



**(30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene**

Safety Data Sheet SSP-255

Date of issue: 14/08/2015

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    | : (30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene |
| Product code    | : SSP-255   |
| Synonyms        | : (VINYLTRIETHOXYSILANE)-(1,2-BUTADIENE)-(STYRENE) terpolymer   |
| Chemical family | : ORGANOSILANE  |

### 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

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)

#### GELEST INC.

Fritz-Klatte-Strasse 8  
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](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 2                                  | H315 |
| 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



GHS07



GHS08

Signal word (CLP) : Danger

# (30-35% TRIETHOXYSYLYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene

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|                                |  |
|--------------------------------|--|
| Hazardous ingredients          | : Toluene  |
| Hazard statements (CLP)        | : H225 - Highly flammable liquid and vapour.<br>H315 - Causes skin irritation.<br>H336 - May cause drowsiness or dizziness.<br>H361 - Suspected of damaging fertility or the unborn child.<br>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.<br>P280 - Wear protective gloves/protective clothing/eye protection/face protection.<br>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>P240 - Ground/bond container and receiving equipment.<br>P403+P233 - Store in a well-ventilated place. Keep container tightly closed.<br>P312 - Call a POISON CENTER if you feel unwell. |

### 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<br>(EC-No.) 203-625-9<br>(EC Index-No.) 601-021-00-3<br>(REACH-no) 01-2119471310-51-0127 | > 45 | Flam. Liq. 2, H225<br>Acute Tox. 4 (Inhalation:vapour), H332<br>Skin Irrit. 2, H315<br>Repr. 2, H361d<br>STOT SE 3, H336<br>STOT RE 2, H373<br>Asp. Tox. 1, H304 |
| (30-35% Triethoxysilylethyl)ethylene-(35-40% 1,4-butadiene)-(25-30% styrene) terpolymer | (CAS-No.) Not found   | > 45 | Not classified   |

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. Call a POISON CENTER/doctor. |
| 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 immediate medical advice/attention.  |

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

|                                     |  |
|-------------------------------------|--|
| Symptoms/effects after inhalation   | : May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.   |
| 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. Oral toxicity is associated with toluene which causes psychophysiological and bone marrow changes nausea, vomiting, headache, visual effects including blindness. |

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

No additional information available

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### 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 and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.  
Explosion hazard : May form flammable/explosive vapour-air mixture.

#### 5.3. Advice for firefighters

Firefighting instructions : 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 : 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. 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 : Provide good ventilation in process area to prevent formation of vapour. Avoid all eye and skin contact and do not breathe vapour and mist. Use only outdoors or in a well-ventilated area. Containers and transfer lines require grounding during use. 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 : Ground/bond container and receiving equipment. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.  
Storage conditions : Keep container tightly closed.  
Incompatible materials : Acids. Oxidizing agent. Peroxides. 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

| 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               |

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| Toluene (108-88-3)           |   |   |
|------------------------------|---|---|
| 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)<br>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   |
| 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>   |

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|--------------------|---|-----------------------|
| 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 (Kortidsverdi) (mg/m <sup>3</sup> ) | 94 mg/m <sup>3</sup>  |
| Norway             | Grenseverdier (Kortidsverdi) (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> |
| 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> |

# (30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene

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| Toluene (108-88-3) |                            |   |
|--------------------|----------------------------|---|
| Australia          | TWA (ppm)                  | 50 ppm  |
| Australia          | STEL (mg/m³)               | 574 mg/m³   |
| Australia          | STEL (ppm)                 | 150 ppm   |
| Portugal           | OEL TWA (mg/m³)            | 192 mg/m³ (indicative limit value)  |
| Portugal           | OEL TWA (ppm)              | 50 ppm (indicative limit value)   |
| Portugal           | OEL STEL (mg/m³)           | 384 mg/m³ (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. Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor - amine gas (brown cartridge) respirator.

