

Safety Data Sheet SIU9055.0 Date of issue: 10/05/2015 Version: 1.0

SECTION 1: Identification of the sub	stance/mixture and of the company/undertaking		
1.1. Product identifier			
Product form	: Mixture		
Physical state	: Liquid		
Product name	: UREIDOPROPYLTRIETHOXYSILANE, 50% in methanol		
Product code	: SIU9055.0		
Formula	: C10H24N2O4Si		
Synonyms	: (3-TRIETHOXYSILYL)PROPYLUREA		
Chemical family	: ORGANOETHOXYSILANE		
	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	AM - 5:30 PM EST		
info@gelest.com - www.gelest.com			
1.4. Emergency telephone number Emergency 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 m	ixture		
GHS-US classification			
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 Full text of H-phrases: see section 16			
2.2. Label elements			
GHS-US labeling			
Hazard pictograms (GHS-US)	: GHS02 GHS05 GHS06 GHS07 GHS08		
Signal word (GHS-US)	: Danger		
Hazard statements (GHS-US)	 H225 - Highly flammable liquid and vapor H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled H315 - Causes skin irritation H318 - Causes serious eye damage H336 - May cause drowsiness or dizziness H370 - Causes damage to organs 		
Precautionary statements (GHS-US)	 P280 - Wear protective gloves/protective clothing/eye protection/face protection P210 - Keep away from heat, open flames, sparks No smoking P240 - Ground/bond container and receiving equipment P241 - Use explosion-proof electrical equipment P242 - Use only non-sparking tools P243 - Take precautionary measures against static discharge P260 - Do not breathe vapors P264 - Wash hands thoroughly after handling P270 - Do not eat, drink or smoke when using this product P271 - Use only outdoors or in a well-ventilated area 		
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		 P330 - Rinse mouth P301+P310 - If swallowed: Immediately call a POISON CENTER P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P307+P311 - If exposed: Call a poison center/doctor P321 - Specific treatment (see first aid instructions on this label) P332+P313 - If skin irritation occurs: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish P403+P235 - Keep in a cool place P405 - Store locked up P501 - Dispose of contents/container to licensed waste disposal facility.
2.2	Other hererde	

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Methanol	(CAS No) 67-56-1	45 - 50	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
Ureidopropyltriethoxysilane	(CAS No) 23779-32-0	45 - 50	Skin Irrit. 2, H315 Eye Irrit. 2A, H319

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 n available show packaging or label.	not
First-aid measures after inhalation	 Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get med advice/attention if you feel unwell. 	lical
First-aid measures after skin contact	: Wash with plenty of soap and 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 lense present and easy to do. Continue rinsing. Get immediate medical advice/attention.	es, if
First-aid measures after ingestion	Never give anything by mouth to an unconscious person. Immediately call a poison center of doctor/physician.	or
4.2. Most important symptoms and effect	, both acute and delayed	
Symptoms/injuries	Causes damage to organs.	
Symptoms/injuries after inhalation	: Toxic if inhaled. Danger of serious damage to health by prolonged exposure through inhala May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Overexpos may cause: Nausea. Headache. Visual disturbances. Cough.	
Symptoms/injuries after skin contact	Toxic in contact with skin. Causes skin irritation. Repeated exposure to this material can resin absorption through skin causing significant health hazard.	sult
Symptoms/injuries after eye contact	Causes serious eye damage.	
Symptoms/injuries after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. 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	Methanol may effect the central nervous system resulting in persistent or recurring headach or impaired vision. On contact with water this compound liberates methanol which is known have a chronic effect on the central nervous system.	

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

NOTE TO PHYSICIAN: 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

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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.

nemoularysis, as indicated. Treatment should	de based on blood methanon revers and acid-base balance.
SECTION 5: Firefighting measure	S
5.1. Extinguishing media	
Suitable extinguishing media	: Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	: Do not use straight streams.
5.2. Special hazards arising from the	substance or mixture
Fire hazard	: Highly flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
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 m	easures
6.1. Personal precautions, protective	e equipment and emergency procedures
General measures	: Eliminate every possible source of ignition. 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. N	lotify authorities if liquid enters sewers or public waters.
6.3. Methods and material for contain	nment 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. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.
6.4. Reference to other sections	
See Heading 8. Exposure controls and perso	onal protection.
SECTION 7: Handling and storage	e
7.4 Descentions for sofe how likes	

7.1. Precautions for safe handling		
Additional hazards when processed	: Handle empty containers with care because residual vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces No smoking.	
Precautions for safe handling	: Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only outdoo or in a well-ventilated area. 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	ng any incompatibilities	
Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Use explosion-prov ventilating equipment.	of
Storage conditions	: Keep container tightly closed. Store in sealed containers in the dark. Store locked up. Keep ir cool place.	ıa
Incompatible materials	: Oxidizing agent. Peroxides. Alcohols. Acids. 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	

UREIDOPROPYLTRIETHOXYSILANE, 50% in methanol Safety Data Sheet

Methanol (67-56-1)		
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	260 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	325 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA IDLH	US IDLH (ppm)	6000 ppm
8.2. Exposure controls	•	
Appropriate engineering controls	s : Provide local exhaust or g	eneral room ventilation.
Personal protective equipment		posure. Emergency eye wash fountains and safety showers should 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.
Skin and body protection	: Wear suitable protective c	lothing.
Respiratory protection		nhalation may occur from use, respiratory protection equipment is rtified combination organic vapor - amine gas (brown cartridge)
SECTION 9: Physical an	d chemical properties	
9.1. Information on basic	physical and chemical properties	
Physical state	: Liquid	
Appearance	: Liquid.	
Volecular mass	: 264.4 g/mol	

