



## TRICHLOROSILANE, 2M (28-29%) in xylene

Safety Data Sheet SIT8155.3

Date of issue: 09/01/2015

Revision date: 08/04/2019

Version: 2.1

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

#### 1.1. Product identifier

Product form : Mixture  
 Physical state : Liquid  
 Product name : TRICHLOROSILANE, 2M (28-29%) in xylene  
 Product code : SIT8155.3  
 Formula : Cl<sub>3</sub>HSi  
 Synonyms : SILICOCHLOROFORM  
 TRICHLOROMONOSILANE  
 HYDROTRICHLOROSILANE  
 SILICON CHLORIDE HYDRIDE  
 Chemical family : CHLOROSILANE

#### 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.

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#### 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 1	H224
Pyrophoric Liquids, Category 1	H250
Acute toxicity (oral), Category 4	H302
Acute toxicity (inhalation:vapour) Category 4	H332
Skin corrosion/irritation, Category 1A	H314
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Full text of H statements : see section 16	

##### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) : Danger

Hazardous ingredients : Trichlorosilane

Hazard statements (CLP) : H224 - Extremely flammable liquid and vapour.  
H250 - Catches fire spontaneously if exposed to air.  
H302+H332 - Harmful if swallowed or if inhaled  
H314 - Causes severe skin burns and eye damage.  
H335 - May cause respiratory irritation.  
H400 - Very toxic to aquatic life.

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.  
P222 - Do not allow contact with air.  
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

EUH-statements : EUH014 - Reacts violently with water.  
EUH029 - Contact with water liberates toxic gas.

### 2.3. Other hazards

Other hazards not contributing to the classification : NOTE: Material may form a siloxane polymer on the skin, eyes or in the lungs. Hydrogen chloride may be formed by reaction with water and moisture in air. The US OSHA PEL (TWA) for hydrogen chloride is 5 ppm.

## 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]
Xylene	(CAS-No.) 1330-20-7 (EC-No.) 215-535-7 (EC Index-No.) 601-022-00-9	71 - 72	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
Trichlorosilane	(CAS-No.) 10025-78-2 (EC-No.) 233-042-5;419-930-7 (EC Index-No.) 014-001-00-9	28 - 29	Flam. Liq. 1, H224 Pyr. Liq. 1, H250 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1A, H314

#### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Trichlorosilane	(CAS-No.) 10025-78-2 (EC-No.) 233-042-5;419-930-7 (EC Index-No.) 014-001-00-9	( 1 =<C < 100) STOT SE 3, H335

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. Get medical advice/attention if you feel unwell.

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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 damage to organs. May cause damage to organs through prolonged or repeated exposure.
Symptoms/effects after inhalation	: Harmful if inhaled. May cause respiratory irritation. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact	: Causes (severe) skin burns.
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.

### 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	: Alcohol-resistant foam. Carbon dioxide. Dry chemical. Use of high expansion foam (100:1) is recommended to cover flames.
Unsuitable extinguishing media	: Water.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable liquid and vapour. In contact with water releases flammable gases which may ignite spontaneously. 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. Water spray or fog should only be used to knock down hydrogen chloride vapors in areas downwind from the fire. Use only dry media to extinguish flames.
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.
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#### 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".
Emergency procedures	: Stop release.

### 6.2. Environmental precautions

Avoid release to the environment. 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. Collect spillage. 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. Do not allow contact with water.
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Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Do not allow contact with water. Ground/bond container and receiving equipment. Handle under inert gas. Protect from moisture. Open carefully. 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. Containers can generate pressure during storage. Store in sealed containers under dry inert atmosphere. Store in a dry place. Store in a closed container. Store locked up.

