

Safety Data Sheet SIC2469.0 Date of issue: 01/05/2015 Version: 1.0

	ostance/mixture and of the company/undertaking
1.1. Product identifier	
Product form	: Substance
Physical state	: Liquid
Substance name	: CYCLOHEXYLMETHYLDIMETHOXYSILANE
Product code	: SIC2469.0
Formula	: C9H20O2Si
Synonyms	: DIMETHOXYMETHYLSILYLCYCLOHEXANE
Chemical family	: ORGANOMETHOXYSILANE
1.2. Relevant identified uses of the sub	stance 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 info@gelest.com	AM - 5:30 PM EST
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 r	nixture
Classification (GHS-US)	
Flam. Liq. 4 H227 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)	: H227 - Combustible liquid 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 P210 - Keep away from heat, open flames, sparks No smoking P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish P403+P235 - Keep in a cool place P501 - Dispose of contents/container to licensed waste disposal facility.
2.3. Other hazards	
Other hazards not contributing to the classification	: Classification (GHS-UN). Acute toxicity (oral) Category 5. May be harmful if swallowed.
2.4. Unknown acute toxicity (GHS-US)	
No data available	

No data available

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SECTION 3: Composition/information on ingredients				
3.1. Substance				
Substance type	: Mono-constituent			
Name	: CYCLOHEXYLMETHYLDIMETHOXYSILANE			
CAS No	: 17865-32-6			
EC no	C no : 402-140-1			
EC index no : 014-011-00-3				
Name		Product identifier	%	Classification (GHS-US)
Cyclohexylmethyldimethoxysilane		(CAS No) 17865-32-6	> 95	Flam. Liq. 4, H227 Eye Irrit. 2A, H319
Methanol		(CAS №) 67-56-1		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. : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel First-aid measures after inhalation 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: Coughing. Headache. Nausea. Symptoms/injuries after skin contact : May cause skin irritation. Symptoms/injuries after eye contact : Causes serious eye irritation. May be harmful if swallowed. Oral toxicity is associated with methanol, the solvent and a Symptoms/injuries after ingestion hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness. Onset of symptoms may be delayed up to 48 hours. Chronic symptoms : On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

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 meas	sures
5.1. Extinguishing media	
Suitable extinguishing media	: Water spray. Foam. Carbon dioxide. Dry chemical.
5.2. Special hazards arising from	m the substance or mixture
Fire hazard	: Combustible liquid. 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 Protection during firefighting	 Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire. 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.

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SECTION 6: Accide					
	ental release measure	es			
5.1. Personal precautions, protective equipment and emergency procedures					
General measures	: R	Remove ignition sources. Use special care to avoid static electric charges.			
6.1.1. For non-emer	gency personnel				
Emergency procedures	: E	Evacuate unnecessary personnel.			
6.1.2. For emergenc	y responders				
Protective equipment : Equip cleanup crew with proper protection.					
6.2. Environmenta	I precautions				
Prevent entry to sewers a	and public waters. Notify auth	horities if liquid enters sewers or public waters.			
6.3. Methods and	material for containment an	nd cleaning up			
Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to col shovel spills into appropriate container for disposal. Use only non-sparking					
6.4. Reference to o	other sections				
See Heading 8. Exposure	e controls and personal prote	ection.			
SECTION 7: Handli	ing and storage				
	or safe handling				
Precautions for safe hand	p	: Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors. Take precautionary measures against static discharge. Use only non-sparking tools.			
Hygiene measures		Wash hands thoroughly after handling. Wash contaminated clothing before reuse.			
	r safe storage, including an				
Technical measures	• • •	Ground/bond container and receiving equipment.			
Storage conditions	: K	Keep container tightly closed.			
Incompatible materials	: N	: Moisture. Water.			
Storage area	: S	Store in a well-ventilated place. Store away from heat.			
7.3. Specific end u					
7.3. Specific end u No additional information					
No additional information		I protection			
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No additional information SECTION 8: Expos	available sure controls/personal	Il protection			
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Molecular mass	: 188.34 g/mol			
Color	Straw.			
Odor	Mild.			
Odor threshold	No data available			
Refractive index	1.4354			
рН	No data available			
Relative evaporation rate (butyl acetate=1)	No data available			
Melting point	No data available			
Freezing point	: <-40 °C			
Boiling point	: 196 °C			
Flash point	: 66 °C			
Auto-ignition temperature	: 235 °C			
Decomposition temperature	No data available			
Flammability (solid, gas)	Combustible liquid			
Vapor pressure	: 12 mm Hg @ 20°C			
Relative vapor density at 20 °C	: >1			
Relative density	0.9472			
Solubility	Insoluble in water. 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			
Oxidizing properties	No data available			
Explosive limits	No data available			
9.2. Other information				
No additional information available				
SECTION 10: Stability and repativity				
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 me	ethanol.			
10.4. Conditions to avoid				
Heat. Open flame. Sparks.				
10.5. Incompatible materials				
Moisture. Water.				
10.6. Hazardous decomposition products				
Methanol. Organic acid vapors.				
SECTION 11: Toxicological informatic	n			
11.1. Information on toxicological effects				
Acute toxicity	Not classified			
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				
Cyclohexylmethyldimethoxysilane (17865-32-6) LD50 oral rat 3000 mg/kg				
LD50 dermal rat	> 2000 mg/kg			

