

DI-s-BUTOXYALUMINOXYTRIETHOXYSILANE

Safety Data Sheet SID2780.0

Date of issue: 18/03/2015 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	: DI-s-BUTOXYALUMINOXYTRIETHOXYSILANE
Product code	: SID2780.0
Formula	: C ₁₄ H ₃₃ AlO ₆ Si
Synonyms	: DIETHOXYSILOXANE -s-BUTYLALUMINATE copolymer
Chemical family	: METAL ALKOXIDE

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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65933 Frankfurt**Germany**

T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM

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 2	H315
Serious eye damage/eye irritation, Category 2	H319
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

GHS07

Signal word (CLP) :

: Warning

Hazard statements (CLP) :

: H226 - Flammable liquid and vapour.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

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Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 - Ground/bond container and receiving equipment.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : DI-s-BUTOXYALUMINOXYTRIETHOXYLANE
CAS-No. : 68959-06-8
EC-No. : 273-392-6

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Di-s-butoxyaluminoxytriethoxysilane	(CAS-No.) 68959-06-8 (EC-No.) 273-392-6	> 90	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Ethanol	(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5		Flam. Liq. 2, H225
2-Butanol	(CAS-No.) 78-92-2 (EC-No.) 201-158-5 (EC Index-No.) 603-127-00-5		Flam. Liq. 3, H226 Eye Irrit. 2, H319 STOT SE 3, H335 STOT SE 3, H336

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 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/effects after inhalation : May cause irritation to the respiratory tract. May cause drowsiness or dizziness.

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. 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 : None known.

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.

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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.

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 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.
- Precautions for safe handling : 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. Use only non-sparking tools.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
- Storage conditions : Keep container tightly closed.
- Incompatible materials : Oxidizing agent. 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

Ethanol (64-17-5)		
Austria	MAK (mg/m ³)	1900 mg/m ³
Austria	MAK (ppm)	1000 ppm
Austria	MAK Short time value (mg/m ³)	3800 mg/m ³
Austria	MAK Short time value (ppm)	2000 ppm
Belgium	Limit value (mg/m ³)	1907 mg/m ³
Belgium	Limit value (ppm)	1000 ppm
Bulgaria	OEL TWA (mg/m ³)	1000 mg/m ³
France	VLE (mg/m ³)	9500 mg/m ³
France	VLE (ppm)	5000 ppm
France	VME (mg/m ³)	1900 mg/m ³
France	VME (ppm)	1000 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	960 mg/m ³ (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	500 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Greece	OEL TWA (mg/m ³)	1900 mg/m ³
Greece	OEL TWA (ppm)	1000 ppm

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Ethanol (64-17-5)		
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	1000 ppm
Latvia	OEL TWA (mg/m ³)	1000 mg/m ³
USA IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1900 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
Spain	VLA-EC (mg/m ³)	1910 mg/m ³
Spain	VLA-EC (ppm)	1000 ppm
Switzerland	KZGW (mg/m ³)	1920 mg/m ³
Switzerland	KZGW (ppm)	1000 ppm
Switzerland	MAK (mg/m ³)	960 mg/m ³
Switzerland	MAK (ppm)	500 ppm
Netherlands	Grenswaarde TGG 8H (mg/m ³)	260 mg/m ³
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	1900 mg/m ³
United Kingdom	WEL TWA (mg/m ³)	1920 mg/m ³
United Kingdom	WEL TWA (ppm)	1000 ppm
United Kingdom	WEL STEL (mg/m ³)	5760 mg/m ³ (calculated)
United Kingdom	WEL STEL (ppm)	3000 ppm (calculated)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	1000 mg/m ³
Denmark	Grænseværdie (langvarig) (mg/m ³)	1900 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	1000 ppm
Finland	HTP-arvo (8h) (mg/m ³)	1900 mg/m ³
Finland	HTP-arvo (8h) (ppm)	1000 ppm
Finland	HTP-arvo (15 min)	2500 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	1300 ppm
Hungary	AK-érték	1900 mg/m ³
Hungary	CK-érték	7600 mg/m ³
Ireland	OEL (15 min ref) (ppm)	1000 ppm
Lithuania	IPRV (mg/m ³)	1000 mg/m ³
Lithuania	IPRV (ppm)	500 ppm
Lithuania	TPRV (mg/m ³)	1900 mg/m ³
Lithuania	TPRV (ppm)	1000 ppm
Norway	Grenseverdier (AN) (mg/m ³)	950 mg/m ³
Norway	Grenseverdier (AN) (ppm)	500 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m ³)	950 mg/m ³
Norway	Grenseverdier (Korttidsverdi) (ppm)	500 ppm
Poland	NDS (mg/m ³)	1900 mg/m ³
Romania	OEL TWA (mg/m ³)	1900 mg/m ³
Romania	OEL TWA (ppm)	1000 ppm
Romania	OEL STEL (mg/m ³)	9500 mg/m ³
Romania	OEL STEL (ppm)	5000 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	960 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	500 ppm
Slovakia	NPHV (Hraničná) (mg/m ³)	1920 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	1000 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	500 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	1900 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	1000 ppm
Canada (Quebec)	VEMP (mg/m ³)	1880 mg/m ³
Canada (Quebec)	VEMP (ppm)	1000 ppm

