

VINYLMETHYLBIS(METHYLETHYLKETOXIMINO)SILANE, 95%

Safety Data Sheet SIV9080.0

Date of issue: 12/01/2015 Version: 1.0

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

1.1. Product identifier

Product form	: Substance
Physical state	: Liquid
Substance name	: VINYLMETHYLBIS(METHYLETHYLKETOXIMINO)SILANE, 95%
Product code	: SIV9080.0
Formula	: C11H22N2O2Si
Synonyms	: METHYLBIS(METHYLETHYLKETOXIMINO)VINYLSILANE; 2-BUTANONE, O,O'-(ETHENYLMETHYLSILYLENE)DIOXIME, (2E,2'Z)-
Chemical family	: ORGANOSILANE

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

Use of the substance/mixture	: Chemical intermediate For research use only
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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)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 4 H227

Acute Tox. 4 (Oral) H302

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 H302 - Harmful if swallowed
Precautionary statements (GHS-US)	: P280 - Wear protective gloves/protective clothing/eye protection/face protection P210 - Keep away from heat, open flames, sparks. - No smoking P264 - Wash hands thoroughly after handling P270 - Do not eat, drink or smoke when using this product P330 - Rinse mouth P301+P312 - If swallowed: Call a doctor if you feel unwell 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

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

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SECTION 3: Composition/Information on ingredients

3.1. Substance

Substance type : Multi-constituent
Name : VINYLMETHYLBIS(METHYLETHYLKETOXIMINO)SILANE, 95%
CAS No : 73160-32-4

Name	Product identifier	%	GHS-US classification
Vinylmethylbis(methylethylketoximino)silane	(CAS No) 73160-32-4	95 - 100	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302
Methylethylketoxime	(CAS No) 96-29-7	0 - 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351

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 victim 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. Get medical advice/attention.

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.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

SECTION 5: Firefighting measures

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 : 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 : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.

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

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".

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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

- 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 personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. Keep away from heat, open flames, sparks. - 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. 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 contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.
- Storage conditions : Keep container tightly closed. Keep in a cool place.
- Incompatible materials : Oxidizing agent. Peroxides. Strong acids.
- 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

Methylethylketoxime (96-29-7)

USA ACGIH	ACGIH TWA (ppm)	10 ppm
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8.2. Exposure controls

- Appropriate engineering controls : Provide local exhaust or general room ventilation.
- Personal protective equipment : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid all unnecessary 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 organic vapor (black 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 : 242.39 g/mol
- Color : Straw.
- Odor : Mild.
- Odor threshold : No data available
- Refractive index : No data available
- pH : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : No data available
- Freezing point : < -40 °C
- Boiling point : No data available
- Flash point : 31 °C
- Auto-ignition temperature : 266 °C

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Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapor
Vapor pressure	: No data available
Relative vapor density at 20 °C	: > 1
Relative density	: 0.92
Solubility	: Insoluble in 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	: No data available

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 in sealed containers.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Oxidizing agent. Peroxides. Strong acids.

10.6. Hazardous decomposition products

Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

VINYLMETHYLBIS(METHYLETHYLKETOXIMINO)SILANE, 95% (73160-32-4)	
ATE US (oral)	1674.364 mg/kg body weight
Vinylmethylbis(methylethylketoximino)silane (73160-32-4)	
LD50 oral rat	1840 mg/kg
ATE US (oral)	1840.000 mg/kg body weight
Methylethylketoxime (96-29-7)	
LD50 oral rat	930 mg/kg
LD50 dermal rabbit	0.2 ml/kg
ATE US (oral)	930.000 mg/kg body weight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified.
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.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.

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Symptoms/injuries after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Methylethylketoxime (96-29-7)	
LC50 fish 1	777 - 914 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	750 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	760 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Methylethylketoxime (96-29-7)	
BCF fish 1	0.5 - 5.8
Log Pow	0.65 (at 25 °C)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

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

Sewage disposal recommendations : Do not dispose of waste into sewer.
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.
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) : 1993
DOT NA no. UN1993

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Flammable liquids, n.o.s.
(VINYLMETHYLBIS(METHYLETHYLKETOXIMINO)SILANE)
Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid



DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L

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DOT Quantity Limitations Cargo aircraft only (49 : 220 L
CFR 175.75)

SECTION 15: Regulatory information

15.1. US Federal regulations

VINYLMETHYLBIS(METHYLETHYLKETOXIMINO)SILANE, 95% (73160-32-4)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

Vinylmethylbis(methylethylketoximino)silane (73160-32-4)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Methylethylketoxime (96-29-7)

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

EPA TSCA Regulatory Flag

T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.

15.2. International regulations

Vinylmethylbis(methylethylketoximino)silane (73160-32-4)

Listed on NZIoC (New Zealand Inventory of Chemicals)

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

Methylethylketoxime (96-29-7)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian DSL (Domestic Substances 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)

Listed on INSQ (Mexican national Inventory of Chemical Substances)

Listed on Turkish inventory of chemical

15.3. US State regulations

VINYLMETHYLBIS(METHYLETHYLKETOXIMINO)SILANE, 95%(73160-32-4)

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

Vinylmethylbis(methylethylketoximino)silane (73160-32-4)

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

Methylethylketoxime (96-29-7)

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

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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.

Full text of H-phrases::

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Skin Sens. 1	Skin sensitization Category 1
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H351	Suspected of causing cancer

HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability : 3 Serious Hazard
Physical : 1 Slight Hazard

Prepared by safety and environmental affairs.

Date of issue: 12/01/2015 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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