

## Soudafoam FR Gun

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

#### 1.1. Product identifier

Product name : Soudafoam FR Gun  
 Registration number REACH : Not applicable (mixture)  
 Product type REACH : Mixture

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1 Relevant identified uses

polyurethane

##### 1.2.2 Uses advised against

No uses advised against known

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier of the safety data sheet

SODAL N.V.  
 Everdongenlaan 18-20  
 B-2300 Turnhout  
 ☎ +32 14 42 42 31  
 ☐ +32 14 42 65 14  
 msds@soudal.com

##### Manufacturer of the product

SODAL N.V.  
 Everdongenlaan 18-20  
 B-2300 Turnhout  
 ☎ +32 14 42 42 31  
 ☐ +32 14 42 65 14  
 msds@soudal.com

#### 1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch):  
 +32 14 58 45 45 (BIG)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

| Class       | Category   | Hazard statements   |
|-------------|------------|---|
| Aerosol     | category 1 | H222: Extremely flammable aerosol.  |
| Aerosol     | category 1 | H229: Pressurised container: May burst if heated.                                   |
| Carc.       | category 2 | H351: Suspected of causing cancer.  |
| Resp. Sens. | category 1 | H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.    |
| Skin Sens.  | category 1 | H317: May cause an allergic skin reaction.  |
| Acute Tox.  | category 4 | H332: Harmful if inhaled.   |
| STOT RE     | category 2 | H373: May cause damage to organs through prolonged or repeated exposure if inhaled. |
| Skin Irrit. | category 2 | H315: Causes skin irritation.   |
| Eye Irrit.  | category 2 | H319: Causes serious eye irritation.  |
| STOT SE     | category 3 | H335: May cause respiratory irritation.   |

#### 2.2. Label elements



Contains: polymethylene polyphenyl isocyanate.

Signal word Danger

##### H-statements

H222 Extremely flammable aerosol.  
 H229 Pressurised container: May burst if heated.  
 H351 Suspected of causing cancer.

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|      |   |
|------|---|
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled.    |
| H317 | May cause an allergic skin reaction.  |
| H332 | Harmful if inhaled.   |
| H373 | May cause damage to organs through prolonged or repeated exposure if inhaled. |
| H315 | Causes skin irritation.   |
| H319 | Causes serious eye irritation.  |
| H335 | May cause respiratory irritation.   |

#### P-statements

|             |  |
|-------------|--|
| P101        | If medical advice is needed, have product container or label at hand.                              |
| P102        | Keep out of reach of children.   |
| P210        | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.     |
| P211        | Do not spray on an open flame or other ignition source.  |
| P251        | Do not pierce or burn, even after use.   |
| P280        | Wear protective gloves, protective clothing and eye protection/face protection.                    |
| P405        | Store locked up.   |
| P410 + P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122°F.                       |
| P501        | Dispose of contents/container in accordance with local/regional/national/international regulation. |

#### Supplemental information

- Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
- Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
- This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

### 2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard

Contains component(s) included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name<br>REACH Registration No  | CAS No<br>EC No       | Conc. (C) | Classification according to CLP   | Note              | Remark      |
|--|-----------------------|-----------|---|-------------------|-------------|
| dimethyl ether<br>01-2119472128-37   | 115-10-6<br>204-065-8 | 1%<C<10%  | Flam. Gas 1; H220<br>Press. Gas - Liquefied gas;  | (1)(2)(10)        | Propellant  |
| 1,1-difluoroethane<br>01-2119474440-43   | 75-37-6<br>200-866-1  | 1%<C<10%  | Flam. Gas 1; H220<br>Press. Gas - Liquefied gas;  | (1)(10)           | Propellant  |
| polymethylene polyphenyl isocyanate  | 9016-87-9             | C>25 %    | Carc. 2; H351<br>Resp. Sens. 1; H334<br>Skin Sens. 1; H317<br>Acute Tox. 4; H332<br>STOT RE 2; H373<br>Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>STOT SE 3; H335 | (1)(2)(8)(10)(18) | Constituent |
| isobutane<br>01-2119485395-27<br>(1,3-butadiene, conc<0.1%)  | 75-28-5<br>200-857-2  | 1%<C<10%  | Flam. Gas 1; H220<br>Press. Gas - Liquefied gas;  | (1)(2)(10)        | Propellant  |
| reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester<br>01-2119486772-26 |                       | 10%<C<25% | Acute Tox. 4; H302  | (1)(10)           | Constituent |
| triethyl phosphate<br>01-2119492852-28   | 78-40-0<br>201-114-5  | 1%<C<10%  | Acute Tox. 4; H302<br>Eye Irrit. 2; H319  | (1)(10)           | Constituent |

(1) For H-statements in full: see heading 16

(2) Substance with a Community workplace exposure limit

(8) Specific concentration limits, see heading 16

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

(18) Polymethylene polyphenyl isocyanate, contains > 0.1% MDI-isomers

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

#### After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

#### After skin contact:

Wash immediately with lots of water. Take victim to a doctor if irritation persists.

#### After eye contact:

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

#### After ingestion:

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Consult a doctor/medical service if you feel ...

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

#### 4.2.1 Acute symptoms

##### After inhalation:

Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Runny nose. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible inflammation of the respiratory tract. Risk of lung oedema. Respiratory difficulties.

##### After skin contact:

Tingling/irritation of the skin.

##### After eye contact:

Irritation of the eye tissue. Lacrimation.

##### After ingestion:

No effects known.

#### 4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### 5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher.

#### 5.1.2 Unsuitable extinguishing media:

Small fire: Quick-acting CO2 extinguisher, Water (water can be used to control jet flame), Foam.  
Major fire: Water (water can be used to control jet flame), Foam.

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

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, phosphorus oxides, hydrogen bromide, hydrogen chloride, hydrofluoric acid) (carbon monoxide - carbon dioxide). Pressurised container: May burst if heated.

### 5.3. Advice for firefighters

#### 5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

#### 5.3.2 Special protective equipment for fire-fighters:

Gloves. Protective goggles. Head/neck protection. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment.