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Ethanol (64-17-5)		
Australia	TWA (mg/m ³)	1880 mg/m ³
Australia	TWA (ppm)	1000 ppm
Portugal	OEL TWA (ppm)	1000 ppm
Portugal	OEL chemical category (PT)	A4 - Not Classifiable as a Human Carcinogen
2-Butanol (78-92-2)		
Austria	MAK (mg/m ³)	150 mg/m ³
Austria	MAK (ppm)	50 ppm
Austria	MAK Short time value (mg/m ³)	600 mg/m ³
Austria	MAK Short time value (ppm)	200 ppm
Belgium	Limit value (mg/m ³)	307 mg/m ³
Belgium	Limit value (ppm)	100 ppm
France	VME (mg/m ³)	300 mg/m ³
France	VME (ppm)	100 ppm
Greece	OEL TWA (mg/m ³)	300 mg/m ³
Greece	OEL TWA (ppm)	100 ppm
Greece	OEL STEL (mg/m ³)	450 mg/m ³
Greece	OEL STEL (ppm)	150 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	100 ppm
Latvia	OEL TWA (mg/m ³)	10 mg/m ³
USA IDLH	US IDLH (ppm)	2000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	305 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	455 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	150 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	450 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	150 ppm
Spain	VLA-ED (mg/m ³)	308 mg/m ³
Spain	VLA-ED (ppm)	100 ppm
Switzerland	KZGW (mg/m ³)	600 mg/m ³
Switzerland	KZGW (ppm)	200 ppm
Switzerland	MAK (mg/m ³)	300 mg/m ³
Switzerland	MAK (ppm)	100 ppm
United Kingdom	WEL TWA (mg/m ³)	308 mg/m ³
United Kingdom	WEL TWA (ppm)	100 ppm
United Kingdom	WEL STEL (mg/m ³)	462 mg/m ³
United Kingdom	WEL STEL (ppm)	150 ppm
Czech Republic	Expoziční limity (PEL) (mg/m ³)	300 mg/m ³
Finland	HTP-arvo (8h) (mg/m ³)	150 mg/m ³
Finland	HTP-arvo (8h) (ppm)	50 ppm
Finland	HTP-arvo (15 min)	230 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	75 ppm
Ireland	OEL (8 hours ref) (mg/m ³)	300 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	100 ppm
Ireland	OEL (15 min ref) (mg/m ³)	450 mg/m ³
Ireland	OEL (15 min ref) (ppm)	150 ppm
Lithuania	IPRV (mg/m ³)	150 mg/m ³
Lithuania	IPRV (ppm)	50 ppm
Lithuania	TPRV (mg/m ³)	250 mg/m ³
Lithuania	TPRV (ppm)	75 ppm
Norway	Grønseverdier (Takverdi) (mg/m ³)	75 mg/m ³
Norway	Grønseverdier (Takverdi) (ppm)	25 ppm
Poland	NDS (mg/m ³)	300 mg/m ³

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2-Butanol (78-92-2)		
Poland	NDSch (mg/m ³)	450 mg/m ³
Slovakia	NPHV (priemerná) (mg/m ³)	150 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	50 ppm
Sweden	nivågränsvärde (NVG) (mg/m ³)	150 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	50 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	250 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	75 ppm
Canada (Quebec)	VEMP (mg/m ³)	303 mg/m ³
Canada (Quebec)	VEMP (ppm)	100 ppm
Australia	TWA (mg/m ³)	303 mg/m ³
Australia	TWA (ppm)	100 ppm
Portugal	OEL TWA (ppm)	100 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. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

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	: 352.48 g/mol
Colour	: Straw.
Odour	: Mild.
Odour threshold	: No data available
Refractive index	: 1.422
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: > 200 °C
Flash point	: 23 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1
% Volatiles	: > 5 %
Solubility	: Reacts with water.
Log Pow	: No data available

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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.

