



3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXYSILANE, tech-95

Safety Data Sheet SID4068.0

Date of issue: 04/27/2015

Revision date: 02/04/2020

Version: 1.2

SECTION 1: Identification

1.1. Identification

Product name : 3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXYSILANE, tech-95
 Product code : SID4068.0
 Product form : Substance
 Physical state : Liquid
 Formula : C₁₅H₃₃NO₃Si
 Synonyms : 3-(TRIETHOXYSILYL)-N-(1,3-DIMETHYLBUTYLIDENE)PROPYLAMINE
 Chemical family : ORGANOSILANE

1.2. Recommended use and restrictions on use

Recommended use : Chemical intermediate

1.3. Supplier

GELEST, INC.

11 East Steel Road
 Morrisville, PA 19067

USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 2	H315 Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319 Causes serious eye irritation
Carcinogenicity Category 2	H351 Suspected of causing cancer
Specific target organ toxicity (single exposure) Category 3	H335 May cause respiratory irritation
Full text of H statements : see section 16	

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning

Hazard statements (GHS US) : H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H351 - Suspected of causing cancer

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P261 - Avoid breathing vapors.
 P264 - Wash hands thoroughly after handling.
 P271 - Use only outdoors or in a well-ventilated area.
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
 P302+P352 - If on skin: Wash with plenty of water.
 P332+P313 - If skin irritation occurs: Get medical advice/attention.
 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.
 P308+P313 - If exposed or concerned: Get medical advice/attention.
 P362 - Take off contaminated clothing and wash before reuse.
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 P405 - Store locked up.
 P312 - Call a doctor if you feel unwell.
 P321 - Specific treatment (see first aid instructions on this label).

3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXSILANE, tech-95

Safety Data Sheet

P501 - Dispose of contents/container to licensed waste disposal facility..

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent
Name : 3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXSILANE, tech-95
CAS-No. : 116229-43-7

Name	Product identifier	%	GHS US classification
3-(1,3-Dimethylbutylidene)aminopropyltriethoxysilane	(CAS-No.) 116229-43-7	85 - 100	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
3-(1,3-Dimethylbutylidene)aminopropyltriethoxysilane, oligomeric hydrolysate	(CAS-No.) 883898-71-3	10 - 15	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
4-Methyl-2-pentanone	(CAS-No.) 108-10-1	0 - 3	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Eye Irrit. 2A, H319 Carc. 2, H351 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

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 (acute and delayed)

Symptoms/effects : Suspected of causing cancer.

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Causes skin irritation.

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

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

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

Unsuitable extinguishing media : Do not use straight streams.

5.2. Specific hazards arising from the chemical

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters

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.

3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXSILANE, tech-95

Safety Data Sheet

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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. 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.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid all eye and skin contact and do not breathe vapor and mist. Use only outdoors or in a well-ventilated area.

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

Storage conditions : Keep container tightly closed. Store locked up.

Incompatible materials : Acids. Alcohols. Oxidizing agent. Peroxides. Moisture. Water.

Storage area : Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

4-Methyl-2-pentanone (108-10-1)		
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	ACGIH STEL (ppm)	75 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	410 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
IDLH	US IDLH (ppm)	500 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	205 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	50 ppm
NIOSH	NIOSH REL (STEL) (mg/m ³)	300 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	75 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

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

3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXSILANE, tech-95

Safety Data Sheet

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	: Liquid.
Molecular mass	: 303.52 g/mol
Color	: Straw. Amber.
Odor	: Mild. Amine. Ammonia-like.
Odor threshold	: No data available
Refractive index	: 1.437
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: < 1
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: 134 °C @ 5 mm Hg
Flash point	: 131 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 1 mm Hg @ 25°C
Relative vapor density at 20 °C	: > 1
Relative density	: 0.93
% Volatiles	: < 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	: 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 when stored in sealed containers.

10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating ethanol.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Acids. Alcohols. Oxidizing agent. Peroxides. Moisture. Water.

3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXSILANE, tech-95

Safety Data Sheet

10.6. Hazardous decomposition products

Organic amine vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

4-Methyl-2-pentanone (108-10-1)	
LD50 oral rat	2080 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	8.2 - 16.4 mg/l/4h
ATE US (oral)	2080 mg/kg body weight
ATE US (dermal)	3000 mg/kg body weight
ATE US (vapors)	8.2 mg/l/4h
ATE US (dust, mist)	8.2 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.

4-Methyl-2-pentanone (108-10-1)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Causes skin irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Symptoms/effects after ingestion : May be harmful if swallowed.
Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

4-Methyl-2-pentanone (108-10-1)	
LC50 fish 1	496 - 514 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	170 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

4-Methyl-2-pentanone (108-10-1)	
Log Pow	1.19

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 the ozone layer : No additional information available

3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXYSILANE, tech-95

Safety Data Sheet

SECTION 13: Disposal considerations

13.1. Disposal methods

- Sewage disposal recommendations : Do not dispose of waste into sewer.
- 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..
- Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

Not regulated for transport.

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

3-(1,3-Dimethylbutylidene)aminopropyltriethoxysilane (116229-43-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
4-Methyl-2-pentanone (108-10-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a final TSCA section 4 test rule.
SARA Section 313 - Emission Reporting	1 %
3-(1,3-Dimethylbutylidene)aminopropyltriethoxysilane, oligomeric hydrolysate (883898-71-3)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. International regulations

CANADA

3-(1,3-Dimethylbutylidene)aminopropyltriethoxysilane (116229-43-7)	
Listed on the Canadian NDSL (Non-Domestic Substances List)	
4-Methyl-2-pentanone (108-10-1)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

EU-Regulations

No additional information available

4-Methyl-2-pentanone (108-10-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

3-(1,3-Dimethylbutylidene)aminopropyltriethoxysilane (116229-43-7)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXYSILANE, tech-95

Safety Data Sheet

4-Methyl-2-pentanone (108-10-1)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
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 the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3. US State regulations

⚠ WARNING: This product can expose you to 4-Methyl-2-pentanone, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

4-Methyl-2-pentanone (108-10-1)

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	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	No	No		

4-Methyl-2-pentanone (108-10-1)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases::

H225	Highly flammable liquid and vapor
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer

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.

Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur
Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

Date of issue: 04/27/2015 Revision date: 02/04/2020 Version: 1.2

SDS US (GHS HazCom 2012) - Custom

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

3-(1,3-DIMETHYLBUTYLIDENE)AMINOPROPYLTRIETHOXSILANE, tech-95

Safety Data Sheet

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.

© 2019 Gelest Inc. Morrisville, PA 19067

