



A Group Company of MITSUBISHI CHEMICAL

# N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYLPROPYL)AMINE, 65% in methanol

Safety Data Sheet SIH6171.5

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Version: 1.2

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form	: Mixture
Physical state	: Liquid
Product name	: N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYLPROPYL)AMINE, 65% in methanol
Product code	: SIH6171.5
Formula	: C <sub>14</sub> H <sub>35</sub> NO <sub>7</sub> Si <sub>2</sub>
Synonyms	: HYDROXY FUNCTIONAL SILANE
Chemical family	: ORGANOMETHOXYSILANE

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Chemical intermediate

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

#### GELEST, INC.

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Morrisville, PA 19067

#### USA

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[info@gelestde.com](mailto:info@gelestde.com) - [www.gelest.com](http://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 according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Acute toxicity (oral), Category 3	H301
Acute toxicity (dermal), Category 3	H311
Acute toxicity (inhalation:vapour) Category 3	H331
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity — single exposure, Category 1	H370
Full text of H- and EUH-statements: see section 16	

#### Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

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### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour.  
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled  
H319 - Causes serious eye irritation.  
H370 - Causes damage to organs.

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground/bond container and receiving equipment.  
P241 - Use explosion-proof ventilating equipment.  
P260 - Do not breathe vapours.  
P264 - Wash hands thoroughly after handling.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-(Hydroxyethyl)-N,N-bis(trimethoxysilyl)propylamine	(CAS-No.) 264128-94-1	> 60	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X	< 40	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 STOT SE 1, H370
2-Methoxyethanol substance listed as REACH Candidate	(CAS-No.) 109-86-4 (EC-No.) 203-713-7 (EC Index-No.) 603-011-00-4	< 5	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Repr. 1B, H360FD

#### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X	( 3 ≤C < 10) STOT SE 2, H371 ( 10 ≤C < 100) STOT SE 1, H370

Full text of H- and EUH-statements: see section 16

## 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. Call a POISON CENTER/doctor.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
First-aid measures after skin contact	: Remove/take off immediately all contaminated clothing. Wash with plenty of water/.... Immediately call a POISON CENTER/doctor. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

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First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Immediately call a POISON CENTER/doctor.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Causes damage to organs.  
Symptoms/effects after inhalation : Toxic if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. May cause drowsiness or dizziness. Overexposure may cause: Nausea. Headache. Visual disturbances. Cough.  
Symptoms/effects 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/effects after eye contact : Causes serious eye damage.  
Symptoms/effects 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 affect 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: 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 : Highly flammable liquid and vapour. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.  
Explosion hazard : May form flammable/explosive vapour-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 vapour and mist.

## SECTION 6: Accidental release measures

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

General measures : Remove ignition sources. Use special care to avoid static electric charges.

#### 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. Avoid breathing vapours.

### 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. Use only non-sparking tools.

### 6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.  
Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid all eye and skin contact and do not breathe vapour and mist. Provide good ventilation in process area to prevent formation of vapour. Take precautionary measures against static discharge. Containers must be properly grounded before beginning transfer. Use only non-sparking tools.  
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