Incompatible materials : Acids. 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

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

TRICHLOROSILANE, 2M (28-29%) in xylene (10025-78-2)		
Latvia	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Lithuania	IPRV (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Trichlorosilane (10025-78-2)		
Latvia	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Lithuania	IPRV (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Xylene (1330-20-7)		
EU	IOELV TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
EU	IOELV TWA (ppm)	50 ppm (pure)
EU	IOELV STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
EU	IOELV STEL (ppm)	100 ppm (pure)
Austria	MAK (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (all isomers)
Austria	MAK (ppm)	50 ppm (all isomers)
Austria	MAK Short time value (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (all isomers)
Austria	MAK Short time value (ppm)	100 ppm (all isomers)
Belgium	Limit value (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	50 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	100 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
Bulgaria	OEL TWA (ppm)	50 ppm (pure)
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
Bulgaria	OEL STEL (ppm)	100 ppm (pure)
Cyprus	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Cyprus	OEL TWA (ppm)	50 ppm
Cyprus	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Cyprus	OEL STEL (ppm)	100 ppm
France	VLE (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (restrictive limit)
France	VLE (ppm)	100 ppm (restrictive limit)
France	VME (mg/m <sup>3</sup> )	221 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> )	440 mg/m <sup>3</sup> (all isomers)
Germany	TRGS 900 Occupational exposure limit value (ppm)	100 ppm (all isomers)
Germany	TRGS 903 Biological limit value	1.5 mg/l (Medium: whole blood - Time: end of shift - Parameter: Xylene (all isomers) 2000 mg/l (Medium: urine - Time: end of shift - Parameter: Methylhippuric(tolur-)acid (all isomers)
Gibraltar	Eight hours mg/m <sup>3</sup>	221 mg/m <sup>3</sup> (pure)
Gibraltar	Eight hours ppm	50 ppm (pure)
Gibraltar	Short-term mg/m <sup>3</sup>	442 mg/m <sup>3</sup> (pure)
Gibraltar	Short-term ppm	100 ppm (pure)

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Xylene (1330-20-7)		
Greece	OEL TWA (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	100 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	650 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	150 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	100 ppm
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	150 ppm
Italy	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
Italy	OEL TWA (ppm)	50 ppm (pure)
Italy	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
Italy	OEL STEL (ppm)	100 ppm (pure)
Latvia	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	50 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
Spain	VLA-ED (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (indicative limit value)
Spain	VLA-ED (ppm)	50 ppm (indicative limit value)
Spain	VLA-EC (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	100 ppm
Switzerland	KZGW (mg/m <sup>3</sup> )	870 mg/m <sup>3</sup>
Switzerland	KZGW (ppm)	200 ppm
Switzerland	MAK (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
Switzerland	MAK (ppm)	100 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	210 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	220 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	441 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> )	109 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	25 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	220 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	50 ppm
Finland	HTP-arvo (15 min)	440 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	100 ppm
Hungary	AK-érték	221 mg/m <sup>3</sup>
Hungary	CK-érték	442 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	100 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	50 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	450 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	100 ppm
Malta	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
Malta	OEL TWA (ppm)	50 ppm (pure)
Malta	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
Malta	OEL STEL (ppm)	100 ppm (pure)
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	108 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	25 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	135 mg/m <sup>3</sup>

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Xylene (1330-20-7)		
Norway	Grenseverdier (Korttidsverdi) (ppm)	37.5 ppm
Poland	NDS (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Romania	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	50 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	100 ppm
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	50 ppm
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	50 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	100 ppm
Canada (Quebec)	VECD (mg/m <sup>3</sup> )	651 mg/m <sup>3</sup>
Canada (Quebec)	VECD (ppm)	150 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	100 ppm
Australia	TWA (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
Australia	TWA (ppm)	80 ppm
Australia	STEL (mg/m <sup>3</sup> )	655 mg/m <sup>3</sup>
Australia	STEL (ppm)	150 ppm
Portugal	OEL TWA (mg/m <sup>3</sup> )	221 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> )	442 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

### 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. (Viton recommended). Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

NIOSH-certified combination organic vapor/acid gas (yellow 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	: 135.45 g/mol
Colour	: Straw.
Odour	: Acrid. Similar to hydrogen chloride.
Odour threshold	: No data available
Refractive index	: No additional information available
pH	: No data available

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Relative evaporation rate (butylacetate=1)	: 40
Melting point	: No data available
Freezing point	: -128 °C
Boiling point	: 31.9 °C (initial)
Flash point	: -10 °C
Auto-ignition temperature	: 215 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable liquid and vapour, In contact with water releases flammable gases which may ignite spontaneously.
Vapour pressure	: 500 mm Hg @ 20 °C
Relative vapour density at 20 °C	: > 1
Relative density	: 0.949
% Volatiles	: > 2 mol/l
Solubility	: Reacts violently 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	: 6.9 - 70 vol % (lower; upper; trichlorosilane)

### 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. Platinum, platinum and iron salts and other Lewis acids can cause generation of flammable hydrogen gas in the presence of moisture. Forms impact sensitive explosive mixtures with potassium permanganate.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

alcohols. Acids. Moisture. Oxidizing agent. Water.

