

# BIS(TRICHLOROSILYLETHYL)PHENYLSULFONYL CHLORIDE 40% in toluene

Safety Data Sheet SIB1811.7  
Date of issue: 06/02/2019      Version: 1.0

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

### 1.1. Product identifier

Product form	: Mixture
Physical state	: Liquid
Product name	: BIS(TRICHLOROSILYLETHYL)PHENYLSULFONYL CHLORIDE 40% in toluene
Product code	: SIB1811.7
Formula	: C <sub>10</sub> H <sub>11</sub> Cl <sub>7</sub> O <sub>2</sub> SSi <sub>2</sub>
Chemical family	: ORGANOCHLOROSILANE IN SOLVENT

### 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](mailto:info@gelestde.com) - [www.gelestde.com](http://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 2	H225
Skin corrosion/irritation, Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Reproductive toxicity, Category 2	H361
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity — Repeated exposure, Category 2	H373

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

GHS08

Signal word (CLP) :

Danger

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Hazardous ingredients	: Toluene
Hazard statements (CLP)	: H225 - Highly flammable liquid and vapour. H314 - Causes severe skin burns and eye damage. H336 - May cause drowsiness or dizziness. H361 - Suspected of damaging fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure.
Precautionary statements (CLP)	: P202 - Do not handle until all safety precautions have been read and understood. 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. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. 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

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Toluene	(CAS-No.) 108-88-3 (EC-No.) 203-625-9 (EC Index-No.) 601-021-00-3 (REACH-no) 01-2119471310-51-0127	60 - 65	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
Bis(trichlorosilylethyl)phenylsulfonyl chloride	(CAS-No.) not found	35 - 40	Skin Corr. 1B, H314
Methylene chloride	(CAS-No.) 75-09-2 (EC-No.) 200-838-9 (EC Index-No.) 602-004-00-3	< 1	Acute Tox. 4 (Oral), H302 Carc. 2, H351

Full text of H-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.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
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. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects	: Causes severe skin burns and eye damage. May cause cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea. Impairment of coordination, distorted perception and CNS disturbances have been reported for toluene intoxication.
Symptoms/effects after skin contact	: Toxic in contact with skin. Causes (severe) skin burns. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/effects after eye contact	: Causes serious eye damage.

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Symptoms/effects 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 : Highly flammable liquid and vapour. Irritating fumes of hydrogen chloride and organic acid vapors may develop when material is exposed to water 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 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".

### 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 : 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 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. Do not eat, drink or smoke when using this product. 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. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.  
Storage conditions : Keep container tightly closed. Keep in a cool place. Store locked up.  
Incompatible materials : Amines. alcohols. Oxidizing agent. Moisture. Water.  
Storage area : Store in a well-ventilated place. Store away from heat.

### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Toluene (108-88-3)		
EU	IOELV TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	100 ppm
Austria	MAK (mg/m <sup>3</sup> )	190 mg/m <sup>3</sup>
Austria	MAK (ppm)	50 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	380 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	100 ppm
Belgium	Limit value (mg/m <sup>3</sup> )	77 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	20 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	100 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Bulgaria	OEL TWA (ppm)	50 ppm
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Bulgaria	OEL STEL (ppm)	100 ppm
Cyprus	OEL TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Cyprus	OEL TWA (ppm)	50 ppm
Cyprus	OEL STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Cyprus	OEL STEL (ppm)	100 ppm
France	VLE (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup> (restrictive limit)
France	VLE (ppm)	100 ppm (restrictive limit)
France	VME (mg/m <sup>3</sup> )	76.8 mg/m <sup>3</sup> (restrictive limit)
France	VME (ppm)	20 ppm (restrictive limit)
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	190 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	TRGS 900 Occupational exposure limit value (ppm)	50 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 903 Biological limit value	600 µg/l (Medium: whole blood - Time: end of shift - Parameter: Toluene) 1.5 mg/l (Medium: urine - Time: end of several shifts - Parameter: o-Cresol (after hydrolysis))
Gibraltar	Eight hours mg/m <sup>3</sup>	192 mg/m <sup>3</sup>
Gibraltar	Eight hours ppm	50 ppm
Gibraltar	Short-term mg/m <sup>3</sup>	384 mg/m <sup>3</sup>
Gibraltar	Short-term ppm	100 ppm
Greece	OEL TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	50 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	100 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	20 ppm
Italy	OEL TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	50 ppm
Latvia	OEL TWA (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	14 ppm
USA IDLH	US IDLH (ppm)	500 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	375 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	560 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (STEL) (ppm)	150 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