10.3. Possibility of hazardous reactions

Liberates ethanol and s-butanol on contact with water.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Oxidizing agent. Water :

10.6. Hazardous decomposition products

Organic acid vapors and aluminum oxides at elevated temperatures.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Ethanol (64-17-5)

LD50 oral rat	7060 mg/kg
LC50 inhalation rat (mg/l)	124.7 mg/l/4h
LC50 inhalation rat (ppm)	20000 ppm 10 hrs.
LDLo oral rat	1400 mg/kg (Human)
ATE CLP (oral)	7060 mg/kg bodyweight
ATE CLP (vapours)	124.7 mg/l/4h
ATE CLP (dust,mist)	124.7 mg/l/4h

2-Butanol (78-92-2)

LD50 oral rat	2200 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Ethanol (64-17-5)

IARC group	1 - Carcinogenic to humans
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract. May cause drowsiness or dizziness.
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

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SECTION 12: Ecological information

12.1. Toxicity

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

Ethanol (64-17-5)

LC50 fish 1	> 10000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [rainbow trout])
LC50 fish 2	> 13400 mg/l (Exposure time: 96 h - Species: Pimephales promelas [fathead minnow])

2-Butanol (78-92-2)

LC50 fish 1	3380 - 3990 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	1859 - 7143 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Ethanol (64-17-5)

Log Pow	-0.32
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2-Butanol (78-92-2)

Log Pow	0.6
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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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Additional information : Handle empty containers with care because residual 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)	: 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. (DI-s-BUTOXYALUMINOXYTRIETHOXSILANE), 3, III, (D/E)
Transport document description (IMDG)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (DI-s-BUTOXYALUMINOXYTRIETHOXSILANE), 3, III
Transport document description (IATA)	: UN 1993 Flammable liquid, n.o.s. (DI-s-BUTOXYALUMINOXYTRIETHOXSILANE), 3, III
Transport document description (ADN)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (DI-s-BUTOXYALUMINOXYTRIETHOXSILANE), 3, III
Transport document description (RID)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (DI-s-BUTOXYALUMINOXYTRIETHOXSILANE), 3, III

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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

Hazard labels (IATA) : 3



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) : 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

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14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 274, 601, 640E
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP29
Tank code (ADR)	: LGBF
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.)	: 30
Orange plates	:



Tunnel restriction code (ADR) : D/E

- Transport by sea

Special provisions (IMDG)	: 223, 274, 955
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1, TP29
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-E
Stowage category (IMDG)	: A

- Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y344
PCA limited quantity max net quantity (IATA)	: 10L
PCA packing instructions (IATA)	: 355
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
Special provisions (IATA)	: A3
ERG code (IATA)	: 3L

- Inland waterway transport

Classification code (ADN)	: F1
Special provisions (ADN)	: 274, 601, 640E
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 0

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- Rail transport

Classification code (RID)	: F1
Special provisions (RID)	: 274, 601, 640E
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1, TP29
Tank codes for RID tanks (RID)	: LGBF
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Colis express (express parcels) (RID)	: CE4
Hazard identification number (RID)	: 30

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

DI-s-BUTOXYALUMINOXYTRIETHOXYLSILANE is not on the REACH Candidate List

DI-s-BUTOXYALUMINOXYTRIETHOXYLSILANE is not on the REACH Annex XIV List

DI-s-BUTOXYALUMINOXYTRIETHOXYLSILANE 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.

DI-s-BUTOXYALUMINOXYTRIETHOXYLSILANE 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 : > 5 %

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 : DI-s-BUTOXYALUMINOXYTRIETHOXYLSILANE is listed

SZW-lijst van mutagene stoffen : DI-s-BUTOXYALUMINOXYTRIETHOXYLSILANE is 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;H315;H319>; Emergency management guidelines for the storage of flammable liquids must be followed

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Abbreviations and acronyms:

DI-s-BUTOXYALUMINOXYTRIETHOXY SILANE

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:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

SDS EU (REACH Annex II) - Custom

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