ATE US (oral)

3000.000 mg/kg body weight

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Methanol (67-56-1)	
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed. Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness. Onset of symptoms may be delayed up to 48 hours.
Chronic symptoms	: On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.
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	S
13.1. Waste treatment methods	
Waste disposal recommendations	: May be incinerated. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials	: Avoid release to the environment.
SECTION 14: Transport information	
14.1. UN number	
DOT NA no.	NA1993
14.2. UN proper shipping name	
Proper Shipping Name (DOT)	: Combustible liquid, n.o.s. (CYCLOHEXYLMETHYLDIMETHOXYSILANE)
Department of Transportation (DOT) Hazard Classes	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
DOT Symbols	: D - Proper shipping name for domestic use only, or to and from Canada,G - Identifies PSN requiring a technical name
Packing group (DOT)	: III - Minor Danger
	: 150
01/05/2015	EN (English US) SDS ID: SIC2469.0 5/8

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DOT Packaging Non Bulk (49	9 CFR 173.xxx) : 203	: 203				
DOT Packaging Bulk (49 CF	R 173.xxx) : 241	1				
14.3. Additional informati	4.3. Additional information					
Other information : No supplementary information available.						
Transport by sea						
DOT Vessel Stowage Location				leck" or "under deck" on a carg	o vessel and on a	
	passenger vessel.					
Air transport						
DOT Quantity Limitations Pa	ssenger aircraft/rail : 60	L				
(49 CFR 173.27)	C C					
DOT Quantity Limitations Ca	rgo aircraft only (49 : 220	ΟL				
CFR 175.75)						
SECTION 15: Regulat	ory information					
15.1. US Federal regulation	IS					
Methanol (67-56-1)						
Listed on the United States	TSCA (Toxic Substances	Con	trol Act) inventory			
Listed on United States SA	RA Section 313					
SARA Section 313 - Emissi	· · ·) %				
Cyclohexylmethyldimetho	, , ,					
Listed on the United States	TSCA (Toxic Substances	Con	trol Act) inventory			
15.2. International regulation	ons					
Methonel (67.56.4)						
Methanol (67-56-1)	line leventeers of Observiced (0				
Listed on the AICS (Austral			stances)			
Listed on the Canadian DS						
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)						
				lical Substances)		
	Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory					
Listed on the Korean ECL (
Listed on NZIoC (New Zeal						
Listed on PICCS (Philippine						
Japanese Poisonous and D			Law			
Listed on the Canadian IDL (Ingredient Disclosure List)						
Cyclohexylmethyldimethoxysilane (17865-32-6)						
	Listed on the AICS (Australian Inventory of Chemical Substances) Listed on the Canadian DSL (Domestic Sustances List)					
			ces Produced or Imported in C	hina)		
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 EN						
Listed on the Japanese ISH		ealth	n Law)			
Listed on the Korean ECL (-)				
Listed on NZIoC (New Zeal Listed on PICCS (Philippine			Chamical Substances)			
Listed on FICCS (Fillippine		anu	Chemical Substances)			
15.3. US State regulations						
		0.0				
CYCLOHEXYLMETHYLDIM U.S California - Proposition						
		No				
U.S California - Propositior Toxicity	165 - Developmental	N	0			
	65 Doproductivo	N	2			
U.S California - Propositior Toxicity - Female		N	U			
U.S California - Proposition	65 - Reproductive	N	0			
Toxicity - Male	100 - Reploductive		0			
Methanol (67-56-1)	LLS Colifornia			LLS California	No cignificance risk layed	
U.S California - Proposition 65 -	U.S California - Proposition 65 -		U.S California - Proposition 65 -	U.S California - Proposition 65 -	No significance risk level (NSRL)	
Carcinogens List	Developmental Toxicity		Reproductive Toxicity -	Reproductive Toxicity -		
			Female	Male		
	l					