#### 6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

#### 6.1.2 Protective equipment for emergency responders

Gloves. Protective goggles. Head/neck protection. Protective clothing.

##### Suitable protective clothing

See heading 8.2

### 6.2. Environmental precautions

Dam up the liquid spill. Use appropriate containment to avoid environmental contamination.

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## 6.3. Methods and material for containment and cleaning up

Allow product to solidify and remove it by mechanical means. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean (treat) contaminated surfaces with acetone. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

## 6.4. Reference to other sections

See heading 13.

## SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 7.1. Precautions for safe handling

Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe very strict hygiene - avoid contact. Remove contaminated clothing immediately.

### 7.2. Conditions for safe storage, including any incompatibilities

#### 7.2.1 Safe storage requirements:

Storage temperature: < 50 °C. Store in a cool area. Keep out of direct sunlight. Ventilation at floor level. Fireproof storeroom. Unauthorized persons are not admitted. Meet the legal requirements. Max. storage time: 1 year(s).

#### 7.2.2 Keep away from:

Heat sources, ignition sources.

#### 7.2.3 Suitable packaging material:

Aerosol.

#### 7.2.4 Non suitable packaging material:

No data available

### 7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 Occupational exposure

##### a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

#### EU

|               |   |                        |
|---------------|---|------------------------|
| Dimethylether | Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value) | 1000 ppm               |
|               | Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value) | 1920 mg/m <sup>3</sup> |

#### Belgium

|   |  |                         |
|---|--|-------------------------|
| 4,4'-Diisocyanate de diphénylméthane (MDI)                      | Time-weighted average exposure limit 8 h | 0.005 ppm               |
|   | Time-weighted average exposure limit 8 h | 0.052 mg/m <sup>3</sup> |
| Hydrocarbures aliphatiques sous forme gazeuse : (Alcanes C1-C4) | Time-weighted average exposure limit 8 h | 1000 ppm                |
| Oxyde de diméthyle  | Time-weighted average exposure limit 8 h | 1000 ppm                |
|   | Time-weighted average exposure limit 8 h | 1920 mg/m <sup>3</sup>  |

#### The Netherlands

|               |   |                        |
|---------------|---|------------------------|
| Dimethylether | Time-weighted average exposure limit 8 h (Public occupational exposure limit value) | 496 ppm                |
|               | Time-weighted average exposure limit 8 h (Public occupational exposure limit value) | 950 mg/m <sup>3</sup>  |
|               | Short time value (Public occupational exposure limit value)                         | 783 ppm                |
|               | Short time value (Public occupational exposure limit value)                         | 1500 mg/m <sup>3</sup> |

#### France

|                                      |  |                        |
|--------------------------------------|--|------------------------|
| 4,4'-Diisocyanate de diphénylméthane | Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative) | 0.01 ppm               |
|                                      | Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative) | 0.1 mg/m <sup>3</sup>  |
|                                      | Short time value (VL: Valeur non réglementaire indicative)                         | 0.02 ppm               |
|                                      | Short time value (VL: Valeur non réglementaire indicative)                         | 0.2 mg/m <sup>3</sup>  |
| Oxyde de diméthyle                   | Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)    | 1000 ppm               |
|                                      | Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)    | 1920 mg/m <sup>3</sup> |

#### Germany

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|                                   |   |                        |
|-----------------------------------|---|------------------------|
| 4,4'-Methylendiphenylidiisocyanat | Time-weighted average exposure limit 8 h (TRGS 900) | 0.05 mg/m <sup>3</sup> |
| Dimethylether                     | Time-weighted average exposure limit 8 h (TRGS 900) | 1000 ppm               |
|                                   | Time-weighted average exposure limit 8 h (TRGS 900) | 1900 mg/m <sup>3</sup> |
| Isobutan                          | Time-weighted average exposure limit 8 h (TRGS 900) | 1000 ppm               |
|                                   | Time-weighted average exposure limit 8 h (TRGS 900) | 2400 mg/m <sup>3</sup> |
| pMDI (als MDI berechnet)          | Time-weighted average exposure limit 8 h (TRGS 900) | 0.05 mg/m <sup>3</sup> |

## UK

|   |   |                        |
|---|---|------------------------|
| Dimethyl ether                                      | Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005)) | 400 ppm                |
|   | Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005)) | 766 mg/m <sup>3</sup>  |
|   | Short time value (Workplace exposure limit (EH40/2005))                         | 500 ppm                |
|   | Short time value (Workplace exposure limit (EH40/2005))                         | 958 mg/m <sup>3</sup>  |
| Isocyanates, all (as -NCO) Except methyl isocyanate | Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005)) | 0.02 mg/m <sup>3</sup> |
|   | Short time value (Workplace exposure limit (EH40/2005))                         | 0.07 mg/m <sup>3</sup> |

## USA (TLV-ACGIH)

|                                      |  |           |
|--------------------------------------|--|-----------|
| Butane, all isomers                  | Short time value (TLV - Adopted Value)                         | 1000 ppm  |
| Methylene bisphenyl isocyanate (MDI) | Time-weighted average exposure limit 8 h (TLV - Adopted Value) | 0.005 ppm |

## b) National biological limit values

If limit values are applicable and available these will be listed below.

### 8.1.2 Sampling methods

| Product name | Test  | Number |
|--------------|-------|--------|
| Isocyanates  | NIOSH | 5521   |
| Isocyanates  | NIOSH | 5522   |

### 8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

### 8.1.4 DNEL/PNEC values

#### DNEL/DMEL - Workers

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Effect level (DNEL/DMEL) | Type                                  | Value                  | Remark |
|--------------------------|---------------------------------------|------------------------|--------|
| DNEL                     | Long-term systemic effects inhalation | 5.82 mg/m <sup>3</sup> |        |
|                          | Acute systemic effects inhalation     | 22.4 mg/m <sup>3</sup> |        |
|                          | Long-term systemic effects dermal     | 2.08 mg/kg bw/day      |        |
|                          | Acute systemic effects dermal         | 8 mg/kg bw/day         |        |

triethyl phosphate

| Effect level (DNEL/DMEL) | Type                                  | Value                   | Remark |
|--------------------------|---------------------------------------|-------------------------|--------|
| DNEL                     | Long-term systemic effects inhalation | 11.81 mg/m <sup>3</sup> |        |
|                          | Acute systemic effects inhalation     | 94.5 mg/m <sup>3</sup>  |        |
|                          | Long-term systemic effects dermal     | 3.35 mg/kg bw/day       |        |
|                          | Acute systemic effects dermal         | 26.8 mg/kg bw/day       |        |