## SECTION 9: Physical and chemical properties

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

|  |                                       |
|--|---------------------------------------|
| Physical state                             | : Liquid                              |
| Appearance                                 | : Solution.                           |
| Molecular mass                             | : 4500 - 5500 g/mol                   |
| Colour                                     | : Pale yellow. Amber.                 |
| Odour                                      | : No data available                   |
| 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                              | : < 0 °C                              |
| Freezing point                             | : No data available                   |
| Boiling point                              | : 110 °C (initial, toluene)           |
| Flash point                                | : 4 °C                                |
| Auto-ignition temperature                  | : 536 (toluene)                       |
| Decomposition temperature                  | : No data available                   |
| Flammability (solid, gas)                  | : Highly flammable liquid and vapour. |
| Vapour pressure                            | : No data available                   |
| Relative vapour density at 20 °C           | : > 3                                 |
| Relative density                           | : 0.9                                 |
| % Volatiles                                | : > 45 °C                             |
| Solubility                                 | : Reacts with water.                  |
| Log Pow                                    | : No data available                   |
| Log Kow                                    | : No data available                   |
| Viscosity, kinematic                       | : 20 - 30 cSt                         |



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|                      |  |
|----------------------|--|
| Viscosity, dynamic   | : No data available                      |
| Explosive properties | : No data available                      |
| Oxidising properties | : No data available                      |
| Explosive limits     | : 1.27 - 7 vol % (lower; upper: 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 ethanol and crosslinking.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Acids. Oxidizing agent. Peroxides. Moisture. Water :

### 10.6. Hazardous decomposition products

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           |
| 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           |

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

| Toluene (108-88-3) |                      |
|--------------------|----------------------|
| IARC group         | 3 - Not classifiable |

|   |   |
|---|---|
| Reproductive toxicity                               | : Suspected of damaging fertility or the unborn child.  |
| 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  |
| Potential adverse human health effects and symptoms | : Vapor inhalation of toluene may lead to impairment of coordination mental alertness, and reaction times, leading to accident proneness. Exposure to levels around 500ppm leads to narcotic effects including nausea, headache and mental confusion. |
| Symptoms/effects after inhalation                   | : May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.  |
| 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. Oral toxicity is associated with toluene which causes psychophysiological and bone marrow changes nausea, vomiting, headache, visual effects including blindness.  |
| Reason for classification                           | : Expert judgment   |

# (30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene

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### SECTION 12: Ecological information

#### 12.1. Toxicity

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

| Toluene (108-88-3) |  |
|--------------------|--|
| 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)                               |

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

| Toluene (108-88-3) |      |
|--------------------|------|
| Log Pow            | 2.65 |

#### 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) : 1294  
UN-No. (IMDG) : 1294  
UN-No. (IATA) : 1294  
UN-No. (ADN) : 1294  
UN-No. (RID) : 1294






#### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : TOLUENE  
Proper Shipping Name (IMDG) : TOLUENE  
Proper Shipping Name (IATA) : Toluene  
Proper Shipping Name (ADN) : TOLUENE  
Proper Shipping Name (RID) : TOLUENE  
Transport document description (ADR) : UN 1294 TOLUENE ((30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene), 3, II, (D/E)  
Transport document description (IMDG) : UN 1294 TOLUENE ((30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene), 3, II (7°C c.c.)  
Transport document description (IATA) : UN 1294 Toluene ((30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene), 3, II  
Transport document description (ADN) : UN 1294 TOLUENE ((30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene), 3, II  
Transport document description (RID) : UN 1294 TOLUENE ((30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene), 3, II



**(30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene**  
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**14.3. Transport hazard class(es)**

|                                   |   |
|-----------------------------------|---|
| <b>ADR</b>                        |   |
| Transport hazard class(es) (ADR)  | : 3   |
| Danger labels (ADR)               | : 3   |
| :                                 |    |
| <b>IMDG</b>                       |   |
| Transport hazard class(es) (IMDG) | : 3   |
| Danger labels (IMDG)              | : 3   |
| :                                 |    |
| <b>IATA</b>                       |   |
| Transport hazard class(es) (IATA) | : 3   |
| Hazard labels (IATA)              | : 3   |
| :                                 |  |
| <b>ADN</b>                        |   |
| Transport hazard class(es) (ADN)  | : 3   |
| Danger labels (ADN)               | : 3   |
| :                                 |  |
| <b>RID</b>                        |   |
| Transport hazard class(es) (RID)  | : 3   |
| Danger labels (RID)               | : 3   |
| :                                 |  |

**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 |
|-------------------------------|------|

# (30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene

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|                   |  |
|-------------------|--|
| Marine pollutant  | : No                                     |
| Other information | : No supplementary information available |