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### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.
Storage conditions	: Keep container tightly closed.
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)		
EU	IOEL TWA	260 mg/m <sup>3</sup>
EU	IOEL TWA [ppm]	200 ppm
Austria	MAK (OEL TWA)	260 mg/m <sup>3</sup>
Austria	MAK (OEL TWA) [ppm]	200 ppm
Austria	MAK (OEL STEL)	1040 mg/m <sup>3</sup>
Austria	MAK (OEL STEL) [ppm]	800 ppm
Belgium	OEL TWA	266 mg/m <sup>3</sup>
Belgium	OEL TWA [ppm]	200 ppm
Belgium	OEL STEL	333 mg/m <sup>3</sup>
Belgium	OEL STEL [ppm]	250 ppm
Bulgaria	OEL TWA	260 mg/m <sup>3</sup>
Bulgaria	OEL TWA [ppm]	200 ppm
Cyprus	OEL TWA	260 mg/m <sup>3</sup>
Cyprus	OEL TWA [ppm]	200 ppm
France	VLE (OEL C/STEL)	1300 mg/m <sup>3</sup>
France	VLE (OEL C/STEL) [ppm]	1000 ppm
France	VME (OEL TWA)	260 mg/m <sup>3</sup> (restrictive limit)
France	VME (OEL TWA) [ppm]	200 ppm (restrictive limit)
Germany	AGW (OEL TWA) [1]	270 mg/m <sup>3</sup> (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	AGW (OEL TWA) [2]	200 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	Biological limit value	30 mg/l (Medium: urine - Time: end of shift - Parameter: Methanol) 30 mg/l (Medium: urine - Time: end of several shifts - Parameter: Methanol (for long-term exposures))
Gibraltar	OEL TWA	260 mg/m <sup>3</sup>
Gibraltar	OEL TWA [ppm]	200 ppm
Greece	OEL TWA	260 mg/m <sup>3</sup>
Greece	OEL TWA [ppm]	200 ppm
Greece	OEL STEL	325 mg/m <sup>3</sup>
Greece	OEL STEL [ppm]	250 ppm
Italy - Portugal - USA ACGIH	ACGIH OEL TWA [ppm]	200 ppm
Italy - Portugal - USA ACGIH	ACGIH OEL STEL [ppm]	250 ppm
Italy	OEL TWA	260 mg/m <sup>3</sup>
Italy	OEL TWA [ppm]	200 ppm
Latvia	OEL TWA	260 mg/m <sup>3</sup>
Latvia	OEL TWA [ppm]	200 ppm
USA IDLH	IDLH [ppm]	6000 ppm
USA NIOSH	NIOSH REL TWA	260 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL TWA [ppm]	200 ppm
USA NIOSH	NIOSH REL STEL	325 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL STEL [ppm]	250 ppm

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Methanol (67-56-1)		
USA OSHA	OSHA PEL TWA [1]	260 mg/m <sup>3</sup>
USA OSHA	OSHA PEL TWA [2]	200 ppm
Spain	VLA-ED (OEL TWA) [1]	266 mg/m <sup>3</sup> (indicative limit value)
Spain	VLA-ED (OEL TWA) [2]	200 ppm (indicative limit value)
Switzerland	KZGW (OEL STEL)	1040 mg/m <sup>3</sup>
Switzerland	KZGW (OEL STEL) [ppm]	800 ppm
Switzerland	MAK (OEL TWA) [1]	260 mg/m <sup>3</sup>
Switzerland	MAK (OEL TWA) [2]	200 ppm
Netherlands	TGG-8u (OEL TWA)	133 mg/m <sup>3</sup>
Netherlands	TGG-8u (OEL TWA) [ppm]	100 ppm
United Kingdom	WEL TWA (OEL TWA) [1]	266 mg/m <sup>3</sup>
United Kingdom	WEL TWA (OEL TWA) [2]	200 ppm
United Kingdom	WEL STEL (OEL STEL)	333 mg/m <sup>3</sup>
United Kingdom	WEL STEL (OEL STEL) [ppm]	250 ppm
Czech Republic	PEL (OEL TWA)	250 mg/m <sup>3</sup>
Denmark	OEL TWA [1]	260 mg/m <sup>3</sup>
Denmark	OEL TWA [2]	200 ppm
Finland	HTP (OEL TWA) [1]	270 mg/m <sup>3</sup>
Finland	HTP (OEL TWA) [2]	200 ppm
Finland	HTP (OEL STEL)	330 mg/m <sup>3</sup>
Finland	HTP (OEL STEL) [ppm]	250 ppm
Hungary	AK (OEL TWA)	260 mg/m <sup>3</sup>
Ireland	OEL TWA [1]	260 mg/m <sup>3</sup>
Ireland	OEL TWA [2]	200 ppm
Ireland	OEL STEL	780 mg/m <sup>3</sup> (calculated)
Ireland	OEL STEL [ppm]	600 ppm (calculated)
Lithuania	IPRV (OEL TWA)	260 mg/m <sup>3</sup>
Lithuania	IPRV (OEL TWA) [ppm]	200 ppm
Malta	OEL TWA	260 mg/m <sup>3</sup>
Malta	OEL TWA [ppm]	200 ppm
Norway	Grenseverdi (OEL TWA) [1]	130 mg/m <sup>3</sup>
Norway	Grenseverdi (OEL TWA) [2]	100 ppm
Norway	Korttidsverdi (OEL STEL)	130 mg/m <sup>3</sup>
Norway	Korttidsverdi (OEL STEL) [ppm]	100 ppm
Poland	NDS (OEL TWA)	100 mg/m <sup>3</sup>
Poland	NDSch (OEL STEL)	300 mg/m <sup>3</sup>
Romania	OEL TWA	260 mg/m <sup>3</sup>
Romania	OEL TWA [ppm]	200 ppm
Romania	OEL STEL [ppm]	5 ppm
Slovakia	NPHV (OEL TWA) [1]	260 mg/m <sup>3</sup>
Slovakia	NPHV (OEL TWA) [2]	200 ppm
Sweden	NGV (OEL TWA)	250 mg/m <sup>3</sup>
Sweden	NGV (OEL TWA) [ppm]	200 ppm
Sweden	KTV (OEL STEL)	350 mg/m <sup>3</sup>
Sweden	KTV (OEL STEL) [ppm]	250 ppm
Canada (Quebec)	VECD (OEL STEL)	328 mg/m <sup>3</sup>
Canada (Quebec)	VECD (OEL STEL) [ppm]	250 ppm
Canada (Quebec)	VEMP (OEL TWA)	262 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (OEL TWA) [ppm]	200 ppm
Australia	OES TWA [1]	262 mg/m <sup>3</sup>