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Toluene (108-88-3)		
Spain	VLA-ED (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup> (indicative limit value; manufacturing, commercialization, and use restrictions under REACH)
Spain	VLA-ED (ppm)	50 ppm (indicative limit value; manufacturing, commercialization, and use restrictions under REACH)
Spain	VLA-EC (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	100 ppm
Switzerland	KZGW (mg/m <sup>3</sup> )	760 mg/m <sup>3</sup>
Switzerland	KZGW (ppm)	200 ppm
Switzerland	MAK (mg/m <sup>3</sup> )	190 mg/m <sup>3</sup>
Switzerland	MAK (ppm)	50 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	150 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	191 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	100 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	94 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	25 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	81 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	25 ppm
Finland	HTP-arvo (15 min)	380 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	100 ppm
Hungary	AK-érték	190 mg/m <sup>3</sup>
Hungary	CK-érték	380 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	100 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	50 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	100 ppm
Malta	OEL TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	50 ppm
Malta	OEL STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Malta	OEL STEL (ppm)	100 ppm
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	94 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	25 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	94 mg/m <sup>3</sup>
Norway	Grenseverdier (Korttidsverdi) (ppm)	25 ppm
Poland	NDS (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Romania	OEL TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	50 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	100 ppm
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	50 ppm
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>

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<b>Toluene (108-88-3)</b>		
Sweden	nivågränsvärde (NVG) (ppm)	50 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	100 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	188 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	50 ppm
Australia	TWA (mg/m <sup>3</sup> )	191 mg/m <sup>3</sup>
Australia	TWA (ppm)	50 ppm
Australia	STEL (mg/m <sup>3</sup> )	574 mg/m <sup>3</sup>
Australia	STEL (ppm)	150 ppm
Portugal	OEL TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup> (indicative limit value)
Portugal	OEL TWA (ppm)	50 ppm (indicative limit value)
Portugal	OEL STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup> (indicative limit value)
Portugal	OEL STEL (ppm)	100 ppm (indicative limit value)
Portugal	OEL chemical category (PT)	A4 - Not Classifiable as a Human Carcinogen, skin - potential for cutaneous exposure indicative limit value
<b>Methylene chloride (75-09-2)</b>		
Austria	MAK (mg/m <sup>3</sup> )	175 mg/m <sup>3</sup>
Austria	MAK (ppm)	50 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	700 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	200 ppm
Belgium	Limit value (mg/m <sup>3</sup> )	177 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	50 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	517 mg/m <sup>3</sup>
France	VLE (mg/m <sup>3</sup> )	356 mg/m <sup>3</sup> (restrictive limit)
France	VLE (ppm)	100 ppm (restrictive limit)
France	VME (mg/m <sup>3</sup> )	178 mg/m <sup>3</sup> (restrictive limit)
France	VME (ppm)	50 ppm (restrictive limit)
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	75 ppm
Greece	OEL TWA (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	100 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	1750 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	500 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50 ppm
Latvia	OEL TWA (mg/m <sup>3</sup> )	120 mg/m <sup>3</sup>
USA IDLH	US IDLH (ppm)	2300 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	25 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	125 ppm (see 29 CFR 1910.1052)
Spain	VLA-ED (mg/m <sup>3</sup> )	177 mg/m <sup>3</sup> (manufacturing, commercialization, and use restrictions under REACH)
Spain	VLA-ED (ppm)	50 ppm (manufacturing, commercialization, and use restrictions under REACH)
Switzerland	MAK (mg/m <sup>3</sup> )	180 mg/m <sup>3</sup>
Switzerland	MAK (ppm)	50 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	100 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	1060 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	300 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	122 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	35 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	100 ppm
Finland	HTP-arvo (15 min)	880 mg/m <sup>3</sup>