#### DNEL/DMEL - General population

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Effect level (DNEL/DMEL) | Type                                  | Value                  | Remark |
|--------------------------|---------------------------------------|------------------------|--------|
| DNEL                     | Long-term systemic effects inhalation | 1.46 mg/m <sup>3</sup> |        |
|                          | Acute systemic effects inhalation     | 11.2 mg/m <sup>3</sup> |        |
|                          | Long-term systemic effects dermal     | 1.04 mg/kg bw/day      |        |
|                          | Acute systemic effects dermal         | 4 mg/kg bw/day         |        |
|                          | Long-term systemic effects oral       | 0.52 mg/kg bw/day      |        |

triethyl phosphate

| Effect level (DNEL/DMEL) | Type                                  | Value                   | Remark |
|--------------------------|---------------------------------------|-------------------------|--------|
| DNEL                     | Long-term systemic effects inhalation | 2.91 mg/m <sup>3</sup>  |        |
|                          | Acute systemic effects inhalation     | 23.28 mg/m <sup>3</sup> |        |
|                          | Long-term systemic effects dermal     | 1.67 mg/kg bw/day       |        |
|                          | Acute systemic effects dermal         | 13.36 mg/kg bw/day      |        |
|                          | Long-term systemic effects oral       | 1.67 mg/kg bw/day       |        |
|                          | Acute systemic effects oral           | 13.36 mg/kg bw/day      |        |

#### PNEC

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reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Compartments                 | Value                  | Remark |
|------------------------------|------------------------|--------|
| Fresh water                  | 0.64 mg/l              |        |
| Aqua (intermittent releases) | 0.51 mg/l              |        |
| Marine water                 | 0.064 mg/l             |        |
| STP                          | 7.84 mg/l              |        |
| Fresh water sediment         | 13.4 mg/kg sediment dw |        |
| Marine water sediment        | 1.34 mg/kg sediment dw |        |
| Soil                         | 1.7 mg/kg soil dw      |        |
| Oral                         | 11.6 mg/kg food        |        |

triethyl phosphate

| Compartments          | Value                 | Remark |
|-----------------------|-----------------------|--------|
| Fresh water           | 0.632 mg/l            |        |
| Salt water            | 0.063 mg/l            |        |
| STP                   | 298.5 mg/l            |        |
| Fresh water sediment  | 5 mg/kg sediment dw   |        |
| Marine water sediment | 0.5 mg/kg sediment dw |        |
| Soil                  | 0.64 mg/kg soil dw    |        |

## 8.1.5 Control banding

If applicable and available it will be listed below.

## 8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 8.2.1 Appropriate engineering controls

Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly.

### 8.2.2 Individual protection measures, such as personal protective equipment

Observe very strict hygiene - avoid contact. Do not eat, drink or smoke during work.

#### a) Respiratory protection:

Wear gas mask with filter type A if conc. in air > exposure limit.

#### b) Hand protection:

Gloves.

| Materials                        | Breakthrough time | Thickness |
|----------------------------------|-------------------|-----------|
| LDPE (Low Density Poly Ethylene) | > 10 minutes      | 0.025 mm  |

- materials (good resistance)

LDPE (Low Density Poly Ethylene).

#### c) Eye protection:

Protective goggles.

#### d) Skin protection:

Head/neck protection. Protective clothing.

### 8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

## SECTION 9: Physical and chemical properties

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

|                           |  |
|---------------------------|--|
| Physical form             | Aerosol  |
| Odour                     | Characteristic odour                             |
| Odour threshold           | No data available                                |
| Colour                    | Variable in colour, depending on the composition |
| Particle size             | No data available                                |
| Explosion limits          | No data available                                |
| Flammability              | Extremely flammable aerosol.                     |
| Log Kow                   | Not applicable (mixture)                         |
| Dynamic viscosity         | No data available                                |
| Kinematic viscosity       | No data available                                |
| Melting point             | No data available                                |
| Boiling point             | No data available                                |
| Flash point               | Not applicable                                   |
| Evaporation rate          | No data available                                |
| Relative vapour density   | 1.1  |
| Vapour pressure           | No data available                                |
| Solubility                | Water ; insoluble                                |
| Relative density          | 1.1 ; 20 °C                                      |
| Decomposition temperature | No data available                                |
| Auto-ignition temperature | No data available                                |

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Revision number: 0604

Product number: 51384

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|                      |  |
|----------------------|--|
| Explosive properties | No chemical group associated with explosive properties |
| Oxidising properties | No chemical group associated with oxidising properties |
| pH                   | No data available                                      |

## 9.2. Other information

|                  |                                |
|------------------|--------------------------------|
| Absolute density | 1100 kg/m <sup>3</sup> ; 20 °C |
|------------------|--------------------------------|

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

#### Precautionary measures

Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

### 10.5. Incompatible materials

No data available.

### 10.6. Hazardous decomposition products

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, phosphorus oxides, hydrogen bromide, hydrogen chloride, hydrofluoric acid) (carbon monoxide - carbon dioxide).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### 11.1.1 Test results

#### Acute toxicity

##### Soudafoam FR Gun

No (test) data on the mixture available

Classification is based on the relevant ingredients

##### polymethylene polyphenyl isocyanate

| Route of exposure    | Parameter | Method | Value             | Exposure time | Species | Value determination | Remark |
|----------------------|-----------|--------|-------------------|---------------|---------|---------------------|--------|
| Oral                 | LD50      |        | > 10000 mg/kg     |               | Rat     | Literature study    |        |
| Dermal               | LD50      |        | > 5000 mg/kg      |               | Rabbit  | Literature study    |        |
| Inhalation (vapours) | LD50      |        | 10 mg/l - 20 mg/l | 4 h           | Rat     | Literature study    |        |
| Inhalation           |           |        | category 4        |               |         | Literature study    |        |