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<b>Methanol (67-56-1)</b>		
Australia	OES TWA [2]	200 ppm
Australia	OES STEL	328 mg/m <sup>3</sup>
Australia	OES STEL [ppm]	250 ppm
Portugal	OEL TWA	260 mg/m <sup>3</sup> (indicative limit value)
Portugal	OEL TWA [ppm]	200 ppm (indicative limit value)
Portugal	OEL STEL [ppm]	250 ppm
Portugal	OEL chemical category	skin - potential for cutaneous exposure indicative limit value
<b>2-Methoxyethanol (109-86-4)</b>		
EU	IOEL TWA [ppm]	1 ppm
Austria	MAK (OEL TWA) [ppm]	1 ppm
Austria	MAK (OEL STEL) [ppm]	4 ppm
Belgium	OEL TWA	0.3 mg/m <sup>3</sup>
Belgium	OEL TWA [ppm]	0.1 ppm
Bulgaria	OEL TWA [ppm]	1 ppm
Cyprus	OEL TWA [ppm]	1 ppm
France	VME (OEL TWA)	3.2 mg/m <sup>3</sup> (restrictive limit)
France	VME (OEL TWA) [ppm]	1 ppm (restrictive limit)
Germany	AGW (OEL TWA) [1]	3.2 mg/m <sup>3</sup> (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed)
Germany	AGW (OEL TWA) [2]	1 ppm (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed)
Germany	Biological limit value	15 mg/g (Medium: urine - Time: end of shift - Parameter: Methoxyacetic acid (measured as mg/g Creatinine))
Gibraltar	OEL TWA [ppm]	1 ppm
Greece	OEL TWA [ppm]	1 ppm
Italy - Portugal - USA ACGIH	ACGIH OEL TWA [ppm]	0.1 ppm
Italy	OEL TWA [ppm]	0.5 ppm
Latvia	OEL TWA [ppm]	1 ppm
USA IDLH	IDLH [ppm]	200 ppm
USA NIOSH	NIOSH REL TWA	0.3 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL TWA [ppm]	0.1 ppm
USA OSHA	OSHA PEL TWA [1]	80 mg/m <sup>3</sup>
USA OSHA	OSHA PEL TWA [2]	25 ppm
Spain	VLA-ED (OEL TWA) [1]	3 mg/m <sup>3</sup> (indicative limit value)
Spain	VLA-ED (OEL TWA) [2]	1 ppm (indicative limit value)
Switzerland	KZGW (OEL STEL)	25.6 mg/m <sup>3</sup>
Switzerland	KZGW (OEL STEL) [ppm]	8 ppm
Switzerland	MAK (OEL TWA) [1]	3.2 mg/m <sup>3</sup>
Switzerland	MAK (OEL TWA) [2]	1 ppm
Netherlands	TGG-8u (OEL TWA)	0.5 mg/m <sup>3</sup>
United Kingdom	WEL TWA (OEL TWA) [1]	3 mg/m <sup>3</sup>
United Kingdom	WEL TWA (OEL TWA) [2]	1 ppm
United Kingdom	WEL STEL (OEL STEL)	9 mg/m <sup>3</sup> (calculated)
United Kingdom	WEL STEL (OEL STEL) [ppm]	3 ppm (calculated)
Czech Republic	PEL (OEL TWA)	3 mg/m <sup>3</sup>
Denmark	OEL TWA [2]	1 ppm
Finland	HTP (OEL TWA) [1]	1.6 mg/m <sup>3</sup>
Finland	HTP (OEL TWA) [2]	0.5 ppm
Hungary	AK (OEL TWA)	3.16 mg/m <sup>3</sup>
Ireland	OEL TWA [2]	1 ppm
Ireland	OEL STEL [ppm]	3 ppm (calculated)