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Methylene chloride (75-09-2)		
Finland	HTP-arvo (15 min) (ppm)	250 ppm
Hungary	AK-érték	10 mg/m <sup>3</sup>
Hungary	CK-érték	10 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	174 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	550 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	150 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	120 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	35 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	250 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	70 ppm
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	15 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Norway	Grenseverdier (Korttidsverdi) (ppm)	15 ppm
Poland	NDS (mg/m <sup>3</sup> )	88 mg/m <sup>3</sup>
Romania	OEL TWA (mg/m <sup>3</sup> )	174 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	50 ppm
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	100 ppm
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	120 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	35 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	250 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	70 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	174 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	50 ppm
Australia	TWA (mg/m <sup>3</sup> )	174 mg/m <sup>3</sup>
Australia	TWA (ppm)	50 ppm
Portugal	OEL TWA (ppm)	50 ppm
Portugal	OEL chemical category (PT)	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

### 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/acid gas (yellow cartridge) respirator.

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### SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 499.6 g/mol
Colour	: Straw to amber.
Odour	: Acrid.
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	: No data available
Boiling point	: 110 °C initial (toluene)
Flash point	: 4 °C
Auto-ignition temperature	: 535 °C (toluene)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour.
Vapour pressure	: ~ 35 mm Hg @ 30°C
Relative vapour density at 20 °C	: 3.4 (toluene)
Relative density	: 1.03
% Volatiles	: > 50 %
Solubility	: Insoluble in water. 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	: 1.27 - 7 vol % (toluene)

#### 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 under a dry inert atmosphere.

#### 10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating hydrogen chloride.

#### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

#### 10.5. Incompatible materials

alcohols. Amines. Oxidizing agent. Moisture. Water.

#### 10.6. Hazardous decomposition products

Hydrogen chloride. Organic acid vapors.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### Toluene (108-88-3)

LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	12000 mg/kg
LC50 inhalation rat (mg/l)	12.5 mg/l/4h



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<b>Toluene (108-88-3)</b>	
ATE CLP (oral)	2600 mg/kg bodyweight
ATE CLP (dermal)	12000 mg/kg bodyweight
ATE CLP (vapours)	12.5 mg/l/4h
ATE CLP (dust,mist)	12.5 mg/l/4h

<b>Methylene chloride (75-09-2)</b>	
LD50 oral rat	1600 mg/kg
LC50 inhalation rat (mg/l)	53 mg/l (Exposure time: 6 h)
ATE CLP (oral)	1600 mg/kg bodyweight
ATE CLP (vapours)	53 mg/l/4h
ATE CLP (dust,mist)	53 mg/l/4h

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

<b>Toluene (108-88-3)</b>	
IARC group	3 - Not classifiable

<b>Methylene chloride (75-09-2)</b>	
IARC group	2A - Probably carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 3 - Reasonably anticipated to be Human Carcinogen

Reproductive toxicity	: Suspected of damaging fertility or the unborn child. Toluene is mildly toxic by inhalation and is reported as an experimental teratogen.
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea. Impairment of coordination, distorted perception and CNS disturbances have been reported for toluene intoxication.
Symptoms/effects after skin contact	: Toxic in contact with skin. Causes (severe) skin burns. 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	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

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

<b>Toluene (108-88-3)</b>	
LC50 fish 1	15.22 - 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	5.46 - 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

<b>Methylene chloride (75-09-2)</b>	
LC50 fish 1	140.8 - 277.8 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	1532 - 1847 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	262 - 855 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	190 mg/l (Exposure time: 48 h - Species: Daphnia magna)

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

<b>Toluene (108-88-3)</b>	
Log Pow	2.65

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Methylene chloride (75-09-2)	
BCF fish 1	6.4 - 40
Log Pow	1.25