### 10.6. Hazardous decomposition products

Hydrogen chloride. Organic acid vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed. Harmful if inhaled.

#### TRICHLOROSILANE, 2M (28-29%) in xylene (10025-78-2)

ATE CLP (oral)	500 mg/kg bodyweight
ATE CLP (vapours)	11 mg/l/4h

#### Trichlorosilane (10025-78-2)

LD50 oral rat	1030 mg/kg
LC50 inhalation rat (ppm)	2767 ppm/1h
LC50 inhalation mouse (2 h)	1500 mg/m <sup>3</sup>
ATE CLP (gases)	1383.5 ppmv/4h
ATE CLP (dust,mist)	1.5 mg/l/4h

#### Xylene (1330-20-7)

LD50 oral rat	3500 mg/kg ; 4300 mg/kg
LD50 dermal rabbit	1700 mg/kg
LC50 inhalation rat (mg/l)	29.08 mg/l/4h
ATE CLP (oral)	3500 mg/kg bodyweight
ATE CLP (dermal)	1700 mg/kg bodyweight

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Xylene (1330-20-7)	
ATE CLP (vapours)	11 mg/l/4h
ATE CLP (dust,mist)	29.08 mg/l/4h
LCLo Inhalation man	10,000ppm/6H

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  
None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Xylene (1330-20-7)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified  
STOT-single exposure : May cause respiratory irritation.  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified  
Symptoms/effects after inhalation : Harmful if inhaled. May cause respiratory irritation. Danger of serious damage to health by prolonged exposure through inhalation.  
Symptoms/effects after skin contact : Causes (severe) skin burns.  
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

Ecology - general : Very toxic to aquatic life.  
Acute aquatic toxicity : Very toxic to aquatic life.  
Chronic aquatic toxicity : Not classified

Xylene (1330-20-7)	
LC50 fish 1	13.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	3.82 mg/l (Exposure time: 48 h - Species: water flea)
LC50 fish 2	2.661 - 4.093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 2	0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

Xylene (1330-20-7)	
BCF fish 1	0.6 - 15
Log Pow	2.77 - 3.15

### 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.



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### SECTION 14: Transport information

#### 14.1. UN number

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 2988
UN-No. (IMDG)	: 2988
UN-No. (IATA)	: 2988
UN-No. (ADN)	: 2988
UN-No. (RID)	: 2988

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.
Proper Shipping Name (IMDG)	: CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.
Proper Shipping Name (IATA)	: Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.
Proper Shipping Name (ADN)	: CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.
Proper Shipping Name (RID)	: CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.
Transport document description (ADR)	: UN 2988 CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S. (TRICHLOROSILANE, 2M (28-29%) in xylene), 4.3 (3+8), I, (B/E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	: UN 2988 CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S. (TRICHLOROSILANE, 2M (28-29%) in xylene), 4.3 (3+8), I, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 2988 Chlorosilanes, water-reactive, flammable, corrosive, n.o.s. (TRICHLOROSILANE, 2M (28-29%) in xylene), 4.3, I, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 2988 CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S. (TRICHLOROSILANE, 2M (28-29%) in xylene), 4.3 (3+8), I, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 2988 CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S. (TRICHLOROSILANE, 2M (28-29%) in xylene), 4.3 (3+8), I, ENVIRONMENTALLY HAZARDOUS

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: 4.3 (3, 8)
Danger labels (ADR)	: 4.3, 3, 8



##### IMDG

Transport hazard class(es) (IMDG)	: 4.3 (3, 8)
Danger labels (IMDG)	: 4.3, 3, 8



##### IATA

Transport hazard class(es) (IATA)	: 4.3 (3, 8)
Hazard labels (IATA)	: 4.3, 3, 8



##### ADN

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Transport hazard class(es) (ADN) : 4.3 (3, 8)