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2-Methoxyethanol (109-86-4)		
Lithuania	IPRV (OEL TWA) [ppm]	1 ppm
Lithuania	TPRV (OEL STEL)	30 mg/m <sup>3</sup>
Lithuania	TPRV (OEL STEL) [ppm]	10 ppm
Malta	OEL TWA [ppm]	1 ppm
Norway	Grenseverdi (OEL TWA) [1]	3.1 mg/m <sup>3</sup>
Norway	Grenseverdi (OEL TWA) [2]	1 ppm
Norway	Korttidsverdi (OEL STEL)	3.1 mg/m <sup>3</sup>
Norway	Korttidsverdi (OEL STEL) [ppm]	1 ppm
Poland	NDS (OEL TWA)	3 mg/m <sup>3</sup>
Romania	OEL TWA	3.2 mg/m <sup>3</sup>
Romania	OEL TWA [ppm]	1 ppm
Slovakia	NPHV (OEL TWA) [1]	16 mg/m <sup>3</sup>
Slovakia	NPHV (OEL TWA) [2]	5 ppm
Slovakia	NPHV (OEL C)	128 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (OEL TWA)	16 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (OEL TWA) [ppm]	5 ppm
Australia	OES TWA [1]	16 mg/m <sup>3</sup>
Australia	OES TWA [2]	5 ppm
Portugal	OEL TWA [ppm]	1 ppm (indicative limit value)
Portugal	OEL chemical category	skin - potential for cutaneous exposure indicative limit value

### 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:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor - amine gas (brown cartridge) respirator.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Clear liquid.
Molecular mass	: 385.61 g/mol
Colour	: Straw.
Odour	: Amine-like. Ammonia-like.
Odour threshold	: No data available
Refractive index	: No additional information available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C

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Boiling point	: 68 °C (initial, methanol)
Flash point	: 15 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour.
Vapour pressure	: 50 mm Hg
Relative vapour density at 20 °C	: 5.9
Relative density	: 0.97
% Volatiles	: 40 %
Solubility	: Reacts with water. Dissolves.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 6 – 36.5 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable when stored in sealed containers.

### 10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating methanol.

### 10.4. Conditions to avoid

Heat. Sparks. Open flame.

### 10.5. Incompatible materials

Peroxides. Oxidizing agent. alcohols. Acids. Moisture. Water :

### 10.6. Hazardous decomposition products

Organic acid vapors. Methanol.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Toxic if swallowed or in contact with skin. Toxic in contact with skin or if inhaled. Toxic if inhaled.