### 14.6. Special precautions for user

#### - Overland transport

|   |                     |
|---|---------------------|
| Classification code (ADR)                                 | : F1                |
| Limited quantities (ADR)                                  | : 1I                |
| Excepted quantities (ADR)                                 | : E2                |
| Packing instructions (ADR)                                | : P001, IBC02, R001 |
| Special packing provisions (ADR)                          | : RR7               |
| Mixed packing provisions (ADR)                            | : MP19              |
| Portable tank and bulk container instructions (ADR)       | : T4                |
| Portable tank and bulk container special provisions (ADR) | : TP1               |
| Tank code (ADR)   | : LGBF              |
| Vehicle for tank carriage                                 | : FL                |
| Transport category (ADR)                                  | : 2                 |
| Special provisions for carriage - Operation (ADR)         | : S2, S20           |
| Hazard identification number (Kemler No.)                 | : 33                |
| Orange plates   | :                   |



|                               |       |
|-------------------------------|-------|
| Tunnel restriction code (ADR) | : D/E |
| EAC code                      | : 3YE |

#### - Transport by sea

|                                    |  |
|------------------------------------|--|
| Limited quantities (IMDG)          | : 1 L  |
| Excepted quantities (IMDG)         | : E2   |
| Packing instructions (IMDG)        | : P001   |
| IBC packing instructions (IMDG)    | : IBC02  |
| Tank instructions (IMDG)           | : T4   |
| Tank special provisions (IMDG)     | : TP1  |
| EmS-No. (Fire)                     | : F-E  |
| EmS-No. (Spillage)                 | : S-D  |
| Stowage category (IMDG)            | : B  |
| Flash point (IMDG)                 | : 7°C c.c.   |
| Properties and observations (IMDG) | : Colourless liquid with a benzene-like odour. Flashpoint: 7°C c.c. Explosive limits: 1.27% to 7% Immiscible with water. |

#### - Air transport

|  |        |
|--|--------|
| PCA Excepted quantities (IATA)               | : E2   |
| PCA Limited quantities (IATA)                | : Y341 |
| PCA limited quantity max net quantity (IATA) | : 1L   |
| PCA packing instructions (IATA)              | : 353  |
| PCA max net quantity (IATA)                  | : 5L   |
| CAO packing instructions (IATA)              | : 364  |
| CAO max net quantity (IATA)                  | : 60L  |
| ERG code (IATA)                              | : 3L   |

#### - Inland waterway transport

|                           |             |
|---------------------------|-------------|
| Classification code (ADN) | : F1        |
| Limited quantities (ADN)  | : 1 L       |
| Excepted quantities (ADN) | : E2        |
| Carriage permitted (ADN)  | : T         |
| Equipment required (ADN)  | : PP, EX, A |

# (30-35% TRIETHOXYSYLYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene

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|   |                     |
|---|---------------------|
| Ventilation (ADN)   | : VE01              |
| Number of blue cones/lights (ADN)                         | : 1                 |
| <b>- Rail transport</b>                                   |                     |
| Classification code (RID)                                 | : F1                |
| Limited quantities (RID)                                  | : 1L                |
| Excepted quantities (RID)                                 | : E2                |
| Packing instructions (RID)                                | : P001, IBC02, R001 |
| Mixed packing provisions (RID)                            | : MP19              |
| Portable tank and bulk container instructions (RID)       | : T4                |
| Portable tank and bulk container special provisions (RID) | : TP1               |
| Tank codes for RID tanks (RID)                            | : LGBF              |
| Transport category (RID)                                  | : 2                 |
| Colis express (express parcels) (RID)                     | : CE7               |
| Hazard identification number (RID)                        | : 33                |

### 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 : > 45 °C

#### 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 : 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

# (30-35% TRIETHOXYSILYLETHYL)ETHYLENE-(35-40% 1,4-BUTADIENE)-(25-30% STYRENE) terpolymer, 50% in toluene

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### 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 (Inhalation:vapour) | Acute toxicity (inhalation:vapour) Category 4                          |
| Asp. Tox. 1                      | Aspiration hazard, Category 1  |
| Flam. Liq. 2                     | Flammable liquids, Category 2  |
| Repr. 2                          | Reproductive toxicity, Category 2                                      |
| Repr. 2                          | Reproductive toxicity, Category 2                                      |
| 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.                                    |
| H304                             | May be fatal if swallowed and enters airways.                          |
| H315                             | Causes skin irritation.  |
| H332                             | Harmful if inhaled.  |
| H336                             | May cause drowsiness or dizziness.                                     |
| 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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