Hg @ 25°C Vapor pressure

Relative vapor density at 20 °C : > Relative density : 1

Solubility : Insoluble in water. Reacts with water.

Log Pow : No data available Log Kow : No data available

Viscosity, kinematic : 2.5 cSt

Viscosity, dynamic No data available Explosive properties No data available Oxidizing properties : No data available : No data available Explosive limits

#### Other information 9.2.

No additional information available

# **SECTION 10: Stability and reactivity**

#### 10.1. Reactivity

No additional information available

#### 10.2. **Chemical stability**

Stable in sealed containers.

#### 10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating methanol.

#### 10.4. **Conditions to avoid**

Heat. Open flame. Sparks.

#### Incompatible materials 10.5.

Moisture. Water.

#### 10.6. **Hazardous decomposition products**

Methanol. Organic acid vapors.

# **SECTION 11: Toxicological information**

# Information on toxicological effects

: Not classified Acute toxicity

Methanol (67-56-1)		
LD50 oral rat	6200 mg/kg	
LD50 dermal rabbit	20 g/kg	
LC50 inhalation rat (ppm)	22500 ppm (Exposure time: 8 h)	
ATE US (oral)	100.000 mg/kg body weight	
ATE US (dermal)	300.000 mg/kg body weight	
ATE US (vapors)	3.000 mg/l/4h	
Dicyclopentyldimethoxysilane (126990-35-0)		
LD50 oral rat	> 2000 mg/kg	

> 2000 mg/kg Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation Causes serious eye irritation.

Respiratory or skin sensitization Not classified Germ cell mutagenicity Not classified Not classified Carcinogenicity Reproductive toxicity : Not classified : Not classified Specific target organ toxicity (single exposure) Specific target organ toxicity (repeated : Not classified

exposure)

Aspiration hazard : Not classified

12/04/2014 EN (English US) SDS ID: SID3391.0 4/8

# Safety Data Sheet

Symptoms/injuries after inhalation : May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache.

Nausea.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation.

Symptoms/injuries after ingestion : May be harmful if swallowed.

Chronic symptoms : On contact with water this compound liberates methanol which is known to have a chronic

effect on the central nervous system.

Reason for classification : Expert judgment

### **SECTION 12: Ecological information**

## 12.1. Toxicity

Methanol (67-56-1)	
LC50 fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

# 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

Methanol (67-56-1)	
BCF fish 1	< 10
Log Pow	-0.77

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

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

Effect on ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

# **SECTION 13: Disposal considerations**

## 13.1. Waste treatment methods

Waste disposal recommendations : May be incinerated. Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

# **SECTION 14: Transport information**

### 14.1. UN number

Not regulated for transport.

# 14.2. UN proper shipping name

Not applicable

### 14.3. Additional information

Other information : No supplementary information available.

# Transport by sea

No additional information available

# Air transport

No additional information available

# **SECTION 15: Regulatory information**

## 15.1. US Federal regulations

## Methanol (67-56-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on United States SARA Section 313

SARA Section 313 - Emission Reporting 1.0 %

# Dicyclopentyldimethoxysilane (126990-35-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

## 15.2. International regulations

12/04/2014 EN (English US) SDS ID: **SID3391.0** 5/8

# Safety Data Sheet

### Methanol (67-56-1)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian DSL (Domestic Sustances List)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Japanese Poisonous and Deleterious Substances Control Law

Listed on the Canadian IDL (Ingredient Disclosure List)

# Dicyclopentyldimethoxysilane (126990-35-0)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian DSL (Domestic Sustances List)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on ELINCS (European List of Notified Chemical Substances)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### 15.3. US State regulations

DICYCLOPENTYLDIMETHOXYSILANE(126990-35-0)		
U.S California - Proposition 65 - Carcinogens List	No	
U.S California - Proposition 65 - Developmental Toxicity	No	
U.S California - Proposition 65 - Reproductive Toxicity - Female	No	
U.S California - Proposition 65 - Reproductive Toxicity - Male	No	

Methanol (67-56-1)				
U.S California -	U.S California -	U.S California -	U.S California -	No significance risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	
		Female	Male	
No	Yes	No	No	
Dicyclopentyldimethox	ysilane (126990-35-0)			
U.S California -	U.S California -	U.S California -	U.S California -	No significance risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	
		Female	Male	