#### N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYL)PROPYL)AMINE, 65% in methanol (264128-94-1)

ATE CLP (oral)	100 mg/kg bodyweight
ATE CLP (dermal)	300 mg/kg bodyweight
ATE CLP (vapours)	3 mg/l/4h

#### Methanol (67-56-1)

LC50 Inhalation - Rat [ppm]	22500 ppm (Exposure time: 8 h)
ATE CLP (oral)	100 mg/kg bodyweight
ATE CLP (dermal)	300 mg/kg bodyweight
ATE CLP (vapours)	3 mg/l/4h

#### 2-Methoxyethanol (109-86-4)

LD50 oral rat	2370 mg/kg 2460 mg/kg
LD50 dermal rabbit	1280 mg/kg
LC50 Inhalation - Rat [ppm]	1478 ppm (Exposure time: 7 h)
ATE CLP (oral)	500 mg/kg bodyweight
ATE CLP (dermal)	1280 mg/kg bodyweight
ATE CLP (vapours)	11 mg/l/4h

Skin corrosion/irritation : Not classified



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Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
Reproductive toxicity	: Not classified
STOT-single exposure	: Causes damage to organs.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.
Symptoms/effects after inhalation	: Toxic if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. May cause drowsiness or dizziness. Overexposure may cause: Nausea. Headache. Visual disturbances. Cough.
Symptoms/effects 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/effects after eye contact	: Causes serious eye damage.
Symptoms/effects 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.

## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

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])
2-Methoxyethanol (109-86-4)	
LC50 - Fish [1]	10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 - Fish [2]	9650 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

Methanol (67-56-1)	
BCF - Fish [1]	< 10
Partition coefficient n-octanol/water (Log Pow)	-0.77
2-Methoxyethanol (109-86-4)	
Partition coefficient n-octanol/water (Log Pow)	-0.85

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

Component	
(109-86-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

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

# N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYLPROPYL)AMINE, 65% in methanol

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging 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..
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

In accordance with ADR / IMDG / IATA / ADN / RID

#### 14.1. UN number

UN-No. (ADR)	: 1993
UN-No. (IMDG)	: 1993
UN-No. (IATA)	: 1993
UN-No. (ADN)	: 1993
UN-No. (RID)	: 1993

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IMDG)	: FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IATA)	: Flammable liquid, n.o.s.
Proper Shipping Name (ADN)	: FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (RID)	: FLAMMABLE LIQUID, N.O.S.
Transport document description (ADR)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYLPROPYL)AMINE, 65% in methanol), 3, II, (D/E)
Transport document description (IMDG)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYLPROPYL)AMINE, 65% in methanol), 3, II
Transport document description (IATA)	: UN 1993 Flammable liquid, n.o.s. (N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYLPROPYL)AMINE, 65% in methanol), 3, II
Transport document description (ADN)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYLPROPYL)AMINE, 65% in methanol), 3, II
Transport document description (RID)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYLPROPYL)AMINE, 65% in methanol), 3, II

#### 14.3. Transport hazard class(es)

##### ADR

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



##### IMDG

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



##### IATA

Transport hazard class(es) (IATA)	: 3
Danger labels (IATA)	: 3

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### ADN

Transport hazard class(es) (ADN) : 3

Danger labels (ADN) : 3



### RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3



### 14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : F1

Special provisions (ADR) : 274, 601, 640C

Limited quantities (ADR) : 11

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP1, TP8, TP28

Tank code (ADR) : L1.5BN

Vehicle for tank carriage : FL

Transport category (ADR) : 2

Special provisions for carriage - Operation (ADR) : S2, S20

Hazard identification number (Kemler No.) : 33

# N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSYLILPROPYL)AMINE, 65% in methanol

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Orange plates : 

33
1993

Tunnel restriction code (ADR) : D/E

### - Transport by sea

Special provisions (IMDG) : 274  
Limited quantities (IMDG) : 1 L  
Excepted quantities (IMDG) : E2  
Packing instructions (IMDG) : P001  
IBC packing instructions (IMDG) : IBC02  
Tank instructions (IMDG) : T7  
Tank special provisions (IMDG) : TP1, TP8, TP28  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-E  
Stowage category (IMDG) : B