Danger labels (ADN) : 4.3, 3, 8



### RID

Transport hazard class(es) (RID) : 4.3 (3, 8)

Danger labels (RID) : 4.3, 3, 8



### 14.4. Packing group

Packing group (ADR) : I

Packing group (IMDG) : I

Packing group (IATA) : I

Packing group (ADN) : I

Packing group (RID) : I

### 14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : WFC

Special provisions (ADR) : 549

Limited quantities (ADR) : 0

Excepted quantities (ADR) : E0

Packing instructions (ADR) : P401

Special packing provisions (ADR) : B4

Mixed packing provisions (ADR) : MP2

Portable tank and bulk container instructions (ADR) : T14

Portable tank and bulk container special provisions (ADR) : TP2, TP7

Tank code (ADR) : L10DH

Tank special provisions (ADR) : TU14, TU26, TE21, TM2, TM3

Vehicle for tank carriage : FL

Transport category (ADR) : 0

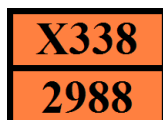
Special provisions for carriage - Packages (ADR) : V1

Special provisions for carriage - Loading, unloading and handling (ADR) : CV23

Special provisions for carriage - Operation (ADR) : S2, S20

Hazard identification number (Kemler No.) : X338

Orange plates :



Tunnel restriction code (ADR) : B/E

EAC code : 4WE

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APP code : A(fl)

### - Transport by sea

Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P401  
Special packing provisions (IMDG) : PP31  
Tank instructions (IMDG) : T14  
Tank special provisions (IMDG) : TP2, TP7, TP13  
EmS-No. (Fire) : F-G  
EmS-No. (Spillage) : S-N  
Stowage category (IMDG) : D  
Stowage and handling (IMDG) : SW2, H1  
Segregation (IMDG) : SG5, SG7, SG8, SG13, SG25, SG26  
Properties and observations (IMDG) : Colourless, very volatile liquids, flammable and corrosive, with a pungent odour. Immiscible with water. React violently with water or steam to produce heat which may lead to self-ignition; toxic and corrosive fumes will be evolved. May react vigorously in contact with oxidizing substances. Cause burns to skin, eyes and mucous membranes.

### - 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) : 480  
CAO max net quantity (IATA) : 1L  
ERG code (IATA) : 4FW

### - Inland waterway transport

Classification code (ADN) : WFC  
Special provisions (ADN) : 549  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E0  
Equipment required (ADN) : PP, EP, EX, A  
Ventilation (ADN) : VE01  
Provisions for handling and stowage of the cargo (ADN) : HA08  
Number of blue cones/lights (ADN) : 1

### - Rail transport

Classification code (RID) : WFC  
Special provisions (RID) : 549  
Limited quantities (RID) : 0  
Excepted quantities (RID) : E0  
Packing instructions (RID) : P401  
Special packing provisions (RID) : RR7  
Mixed packing provisions (RID) : MP2  
Portable tank and bulk container instructions (RID) : T14  
Portable tank and bulk container special provisions (RID) : TP2, TP7  
Tank codes for RID tanks (RID) : L10DH  
Special provisions for RID tanks (RID) : TU14, TU26, TU38, TE21, TE22, TM2, TM3  
Transport category (RID) : 0  
Special provisions for carriage – Packages (RID) : W1  
Special provisions for carriage - Loading, unloading and handling (RID) : CW23  
Hazard identification number (RID) : X338

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

Not applicable

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### 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 : > 2 mol/l

##### 15.1.2. National regulations

###### Germany

Reference to AwSV : Water hazard class (WGK) 1, Slightly 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 : None of the components are 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 : Xylene is listed

###### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F+ <Flam. Liq. 1; Pyr. Liq. 1>; 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:

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 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1

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Flam. Liq. 1	Flammable liquids, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Pyr. Liq. 1	Pyrophoric Liquids, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H224	Extremely flammable liquid and vapour.
H226	Flammable liquid and vapour.
H250	Catches fire spontaneously if exposed to air.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
EUH014	Reacts violently with water.
EUH029	Contact with water liberates toxic gas.

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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