Appearance	: Liquid.
Molecular mass	: <mark>264.4</mark> g/mol
Color	: Straw to amber.
Odor	: Amine. Ammonia-like.
Odor threshold	: No data available
Refractive index	: 1.386
рН	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: -97 °C
Boiling point	: 68 °C (initial, methanol)
Flash point	: 11 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Vapor pressure	: 97 mm Hg @ 20°C
Relative vapor density at 20 °C	: 5.9 (methanol)
Relative density	: 0.92
VOC content	: 40 %
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
Oxidizing properties	: No data available
Explosion limits	: 6 - 36.5 vol % (lower; upper: methanol)
9.2. Other information	

No additional information available

SECT	SECTION 10: Stability and reactivity			
10.1.	Reactivity			
No addi	tional information available			
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10.2. Chemical stability	
Stable in sealed containers.	
10.3. Possibility of hazardous reactions	
Reacts with water and moisture in air, liberating n	nethanol.
10.4. Conditions to avoid	
Heat. Sparks. Open flame.	
10.5. Incompatible materials	
	turo Water
Peroxides. Oxidizing agent. Alcohols. Acids. Mois	
10.6. Hazardous decomposition products	
Methanol. Organic acid vapors.	
SECTION 11: Toxicological informati	on
11.1. Information on toxicological effects	
Acute toxicity	: Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation:vapour: Toxic if inhaled.
UREIDOPROPYLTRIETHOXYSILANE, 50% in	· · · · ·
ATE US (oral)	153.846 mg/kg body weight
ATE US (dermal)	461.538 mg/kg body weight
ATE US (vapors)	4.615 mg/l/4h
Methanol (67-56-1)	
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
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Causes damage to organs. May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: This material liberates small amounts of methanol on contact with moisture. Material generates methanol on contact with water or moisture in skin, eyes and mucous membranes and has an irritating, dehydrating effect on overexposed tissue.
Symptoms/injuries after inhalation	: Toxic if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Overexposure may cause: Nausea. Headache. Visual disturbances. Cough.
Symptoms/injuries after skin contact	: Toxic in contact with skin. Causes skin irritation. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. 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	 Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision. 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	

12.1.	loxicity	
Methar	nol (67-56-1)	
LC50 fi	ish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fi	ish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
12.2.	Persistence and degradability	

No additional information available

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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 consideration	s
13.1. Waste treatment methods	<u> </u>
Sewage disposal recommendations	: Do not dispose of waste into sewer.
Waste 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 vapors are flammable.
Ecology - waste materials	: Avoid release to the environment.
SECTION 14: Transport information	
14.1. UN number	
UN-No.(DOT)	: 1992
DOT NA no.	UN1992
14.2. UN proper shipping name	
Proper Shipping Name (DOT)	: Flammable liquids, toxic, n.o.s.
	(UREIDOPROPYLTRIETHOXYSILANE, 50% in methanol)
Transport hazard class(es) (DOT)	3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid
	6.1 - Poison
	3 6
DOT Symbols	: G - Identifies PSN requiring a technical name
Packing group (DOT)	: II - Medium Danger
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 243
14.3. Additional information	
Emergency Response Guide (ERG) Number	: 28
Other information	: No supplementary information available.
Transport by sea	
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a
	passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" or
	passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this
	section is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"
Air transport	
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
SECTION 15: Regulatory information	
15.1. US Federal regulations	
13.1. 03 rederar regulations	

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Methanol (67-56-1)							
Listed on the United States							
Subject to reporting requirements of United States SARA Section 313							
SARA Section 313 - Emission Reporting 1.0 %							
Ureidopropyltriethoxysila	ane (23779-32-0)						
Listed on the United States	s TSCA (Toxic Substance	s Contro	ol Act) inventory				
15.2. International regulati	ons						
Mathemal (67 EC 4)							
Methanol (67-56-1)	lion Inventory of Chamica	Cubat	22222				
Listed on the AICS (Austra Listed on the Canadian DS			ances)				
			s Produced or Imported in	China)			
			f Existing Commercial Che				
Listed on the Japanese EN				,			
Listed on the Korean ECL							
Listed on NZIoC (New Zea							
Listed on PICCS (Philippin							
Japanese Poisonous and Deleterious Substances Control Law Listed on the Canadian IDL (Ingredient Disclosure List)							
Listed on the Canadian ID Listed on INSQ (Mexican r			hstancos)				
Listed on Turkish inventory		lical Su	bstances)				
Ureidopropyltriethoxysila	· · ·						
Listed on the AICS (Austra Listed on the Canadian DS			ances)				
			s Produced or Imported in	China)			
			of Existing Commercial Che				
Listed on ELINCS (European List of Notified Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory							
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)							
15.3. US State regulations							
UREIDOPROPYLTRIETHO	XYSILANE, 50% in meth	anol(23	3779-32-0)				
U.S California - Propositio	n 65 - Carcinogens List	No					
U.S California - Propositio	n 65 - Developmental	No					
Toxicity							
U.S California - Proposition 65 - Reproductive No							
Toxicity - Female							
U.S California - Proposition 65 - Reproductive No Toxicity - Male							
Methanol (67-56-1)							
U.S California -	U.S California -	- 1	J.S California -	U.S California -		Non-significant risk level	
Proposition 65 -	Proposition 65 -		Proposition 65 -	Proposition 65 -		(NSRL)	

U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	Yes	No	No	
Ureidopropyltriethoxysila	ne (23779-32-0)			
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

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)

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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
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 : 4 Severe Hazard : 1 Slight Hazard

Prepared by safety and environmental affairs.

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Version: 1.0

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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