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Route of exposure    | Parameter | Method             | Value           | Exposure time | Species           | Value determination | Remark |
|----------------------|-----------|--------------------|-----------------|---------------|-------------------|---------------------|--------|
| Oral                 | LD50      | EU Method B.1 tris | 632 mg/kg bw    |               | Rat (female)      | Experimental value  |        |
| Dermal               | LD50      | OECD 402           | > 2000 mg/kg bw | 24 h          | Rat (male/female) | Experimental value  |        |
| Inhalation (aerosol) | LC50      | OECD 403           | > 7 mg/l        | 4 h           | Rat (male/female) | Experimental value  |        |

##### triethyl phosphate

| Route of exposure    | Parameter | Method   | Value            | Exposure time | Species           | Value determination             | Remark |
|----------------------|-----------|----------|------------------|---------------|-------------------|---------------------------------|--------|
| Oral                 | LD50      |          | 1600 mg/kg       |               | Rat               | Inconclusive, insufficient data |        |
| Dermal               | LD50      |          | > 20000 mg/kg bw |               | Rabbit            | Inconclusive, insufficient data |        |
| Inhalation (aerosol) | LC50      | OECD 403 | > 8.817 mg/l air | 4 h           | Rat (male/female) | Experimental value              |        |

#### Conclusion

Harmful if inhaled.

Not classified as acute toxic in contact with skin

Not classified as acute toxic if swallowed

#### Corrosion/irritation

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No (test)data on the mixture available

Classification is based on the relevant ingredients

polymethylene polyphenyl isocyanate

| Route of exposure | Result                       | Method | Exposure time | Time point | Species | Value determination | Remark |
|-------------------|------------------------------|--------|---------------|------------|---------|---------------------|--------|
| Eye               | Irritating;<br>category 2    |        |               |            |         | Literature study    |        |
| Skin              | Irritating;<br>category 2    |        |               |            |         | Literature study    |        |
| Inhalation        | Irritating;<br>STOT SE cat.3 |        |               |            |         | Literature study    |        |

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Route of exposure | Result         | Method   | Exposure time | Time point | Species | Value determination | Remark |
|-------------------|----------------|----------|---------------|------------|---------|---------------------|--------|
| Eye               | Not irritating | OECD 405 | 24 h          | 7 days     | Rabbit  | Experimental value  |        |
| Skin              | Not irritating | OECD 404 | 4 h           | 7 days     | Rabbit  | Experimental value  |        |

triethyl phosphate

| Route of exposure | Result                | Method   | Exposure time | Time point                        | Species | Value determination | Remark |
|-------------------|-----------------------|----------|---------------|-----------------------------------|---------|---------------------|--------|
| Eye               | Moderately irritating | OECD 405 | 24 h          | 1; 24; 48; 72 hrs; 7; 14; 21 days | Rabbit  | Experimental value  |        |
| Skin              | Not irritating        | OECD 404 | 4 h           | 1; 24; 48; 72; 168 hours          | Rabbit  | Experimental value  |        |

### Conclusion

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

### Respiratory or skin sensitisation

## Soudafoam FR Gun

No (test)data on the mixture available

Classification is based on the relevant ingredients

polymethylene polyphenyl isocyanate

| Route of exposure | Result                     | Method | Exposure time | Observation time point | Species | Value determination | Remark |
|-------------------|----------------------------|--------|---------------|------------------------|---------|---------------------|--------|
| Skin              | Sensitizing;<br>category 1 |        |               |                        |         | Literature study    |        |
| Inhalation        | Sensitizing;<br>category 1 |        |               |                        |         | Literature study    |        |

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Route of exposure | Result          | Method   | Exposure time | Observation time point | Species        | Value determination | Remark |
|-------------------|-----------------|----------|---------------|------------------------|----------------|---------------------|--------|
| Skin              | Not sensitizing | OECD 429 |               |                        | Mouse (female) | Experimental value  |        |

triethyl phosphate

| Route of exposure | Result          | Method   | Exposure time | Observation time point | Species        | Value determination | Remark |
|-------------------|-----------------|----------|---------------|------------------------|----------------|---------------------|--------|
| Skin              | Not sensitizing | OECD 429 |               |                        | Mouse (female) | Experimental value  |        |
| Inhalation        |                 |          |               |                        |                | Data waiving        |        |

### Conclusion

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### Specific target organ toxicity

## Soudafoam FR Gun

No (test)data on the mixture available

Classification is based on the relevant ingredients

polymethylene polyphenyl isocyanate

| Route of exposure | Parameter | Method | Value         | Organ | Effect | Exposure time | Species | Value determination |
|-------------------|-----------|--------|---------------|-------|--------|---------------|---------|---------------------|
| Inhalation        |           |        | STOT RE cat.2 |       |        |               |         | Literature study    |

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# Soudafoam FR Gun

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Route of exposure    | Parameter  | Method                   | Value            | Organ | Effect      | Exposure time    | Species      | Value determination |
|----------------------|------------|--------------------------|------------------|-------|-------------|------------------|--------------|---------------------|
| Oral (diet)          | NOAEL      | Subchronic toxicity test | 171 mg/kg bw/day |       | No effect   | 13 weeks (daily) | Rat (female) | Experimental value  |
| Oral (diet)          | LOAEL      | Subchronic toxicity test | 52 mg/kg bw/day  | Liver | Weight gain | 13 weeks (daily) | Rat (male)   | Experimental value  |
| Inhalation (vapours) | Dose level |                          | 0.586 mg/l air   |       | No effect   |                  | Mouse (male) | Experimental value  |

triethyl phosphate

| Route of exposure    | Parameter | Method                   | Value                     | Organ | Effect    | Exposure time                  | Species           | Value determination             |
|----------------------|-----------|--------------------------|---------------------------|-------|-----------|--------------------------------|-------------------|---------------------------------|
| Oral (stomach tube)  | NOAEL     | OECD 407                 | 1000 mg/kg bw/day         |       | No effect | 4 weeks (daily)                | Rat (male/female) | Experimental value              |
| Dermal               |           |                          |                           |       |           |                                |                   | Data waiving                    |
| Inhalation (aerosol) | NOAEC     | Subchronic toxicity test | 366 mg/m <sup>3</sup> air |       | No effect | 12 weeks (6h/day, 5 days/week) | Rat (male)        | Inconclusive, insufficient data |

