

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet SIB1852.7

Date of issue: 19/08/2016 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	: N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE
Product code	: SIB1852.7
Formula	: C ₉ H ₂₃ NSi ₂
Synonyms	: BIS(TRIMETHYLSILYL)AMINE
Chemical family	: ORGANOAMINOSILANE

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.**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

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info@gelestde.com - www.gelestde.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 3	H226
Skin corrosion/irritation, Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Full text of H statements : see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS02

GHS05

GHS07

Signal word (CLP) :

: Danger

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet

Hazard statements (CLP)	: H226 - Flammable liquid and vapour. H314 - Causes severe skin burns and eye damage. H335 - May cause respiratory irritation.
Precautionary statements (CLP)	: P280 - Wear protective gloves/protective clothing/eye protection/face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P240 - Ground/bond container and receiving equipment. P260 - Do not breathe vapours. P264 - Wash hands thoroughly after handling. P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Multi-constituent
Name	: N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE
CAS-No.	: 7688-51-9
EC-No.	: 231-699-2

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N,N-Bis(trimethylsilyl)allylamine	(CAS-No.) 7688-51-9 (EC-No.) 231-699-2	95 - 100	Flam. Liq. 3, H226 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335
Allylaminotrimethylsilane	(CAS-No.) 10519-97-8	0 - 5	Flam. Liq. 2, H225 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335
Allylamine	(CAS-No.) 107-11-9 (EC-No.) 203-463-9 (EC Index-No.) 612-046-00-4	0 - 1	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Aquatic Chronic 2, H411

Full text of 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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of 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 lenses, if present and easy to do. Continue rinsing. Get immediate 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/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause respiratory irritation. Overexposure may cause: Cough. Headache. Nausea. Lung damage.
Symptoms/effects after skin contact	: Causes (severe) skin burns. May be harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.

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

No additional information available

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet

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 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 : 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 vapour and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate ignition sources. 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. 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. 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 vapours are flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. 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. Store locked up.
Incompatible materials : Moisture. Oxidizing agent. Peroxides. 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

Allylaminotrimethylsilane (10519-97-8)		
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm Methylamine
Allylamine (107-11-9)		
Austria	MAK (mg/m ³)	5 mg/m ³
Austria	MAK (ppm)	2 ppm

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet

Allylamine (107-11-9)		
Austria	MAK Short time value (mg/m ³)	14 mg/m ³
Austria	MAK Short time value (ppm)	6 ppm
Denmark	Grænseværdie (langvarig) (mg/m ³)	4.7 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	2 ppm
Lithuania	IPRV (mg/m ³)	5 mg/m ³
Lithuania	IPRV (ppm)	2 ppm
Lithuania	TPRV (mg/m ³)	14 mg/m ³
Lithuania	TPRV (ppm)	6 ppm
Norway	Grenseverdier (AN) (mg/m ³)	5 mg/m ³
Norway	Grenseverdier (AN) (ppm)	2 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m ³)	5 mg/m ³
Norway	Grenseverdier (Korttidsverdi) (ppm)	2 ppm
Romania	OEL TWA (mg/m ³)	0.1 mg/m ³
Romania	OEL STEL (mg/m ³)	0.4 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	5 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	2 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	14 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	6 ppm

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 or face shield. 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	: 201.46 g/mol
Colour	: Straw to amber.
Odour	: Acrid. Amine.
Odour threshold	: No data available
Refractive index	: 1.44
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: 72 °C @ 15 mm Hg
Flash point	: 43 °C
Auto-ignition temperature	: No data available

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet

Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: > 1
Relative density	: 0.817
% Volatiles	: 100 %
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
Oxidising properties	: No data available
Explosive 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 stored in the dark.

10.3. Possibility of hazardous reactions

Non-hazardous polymerization can occur at elevated temperature. Reacts with water and moisture in air liberating allylamine.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Moisture. Oxidizing agent. Peroxides. Water.

10.6. Hazardous decomposition products

Allylamine. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Allylamine (107-11-9)	
LD50 oral rat	102 mg/kg
LD50 oral mouse	57 mg/kg
LD50 dermal rabbit	35 mg/kg
LC50 inhalation rat (ppm)	177 ppm (Exposure time: 8 h)

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: This material generates allylamine on hydrolysis, a severe irritant. Allylamine is classified by the EPA as an extremely hazardous substance.
Symptoms/effects after inhalation	: May cause respiratory irritation. Overexposure may cause: Cough. Headache. Nausea. Lung damage.
Symptoms/effects after skin contact	: Causes (severe) skin burns. May be harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.
Reason for classification	: Expert judgment

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Allylamine (107-11-9)

Log Pow	0.15
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

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

SECTION 13: Disposal considerations

13.1. Waste treatment 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.
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 / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 2924
UN-No. (IMDG) : 2924
UN-No. (IATA) : 2924
UN-No. (ADN) : 2924
UN-No. (RID) : 2924

14.2. UN proper shipping name

Proper Shipping Name (ADR) : FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Proper Shipping Name (IATA) : Flammable liquid, corrosive, n.o.s.
Proper Shipping Name (ADN) : FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Proper Shipping Name (RID) : FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Transport document description (ADR) : UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE), 3 (8), III, (D/E)
Transport document description (IMDG) : UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE), 3 (8), III
Transport document description (IATA) : UN 2924 Flammable liquid, corrosive, n.o.s. (N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE), 3 (8), III
Transport document description (ADN) : UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE), 3 (8), III
Transport document description (RID) : UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE), 3 (8), III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3 (8)
Danger labels (ADR) : 3, 8

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet



IMDG

Transport hazard class(es) (IMDG) : 3 (8)

Danger labels (IMDG) : 3, 8



IATA

Transport hazard class(es) (IATA) : 3 (8)

Hazard labels (IATA) : 3, 8



ADN

Transport hazard class(es) (ADN) : 3 (8)

Danger labels (ADN) : 3, 8



RID

Transport hazard class(es) (RID) : 3 (8)

Danger labels (RID) : 3, 8



14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

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) : FC

Special provisions (ADR) : 274

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet

Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T7
Portable tank and bulk container special provisions (ADR)	: TP1, TP28
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: FL
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: 38
Orange plates	:



Tunnel restriction code (ADR) : D/E

- Transport by sea

Special provisions (IMDG)	: 223, 274
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP1, TP28
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-C
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Causes burns to skin, eyes and mucous membranes.

- Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y342
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 354
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 365
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A3
ERG code (IATA)	: 3C

- Inland waterway transport

Classification code (ADN)	: FC
Special provisions (ADN)	: 274
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 0

- Rail transport

Classification code (RID)	: FC
Special provisions (RID)	: 274
Limited quantities (RID)	: 5L

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet

Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP1, TP28
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Colis express (express parcels) (RID)	: CE4
Hazard identification number (RID)	: 38

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE is not on the REACH Candidate List

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE is not on the REACH Annex XIV List

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE is not 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.

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

% Volatiles : 100 %

15.1.2. National regulations

Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H314;H335>; 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:

N,N-BIS(TRIMETHYLSILYL)ALLYLAMINE

Safety Data Sheet

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

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)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

SDS EU (REACH Annex II) - Custom

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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