No

No

Yes

No

Safety Data Sheet

Cyclohexylmethyldimetho	xysilane (17865-32-6)			
U.S California -	U.S California -	U.S California -	U.S California -	No significance risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRĽ)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity - Female	Reproductive Toxicity - Male	
No	No			
No	No	No	No	
Methanol (67-56-1)				
	n 65 - Maximum Allowable Do - Toxic Air Contaminants - No			
	- Toxic Air Contaminants - No			
	Contaminant List (AB 1807, AB			
			Species, Container and Spill Re	esidues
	ous Air Pollutants - HLVs (30 r			
	ous Air Pollutants - HLVs (8 hr)		
U.S Connecticut - Volatile	Substances Discharge Requirements - Rep	artable Quantitian		
	enic Toxic Air Pollutants - Acc		ons	
	enic Toxic Air Pollutants - Emi			
U.S Idaho - Occupational				
U.S Illinois - Toxic Air Con				
	e Quantity List for Pollutants			
U.S Maine - Air Pollutants U.S Maine - Chemicals of				
U.S Maine - Chemicals of U.S Massachusetts - Allov				
	wable Threshold Concentration	ns (ATCs)		
U.S Massachusetts - Oil 8	k Hazardous Material List - Gro	oundwater Reportable Concer	ntration - Reporting Category 1	
			ntration - Reporting Category 2	
	Hazardous Material List - Re		Describer October 1	
	k Hazardous Material List - Soi k Hazardous Material List - Soi			
U.S Massachusetts - Righ		Treportable Concentration -	Reporting Category 2	
	shold Effects Exposure Limits	(TELs)		
U.S Massachusetts - Toxi				
	nal Exposure Limits - Skin Des	signations		
U.S Michigan - Occupation U.S Michigan - Occupation	nal Exposure Limits - STELs			
U.S Michigan - Polluting M				
U.S Minnesota - Chemica				
U.S Minnesota - Groundw	ater Health Risk Limits			
U.S Minnesota - Hazardou				
U.S Minnesota - Permissit U.S Minnesota - Permissit	ble Exposure Limits - Skin Des	signations		
U.S Minnesota - Permissit				
	gulated Toxic Air Pollutants - A	mbient Air Levels (AALs) - 24	1-Hour	
	gulated Toxic Air Pollutants - A			
	ge Prevention - List of Hazard			
	mental Hazardous Substances			
	Know Hazardous Substance Health Hazards Substances L			
	Quality - Ground Water Quality			
	Quality - Practical Quantitation			
	onal Exposure Limits - Skin De	signations		
	onal Exposure Limits - TWAs			
	of Releases Part 597 - List of Ilutants - Guideline Concentra			
	Ilutants - Guideline Concentra			
			tion Species, Container and Spi	II Residues
U.S Oregon - Permissible	Exposure Limits - TWAs			
	Right to Know) - Environmenta	al Hazard List		
U.S Pennsylvania - RTK (Right to Know) List xics - Acceptable Ambient Lev	rels - 1-Hour		
	xics - Acceptable Ambient Lev			
	c Air Pollutants - Maximum All			
U.S South Carolina - Toxic	c Air Pollutants - Pollutant Cat	egories		
	ional Exposure Limits - Skin D			
	tional Exposure Limits - STELs			
U.S Tennessee - Occupat U.S Texas - Effects Scree	tional Exposure Limits - TWAs			
U.S Texas - Effects Scree				
	e Exposure Limits - Skin Desig	Inations		
U.S Vermont - Permissible	e Exposure Limits - STELs			
U.S Vermont - Permissible		and Developed 11 d		
	ous Waste - Discarded Chemi			
0.3 washington - Permiss	sible Exposure Limits - Skin De	ะอาราทสแบบอ		

Safety Data Sheet

Methanol (67-56-1)	
U.S Washington - Permissible Exposure Limits - STELs	
U.S Washington - Permissible Exposure Limits - TWAs	

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.: 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
Flam. Liq. 4		Flammable liquids Category 4
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
H227		Combustible liquid
H301		Toxic if swallowed
H311		Toxic in contact with skin
H315		Causes skin irritation
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 Physical : 2 Moderate Hazard

: 1 Slight Hazard

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SDS US (GHS HazCom 2012) - Custom

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

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