## Conclusion

May cause damage to organs through prolonged or repeated exposure if inhaled.  
 Not classified as sub-chronically toxic in contact with skin  
 Not classified as sub-chronically toxic if swallowed

## Mutagenicity (in vitro)

Soudafoam FR Gun

No (test) data on the mixture available

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Result  | Method   | Test substrate                | Effect | Value determination |
|---|----------|-------------------------------|--------|---------------------|
| Negative with metabolic activation, negative without metabolic activation | OECD 482 | Rat liver cells               |        | Experimental value  |
| Negative without metabolic activation, positive with metabolic activation | OECD 476 | Mouse (lymphoma L5178Y cells) |        | Experimental value  |

triethyl phosphate

| Result  | Method   | Test substrate                         | Effect    | Value determination |
|---|----------|--|-----------|---------------------|
| Negative with metabolic activation, negative without metabolic activation | OECD 476 | Chinese hamster lung fibroblasts (V79) | No effect | Experimental value  |
| Negative with metabolic activation, negative without metabolic activation | OECD 471 | Bacteria (S.typhimurium)               | No effect | Experimental value  |

## Mutagenicity (in vivo)

Soudafoam FR Gun

No (test) data on the mixture available

Judgement is based on the relevant ingredients

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Result   | Method   | Exposure time | Test substrate      | Organ       | Value determination |
|----------|----------|---------------|---------------------|-------------|---------------------|
| Negative | OECD 474 |               | Mouse (male/female) | Bone marrow | Experimental value  |

triethyl phosphate

| Result   | Method | Exposure time | Test substrate | Organ       | Value determination |
|----------|--------|---------------|----------------|-------------|---------------------|
| Negative |        |               | Mouse (male)   | Bone marrow |                     |

## Conclusion

Not classified for mutagenic or genotoxic toxicity

## Carcinogenicity

Soudafoam FR Gun

No (test) data on the mixture available

Classification is based on the relevant ingredients

polymethylene polyphenyl isocyanate

| Route of exposure | Parameter | Method | Value      | Exposure time | Species | Effect | Organ | Value determination |
|-------------------|-----------|--------|------------|---------------|---------|--------|-------|---------------------|
| Unknown           |           |        | category 2 |               |         |        |       | Literature study    |

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reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

| Route of exposure | Parameter | Method | Value | Exposure time | Species | Effect | Organ | Value determination |
|-------------------|-----------|--------|-------|---------------|---------|--------|-------|---------------------|
| Inhalation        |           |        |       |               |         |        |       | Data waiving        |
| Dermal            |           |        |       |               |         |        |       | Data waiving        |
| Oral              |           |        |       |               |         |        |       | Data waiving        |

## Conclusion

Suspected of causing cancer.

## Reproductive toxicity

### Soudafoam FR Gun

No (test) data on the mixture available

Judgement is based on the relevant ingredients

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

|                        | Parameter | Method   | Value           | Exposure time | Species           | Effect         | Organ                     | Value determination |
|------------------------|-----------|----------|-----------------|---------------|-------------------|----------------|---------------------------|---------------------|
| Developmental toxicity | LOAEL     | OECD 416 | 99 mg/kg bw/day |               | Rat (female)      | Embryotoxicity |                           | Experimental value  |
| Effects on fertility   | LOAEL     | OECD 416 | 99 mg/kg bw/day |               | Rat (male/female) | Weight changes | Female reproductive organ | Experimental value  |

### triethyl phosphate

|                        | Parameter | Method   | Value            | Exposure time           | Species           | Effect    | Organ  | Value determination             |
|------------------------|-----------|----------|------------------|-------------------------|-------------------|-----------|--------|---------------------------------|
| Developmental toxicity | NOAEL     | OECD 414 | 625 mg/kg bw/day | 10 day(s)               | Rat               | No effect | Foetus | Experimental value              |
| Maternal toxicity      | NOAEL     | OECD 414 | 125 mg/kg bw/day | 10 day(s)               | Rat               | No effect |        | Experimental value              |
| Effects on fertility   | NOEL      |          | 335 mg/kg bw/day | 120 day(s) - 150 day(s) | Rat (male/female) | No effect |        | Inconclusive, insufficient data |

## Conclusion

Not classified for reprotoxic or developmental toxicity

## Toxicity other effects

### Soudafoam FR Gun

No (test) data on the mixture available

## Chronic effects from short and long-term exposure

### Soudafoam FR Gun

Feeling of weakness. Itching. Skin rash/inflammation. May stain the skin. Dry skin. Coughing. Possible inflammation of the respiratory tract. Respiratory difficulties.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Soudafoam FR Gun

No (test) data on the mixture available

Judgement of the mixture is based on the relevant ingredients

polymethylene polyphenyl isocyanate

|  | Parameter | Method   | Value       | Duration | Species          | Test design | Fresh/salt water | Value determination |
|--|-----------|----------|-------------|----------|------------------|-------------|------------------|---------------------|
| Acute toxicity other aquatic organisms | LC50      |          | > 1000 mg/l | 96 h     |                  |             |                  | Literature study    |
| Toxicity aquatic micro-organisms       | EC50      | OECD 209 | > 100 mg/l  |          | Activated sludge |             |                  | Literature study    |