### 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 : 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) : 2985  
UN-No. (IMDG) : 2985  
UN-No. (IATA) : 2985  
UN-No. (ADN) : 2985  
UN-No. (RID) : 2985

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.  
Proper Shipping Name (IMDG) : CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.  
Proper Shipping Name (IATA) : Chlorosilanes, flammable, corrosive, n.o.s.  
Proper Shipping Name (ADN) : CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.  
Proper Shipping Name (RID) : CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.  
Transport document description (ADR) : UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. (BIS(TRICHLOROSILYLETHYL)PHENYLSULFONYL CHLORIDE 40% in toluene), 3 (8), II, (D/E)  
Transport document description (IMDG) : UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. (BIS(TRICHLOROSILYLETHYL)PHENYLSULFONYL CHLORIDE 40% in toluene), 3 (8), II  
Transport document description (IATA) : UN 2985 Chlorosilanes, flammable, corrosive, n.o.s. (BIS(TRICHLOROSILYLETHYL)PHENYLSULFONYL CHLORIDE 40% in toluene), 3 (8), II  
Transport document description (ADN) : UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. (BIS(TRICHLOROSILYLETHYL)PHENYLSULFONYL CHLORIDE 40% in toluene), 3 (8), II  
Transport document description (RID) : UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. (BIS(TRICHLOROSILYLETHYL)PHENYLSULFONYL CHLORIDE 40% in toluene), 3 (8), II

### 14.3. Transport hazard class(es)

#### ADR

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



#### IMDG

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

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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) : 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) : FC

Special provisions (ADR) : 548

Limited quantities (ADR) : 0

Excepted quantities (ADR) : E0

Packing instructions (ADR) : P010

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T14

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Portable tank and bulk container special provisions (ADR) : TP2, TP7, TP27  
Tank code (ADR) : L4BH  
Vehicle for tank carriage : FL  
Transport category (ADR) : 2  
Special provisions for carriage - Operation (ADR) : S2, S20  
Hazard identification number (Kemler No.) : X338  
Orange plates :

**X338**

**2985**

Tunnel restriction code (ADR) : D/E  
EAC code : 4WE  
APP code : A(fl)

### - Transport by sea

Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P010  
Tank instructions (IMDG) : T14  
Tank special provisions (IMDG) : TP2, TP7, TP13, TP27  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-C  
Stowage category (IMDG) : B  
Stowage and handling (IMDG) : SW2  
Properties and observations (IMDG) : White or slightly yellowish deliquescent crystals or sticks. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Mixtures with ammonium compounds or cyanides may explode. Harmful if swallowed.

### - Air transport

PCA Excepted quantities (IATA) : E0  
PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA packing instructions (IATA) : Forbidden  
PCA max net quantity (IATA) : Forbidden  
CAO packing instructions (IATA) : 377  
CAO max net quantity (IATA) : 5L  
ERG code (IATA) : 3C

### - Inland waterway transport

Classification code (ADN) : FC  
Special provisions (ADN) : 548  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E0  
Equipment required (ADN) : PP, EP, EX, A  
Ventilation (ADN) : VE01  
Number of blue cones/lights (ADN) : 1

### - Rail transport

Classification code (RID) : FC  
Special provisions (RID) : 548  
Limited quantities (RID) : 0  
Excepted quantities (RID) : E0  
Packing instructions (RID) : P010  
Mixed packing provisions (RID) : MP19  
Portable tank and bulk container instructions (RID) : T14  
Portable tank and bulk container special provisions (RID) : TP2, TP7, TP27

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Tank codes for RID tanks (RID)	: L4BH
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: X338

### 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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

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.

Substance(s) are 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.

Contains no REACH Annex XIV substances

% Volatiles : > 50 %

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

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 : Toluene is listed

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

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : Toluene is 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

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Abbreviations and acronyms:

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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. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Repr. 2	Reproductive toxicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

SDS EU (REACH Annex II) - Custom

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