No

## Methanol (67-56-1)

No

- U.S. California Proposition 65 Maximum Allowable Dose Levels (MADL)
- U.S. California SCAQMD Toxic Air Contaminants Non-Cancer Acute
- U.S. California SCAQMD Toxic Air Contaminants Non-Cancer Chronic
- U.S. California Toxic Air Contaminant List (AB 1807, AB 2728)

No

U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues

No

- U.S. Connecticut Hazardous Air Pollutants HLVs (30 min)
- U.S. Connecticut Hazardous Air Pollutants HLVs (8 hr)
- U.S. Connecticut Volatile Substances
- U.S. Delaware Pollutant Discharge Requirements Reportable Quantities
- U.S. Idaho Non-Carcinogenic Toxic Air Pollutants Acceptable Ambient Concentrations U.S. Idaho Non-Carcinogenic Toxic Air Pollutants Emission Levels (ELs)
- U.S. Idaho Occupational Exposure Limits TWAs
- U.S. Illinois Toxic Air Contaminants
- U.S. Louisiana Reportable Quantity List for Pollutants
- U.S. Maine Air Pollutants Hazardous Air Pollutants
- U.S. Maine Chemicals of High Concern
- U.S. Massachusetts Allowable Ambient Limits (AALs)
- U.S. Massachusetts Allowable Threshold Concentrations (ATCs)
- U.S. Massachusetts Oil & Hazardous Material List Groundwater Reportable Concentration Reporting Category 1
- U.S. Massachusetts Oil & Hazardous Material List Groundwater Reportable Concentration Reporting Category 2
- U.S. Massachusetts Oil & Hazardous Material List Reportable Quantity
- U.S. Massachusetts Oil & Hazardous Material List Soil Reportable Concentration Reporting Category 1
- U.S. Massachusetts Oil & Hazardous Material List Soil Reportable Concentration Reporting Category 2
- U.S. Massachusetts Right To Know List
- U.S. Massachusetts Threshold Effects Exposure Limits (TELs)
- U.S. Massachusetts Toxics Use Reduction Act

12/04/2014 EN (English US) SDS ID: SID3391.0 6/8

# Safety Data Sheet

### Methanol (67-56-1) U.S. - Michigan - Occupational Exposure Limits - Skin Designations U.S. - Michigan - Occupational Exposure Limits - STELs U.S. - Michigan - Occupational Exposure Limits - TWAs U.S. - Michigan - Polluting Materials List U.S. - Minnesota - Chemicals of High Concern U.S. - Minnesota - Groundwater Health Risk Limits U.S. - Minnesota - Hazardous Substance List U.S. - Minnesota - Permissible Exposure Limits - Skin Designations U.S. - Minnesota - Permissible Exposure Limits - STELs U.S. - Minnesota - Permissible Exposure Limits - TWAs U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances U.S. - New Jersey - Environmental Hazardous Substances List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New Jersey - Special Health Hazards Substances List U.S. - New Jersey - Water Quality - Ground Water Quality Criteria U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs) U.S. - New York - Occupational Exposure Limits - Skin Designations U.S. - New York - Occupational Exposure Limits - TWAs U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues U.S. - Oregon - Permissible Exposure Limits - TWAs U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories U.S. - Tennessee - Occupational Exposure Limits - Skin Designations U.S. - Tennessee - Occupational Exposure Limits - STELs U.S. - Tennessee - Occupational Exposure Limits - TWAs U.S. - Texas - Effects Screening Levels - Long Term U.S. - Texas - Effects Screening Levels - Short Term U.S. - Vermont - Permissible Exposure Limits - Skin Designations U.S. - Vermont - Permissible Exposure Limits - STELs U.S. - Vermont - Permissible Exposure Limits - TWAs

# **SECTION 16: Other information**

U.S. - Washington - Dangerous Waste - Discarded Chemical Products List U.S. - Washington - Permissible Exposure Limits - Skin Designations

U.S. - Washington - Permissible Exposure Limits - STELs U.S. - Washington - Permissible Exposure Limits - TWAs

Indication of changes

: Applied changes to section 4.

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.: Chemcial 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.

# Full text of H-phrases::

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapor) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation

12/04/2014 EN (English US) SDS ID: **SID3391.0** 7/8

# Safety Data Sheet

H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H336	May cause drowsiness or dizziness
H370	Causes damage to organs

### **HMIS III Rating**

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is

given

Flammability : 1 Slight Hazard
Physical : 1 Slight Hazard

Prepared by safety and environmental affairs.

Date of issue: 07/11/2014 Revision date: 12/04/2014 Version: 1.1

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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.



12/04/2014 EN (English US) SDS ID: **SID3391.0** 8/8