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reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

|   | Parameter | Method   | Value     | Duration  | Species                         | Test design        | Fresh/salt water | Value determination                  |
|---|-----------|----------|-----------|-----------|---------------------------------|--------------------|------------------|--------------------------------------|
| Acute toxicity fishes                   | LC50      | Other    | 56.2 mg/l | 96 h      | Brachydanio rerio               | Static system      | Fresh water      | Experimental value; GLP              |
| Acute toxicity crustacea                | LC50      |          | 131 mg/l  | 48 h      | Daphnia magna                   | Static system      | Fresh water      | Experimental value; Locomotor effect |
| Toxicity algae and other aquatic plants | ErC50     | OECD 201 | 82 mg/l   | 72 h      | Pseudokirchneriella subcapitata | Static system      | Fresh water      | Experimental value; GLP              |
| Long-term toxicity fish                 |           |          |           |           |                                 |                    |                  | Data waiving                         |
| Long-term toxicity aquatic crustacea    | NOEC      | OECD 202 | 32 mg/l   | 21 day(s) | Daphnia magna                   | Semi-static system | Fresh water      | Experimental value; GLP              |
| Toxicity aquatic micro-organisms        | EC50      | ISO 8192 | 784 mg/l  | 3 h       | Activated sludge                | Static system      | Fresh water      | Experimental value; GLP              |

triethyl phosphate

|   | Parameter | Method                 | Value      | Duration  | Species                 | Test design   | Fresh/salt water | Value determination                       |
|---|-----------|------------------------|------------|-----------|-------------------------|---------------|------------------|---|
| Acute toxicity fishes                   | LC50      | Equivalent to OECD 203 | > 100 mg/l | 96 h      | Danio rerio             |               | Fresh water      | Experimental value; Nominal concentration |
| Acute toxicity crustacea                | EC50      | OECD 202               | 2705 mg/l  | 24 h      | Daphnia magna           |               | Fresh water      | Experimental value; Nominal concentration |
| Toxicity algae and other aquatic plants | EC50      | Other                  | 901 mg/l   | 72 h      | Scenedesmus subspicatus | Static system | Fresh water      | Experimental value; Nominal concentration |
| Long-term toxicity aquatic crustacea    | NOEC      | Equivalent to OECD 211 | 31.6 mg/l  | 21 day(s) | Daphnia magna           |               | Fresh water      | Experimental value; Reproduction          |

## Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

## 12.2. Persistence and degradability

polymethylene polyphenyl isocyanate

**Biodegradation water**

| Method  | Value  | Duration | Value determination |
|---|--------|----------|---------------------|
| OECD 302C: Inherent Biodegradability: Modified MITI Test (II) | < 60 % |          | Experimental value  |

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

**Biodegradation water**

| Method                                  | Value     | Duration  | Value determination |
|---|-----------|-----------|---------------------|
| OECD 301E: Modified OECD Screening Test | 14 %; GLP | 28 day(s) | Experimental value  |

**Phototransformation air (DT50 air)**

| Method       | Value | Conc. OH-radicals       | Value determination |
|--------------|-------|-------------------------|---------------------|
| AOPWIN v1.92 | 8.6 h | 500000 /cm <sup>3</sup> | Calculated value    |

**Biodegradation soil**

| Method | Value | Duration | Value determination |
|--------|-------|----------|---------------------|
|        |       |          | Data waiving        |

**Half-life water (t1/2 water)**

| Method        | Value       | Primary degradation/mineralisation | Value determination |
|---------------|-------------|------------------------------------|---------------------|
| EU Method C.7 | > 1 year(s) | Primary degradation                | Experimental value  |

triethyl phosphate

**Biodegradation water**

| Method   | Value | Duration  | Value determination |
|--|-------|-----------|---------------------|
| OECD 301C: Modified MITI Test (I)                            | 0 %   | 28 day(s) | Experimental value  |
| OECD 302B: Inherent Biodegradability: Zahn-Wellens/EMPA Test | 97 %  | 28 day(s) | Experimental value  |

## Conclusion

Contains non readily biodegradable component(s)

## 12.3. Bioaccumulative potential

Soudafoam FR Gun

**Log Kow**

| Method | Remark | Value | Temperature | Value determination |
|--------|--------|-------|-------------|---------------------|
|        |        |       |             |                     |

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|  |                          |  |  |  |
|--|--------------------------|--|--|--|
|  | Not applicable (mixture) |  |  |  |
|--|--------------------------|--|--|--|

polymethylene polyphenyl isocyanate

## BCF fishes

| Parameter | Method | Value | Duration | Species | Value determination |
|-----------|--------|-------|----------|---------|---------------------|
| BCF       |        | 1     |          | Pisces  | Literature study    |

## Log Kow

| Method | Remark            | Value | Temperature | Value determination |
|--------|-------------------|-------|-------------|---------------------|
|        | No data available |       |             |                     |

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

## BCF fishes

| Parameter | Method   | Value           | Duration  | Species         | Value determination |
|-----------|----------|-----------------|-----------|-----------------|---------------------|
| BCF       | OECD 305 | 0.8 - 14; Fresh | 6 week(s) | Cyprinus carpio | Experimental value  |

## Log Kow

| Method        | Remark | Value | Temperature | Value determination |
|---------------|--------|-------|-------------|---------------------|
| EU Method A.8 |        | 2.68  | 30 °C       | Experimental value  |

triethyl phosphate

## BCF fishes

| Parameter | Method   | Value                   | Duration  | Species         | Value determination |
|-----------|----------|-------------------------|-----------|-----------------|---------------------|
| BCF       | OECD 305 | 0.5 - 1.3; Fresh weight | 6 week(s) | Cyprinus carpio | Experimental value  |

## Log Kow

| Method        | Remark | Value | Temperature | Value determination |
|---------------|--------|-------|-------------|---------------------|
| EU Method A.8 |        | 1.11  |             | Experimental value  |

## Conclusion

Does not contain bioaccumulative component(s)

## 12.4. Mobility in soil

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

### (log) Koc

| Parameter | Method         | Value | Value determination |
|-----------|----------------|-------|---------------------|
| log Koc   | EU Method C.19 | 2.76  | Experimental value  |

### Percent distribution

| Method         | Fraction air | Fraction biota | Fraction sediment | Fraction soil | Fraction water | Value determination |
|----------------|--------------|----------------|-------------------|---------------|----------------|---------------------|
| Mackay level I | 0.01 %       | 0 %            | 3.55 %            | 3.52 %        | 92.89 %        | Read-across         |

triethyl phosphate

### (log) Koc

| Parameter | Method            | Value | Value determination |
|-----------|-------------------|-------|---------------------|
| log Koc   | SRC PCKOCWIN v2.0 | 1.642 | QSAR                |

## Conclusion

Contains component(s) with potential for mobility in the soil

## 12.5. Results of PBT and vPvB assessment

Due to insufficient data no statement can be made whether the component(s) fulfil(s) the criteria of PBT and vPvB according to Annex XIII of Regulation (EC) No 1907/2006.