### - Air transport

PCA Excepted quantities (IATA) : E2  
PCA Limited quantities (IATA) : Y341  
PCA limited quantity max net quantity (IATA) : 1L  
PCA packing instructions (IATA) : 353  
PCA max net quantity (IATA) : 5L  
CAO packing instructions (IATA) : 364  
CAO max net quantity (IATA) : 60L  
Special provisions (IATA) : A3  
ERG code (IATA) : 3H

### - Inland waterway transport

Classification code (ADN) : F1  
Special provisions (ADN) : 274, 601, 640C  
Limited quantities (ADN) : 1 L  
Excepted quantities (ADN) : E2  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EX, A  
Ventilation (ADN) : VE01  
Number of blue cones/lights (ADN) : 1

### - Rail transport

Classification code (RID) : F1  
Special provisions (RID) : 274, 601, 640C  
Limited quantities (RID) : 1L  
Excepted quantities (RID) : E2  
Packing instructions (RID) : P001  
Mixed packing provisions (RID) : MP19  
Portable tank and bulk container instructions (RID) : T7  
Portable tank and bulk container special provisions (RID) : TP1, TP8, TP28  
Tank codes for RID tanks (RID) : L1.5BN  
Transport category (RID) : 2  
Colis express (express parcels) (RID) : CE7  
Hazard identification number (RID) : 33

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

# N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYL)PROPYLAMINE, 65% in methanol

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### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains a substance on the REACH candidate list in concentration  $\geq 0.1\%$  or with a lower specific limit: 2-Methoxyethanol (EC 203-713-7, CAS 109-86-4)

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no REACH Annex XIV substances

% Volatiles : 40 %

##### 15.1.2. National regulations

###### Germany

Regulatory reference : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

###### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : 2-Methoxyethanol is listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : Methanol, 2-Methoxyethanol are listed

###### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

#### 15.2. Chemical safety assessment

No additional information available

### SECTION 16: Other information

Abbreviations and acronyms:

Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor
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Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3

# N-(HYDROXYETHYL)-N,N-BIS(TRIMETHOXYSILYL)PROPYL)AMINE, 65% in methanol

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Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H360FD	May damage fertility. May damage the unborn child.
H370	Causes damage to organs.
H371	May cause damage to organs.
Repr. 1B	Reproductive toxicity, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 1	Specific target organ toxicity — single exposure, Category 1
STOT SE 2	Specific target organ toxicity — Single exposure, Category 2

SDS EU (REACH Annex II) - Custom

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

*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.*

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**NOTICE OF TSCA USE RESTRICTIONS AND REQUIRED CONTROLS FOR  
SIH6171.5  
N-HYDROXYETHYL-N,N-BIS(TRI-METHOXYSILYL)PROPYL)AMINE, 65% in methanol**

Dear Customer:

The chemical product purchased, SIH6171.5 has been granted a Low Volume Exemption by the U.S. Environmental Protection Agency (EPA) under the Toxic Substances Control Act (TSCA) regulations (40 CFR 723.50). Any manufacturer or processor who intends to use this chemical substance for commercial purposes must comply with the specific use restrictions and controls specified as follows:

**USE OF THIS CHEMICAL SUBSTANCE IS RESTRICTED TO:** Surface modification; cross-linker for silicones

**CONTROLS:** Workers must use personal protection equipment to limit dermal and inhalation exposures as described in Section 8: Exposure Controls/Personal Protection of the Safety Data Sheet (SDS). These exposure controls include:

Hand protection: Impervious gloves (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: Air-purifying respirator with organic vapor-amine gas cartridge.

**WASTE DISPOSAL:** Collect and containerize all waste, residues and wash solvents for off-site disposal by incineration. Do not release to POTW via sewer or to surface waters.

If you have questions or need more information related to allowable use of this substance, contact Gelest Regulatory Affairs at 215-547-1015.

Best Regards,

Gelest, Inc.  
Regulatory Affairs Department