## 12.6. Other adverse effects

Soudafoam FR Gun

### Fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Contains component(s) included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

### Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

## SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 13.1. Waste treatment methods

#### 13.1.1 Provisions relating to waste

##### European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

08 05 01\* (wastes not otherwise specified in 08: waste isocyanates).

16 05 04\* (gases in pressure containers and discarded chemicals: gases in pressure containers (including halons) containing hazardous substances).

Depending on branch of industry and production process, also other waste codes may be applicable.

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## 13.1.2 Disposal methods

Recycle/reuse. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Specific treatment. Do not discharge into drains or the environment.

## 13.1.3 Packaging/Container

### European Union

Waste material code packaging (Directive 2008/98/EC).

15 01 10\* (packaging containing residues of or contaminated by dangerous substances).

## SECTION 14: Transport information

### Road (ADR)

#### 14.1. UN number

|           |      |
|-----------|------|
| UN number | 1950 |
|-----------|------|

#### 14.2. UN proper shipping name

|                      |          |
|----------------------|----------|
| Proper shipping name | Aerosols |
|----------------------|----------|

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

|                              |    |
|------------------------------|----|
| Hazard identification number |    |
| Class                        | 2  |
| Classification code          | 5F |

#### 14.4. Packing group

|               |     |
|---------------|-----|
| Packing group |     |
| Labels        | 2.1 |

#### 14.5. Environmental hazards

|  |    |
|--|----|
| Environmentally hazardous substance mark | no |
|--|----|

#### 14.6. Special precautions for user

|                    |  |
|--------------------|--|
| Special provisions | 190  |
| Special provisions | 327  |
| Special provisions | 344  |
| Special provisions | 625  |
| Limited quantities | Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass) |

### Rail (RID)

#### 14.1. UN number

|           |      |
|-----------|------|
| UN number | 1950 |
|-----------|------|

#### 14.2. UN proper shipping name

|                      |          |
|----------------------|----------|
| Proper shipping name | Aerosols |
|----------------------|----------|

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

|                              |    |
|------------------------------|----|
| Hazard identification number | 23 |
| Class                        | 2  |
| Classification code          | 5F |

#### 14.4. Packing group

|               |     |
|---------------|-----|
| Packing group |     |
| Labels        | 2.1 |

#### 14.5. Environmental hazards

|  |    |
|--|----|
| Environmentally hazardous substance mark | no |
|--|----|

#### 14.6. Special precautions for user

|                    |  |
|--------------------|--|
| Special provisions | 190  |
| Special provisions | 327  |
| Special provisions | 344  |
| Special provisions | 625  |
| Limited quantities | Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass) |

### Inland waterways (ADN)

#### 14.1. UN number

|           |      |
|-----------|------|
| UN number | 1950 |
|-----------|------|

#### 14.2. UN proper shipping name

|                      |          |
|----------------------|----------|
| Proper shipping name | Aerosols |
|----------------------|----------|

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

|                     |    |
|---------------------|----|
| Class               | 2  |
| Classification code | 5F |

#### 14.4. Packing group

|               |     |
|---------------|-----|
| Packing group |     |
| Labels        | 2.1 |

#### 14.5. Environmental hazards

|  |    |
|--|----|
| Environmentally hazardous substance mark | no |
|--|----|

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## 14.6. Special precautions for user

|                    |  |
|--------------------|--|
| Special provisions | 190  |
| Special provisions | 327  |
| Special provisions | 344  |
| Special provisions | 625  |
| Limited quantities | Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass) |

## Sea (IMDG/IMSBC)

### 14.1. UN number

|           |      |
|-----------|------|
| UN number | 1950 |
|-----------|------|

### 14.2. UN proper shipping name

|                      |          |
|----------------------|----------|
| Proper shipping name | Aerosols |
|----------------------|----------|

### 14.3. Transport hazard class(es)

|       |     |
|-------|-----|
| Class | 2.1 |
|-------|-----|

### 14.4. Packing group

|               |     |
|---------------|-----|
| Packing group |     |
| Labels        | 2.1 |

### 14.5. Environmental hazards

|  |    |
|--|----|
| Marine pollutant                         | -  |
| Environmentally hazardous substance mark | no |

### 14.6. Special precautions for user

|                    |  |
|--------------------|--|
| Special provisions | 63   |
| Special provisions | 190  |
| Special provisions | 277  |
| Special provisions | 327  |
| Special provisions | 344  |
| Special provisions | 381  |
| Special provisions | 959  |
| Limited quantities | Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass) |

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

|                          |                |
|--------------------------|----------------|
| Annex II of MARPOL 73/78 | Not applicable |
|--------------------------|----------------|

## Air (ICAO-TI/IATA-DGR)

### 14.1. UN number

|           |      |
|-----------|------|
| UN number | 1950 |
|-----------|------|

### 14.2. UN proper shipping name

|                      |                     |
|----------------------|---------------------|
| Proper shipping name | Aerosols, flammable |
|----------------------|---------------------|

### 14.3. Transport hazard class(es)

|       |     |
|-------|-----|
| Class | 2.1 |
|-------|-----|

### 14.4. Packing group

|               |     |
|---------------|-----|
| Packing group |     |
| Labels        | 2.1 |

### 14.5. Environmental hazards

|  |    |
|--|----|
| Environmentally hazardous substance mark | no |
|--|----|

### 14.6. Special precautions for user

|  |         |
|--|---------|
| Special provisions                                     | A145    |
| Special provisions                                     | A167    |
| Special provisions                                     | A802    |
| Limited quantities: maximum net quantity per packaging | 30 kg G |

## SECTION 15: Regulatory information

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

#### European legislation:

VOC content Directive 2010/75/EU

| VOC content            | Remark |
|------------------------|--------|
| 16.84 % - 18.13 %      |        |
| 185.2 g/l - 199.43 g/l |        |

#### REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

|  | Designation of the substance, of the group of substances or of the mixture  | Conditions of restriction   |
|--|---|---|
| polymethylene polyphenyl isocyanate<br>· reaction mass of tris(2-chloropropyl)<br>phosphate and tris(2-chloro-1-methylethyl) | Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the | 1. Shall not be used in:<br>— ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, |

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|   |  |  |
|---|--|--|
| <p>phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester<br/>triethyl phosphate</p> | <p>criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:<br/>(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;<br/>(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;<br/>(c) hazard class 4.1;<br/>(d) hazard class 5.1.</p> | <p>— tricks and jokes,<br/>— games for one or more participants, or any article intended to be used as such, even with ornamental aspects,<br/>2. Articles not complying with paragraph 1 shall not be placed on the market.<br/>3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:<br/>— can be used as fuel in decorative oil lamps for supply to the general public, and,<br/>— present an aspiration hazard and are labelled with R65 or H304,<br/>4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).<br/>5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:<br/>a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: “Keep lamps filled with this liquid out of the reach of children”; and, by 1 December 2010, “Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life-threatening lung damage”;<br/>b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: “Just a sip of grill lighter may lead to life threatening lung damage”;<br/>c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.<br/>6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.<br/>7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.’</p> |
| <p>polymethylene polyphenyl isocyanate</p>  | <p>Methylenediphenyl diisocyanate (MDI) including the following specific isomers: 4,4'-Methylenediphenyl diisocyanate; 2,4'-Methylenediphenyl diisocyanate; 2,2'-Methylenediphenyl diisocyanate</p>  | <p>1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0,1 % by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging:<br/>(a) contains protective gloves which comply with the requirements of Council Directive 89/686/EEC;<br/>(b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures:<br/>“— Persons already sensitised to diisocyanates may develop allergic reactions when using this product.<br/>— Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.<br/>— This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.<br/>2. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives.</p>  |

## National legislation Belgium

Soudafoam FR Gun  
No data available

## National legislation The Netherlands

Soudafoam FR Gun  
Waterbevaarlijkheid Z (2)

## National legislation France

Soudafoam FR Gun  
No data available

polymethylene polyphenyl isocyanate  
Catégorie cancérogène 4,4'-Diisocyanate de diphénylméthane; C2

## National legislation Germany

Soudafoam FR Gun  
WGK 1; Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)

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Product number: 51384

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# Soudafoam FR Gun

## polymethylene polyphenyl isocyanate

|                                       |  |
|---------------------------------------|--|
| TA-Luft                               | 5.2.5; I   |
| TRGS900 - Risiko der Fruchtschädigung | 4,4'-Methyldiphenyldiisocyanat; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden<br>pMDI (als MDI berechnet); Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden |
| Sensibilisierende Stoffe              | 4,4'-Methyldiphenyldiisocyanat; Sa; Atemwegssensibilisierende Stoffe Und Hautsensibilisierende Stoffe, an beiden Zielorganen Allergien auslösende<br>pMDI (als MDI berechnet); Sa; Atemwegssensibilisierende Stoffe  |
| TRGS905 - Krebserzeugend              | Techn. ("Polymeres") MDI (pMDI) (in Form atembarer Aerosole, A-Fraktion); 2  |
| TRGS905 - Erbgutverändernd            | Techn. ("Polymeres") MDI (pMDI) (in Form atembarer Aerosole, A-Fraktion); -  |
| TRGS905 - Fruchtbarkeitsgefährdend    | Techn. ("Polymeres") MDI (pMDI) (in Form atembarer Aerosole, A-Fraktion); -  |
| TRGS905 - Fruchtschädigend            | Techn. ("Polymeres") MDI (pMDI) (in Form atembarer Aerosole, A-Fraktion); -  |
| Hautresorptive Stoffe                 | 4,4'-Methyldiphenyldiisocyanat; H; Hautresorptiv<br>pMDI (als MDI berechnet); H; Hautresorptiv   |

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

|                    |       |
|--------------------|-------|
| TA-Luft            | 5.2.5 |
| triethyl phosphate |       |
| TA-Luft            | 5.2.5 |

### National legislation United Kingdom

#### Soudafoam FR Gun

No data available

#### polymethylene polyphenyl isocyanate

|                           |  |
|---------------------------|--|
| Skin Sensitisation        | isocyanates, all (as -NCO) Except methyl isocyanate; Sen |
| Respiratory sensitisation | isocyanates, all (as -NCO) Except methyl isocyanate; Sen |

### Other relevant data

#### Soudafoam FR Gun

No data available

#### polymethylene polyphenyl isocyanate

|                       |  |
|-----------------------|--|
| IARC - classification | 3; Polymethylene polyphenyl isocyanate |
|-----------------------|--|

## 15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

#### triethyl phosphate

A chemical safety assessment has been performed.

## SECTION 16: Other information

### Full text of any H-statements referred to under heading 3:

- H220 Extremely flammable gas.
- H222 Extremely flammable aerosol.
- H229 Pressurised container: May burst if heated.
- H280 Contains gas under pressure; may explode if heated.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

|              |  |
|--------------|--|
| (*)          | INTERNAL CLASSIFICATION BY BIG   |
| CLP (EU-GHS) | Classification, labelling and packaging (Globally Harmonised System in Europe) |
| DMEL         | Derived Minimal Effect Level   |
| DNEL         | Derived No Effect Level  |
| EC50         | Effect Concentration 50 %  |
| ErC50        | EC50 in terms of reduction of growth rate                                      |
| LC50         | Lethal Concentration 50 %  |
| LD50         | Lethal Dose 50 %   |
| NOAEL        | No Observed Adverse Effect Level   |
| NOEC         | No Observed Effect Concentration   |
| OECD         | Organisation for Economic Co-operation and Development                         |
| PBT          | Persistent, Bioaccumulative & Toxic  |
| PNEC         | Predicted No Effect Concentration  |
| STP          | Sludge Treatment Process   |

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# Soudafoam FR Gun

vPvB very Persistent & very Bioaccumulative

## Specific concentration limits CLP

|                                     |           |                   |                       |
|-------------------------------------|-----------|-------------------|-----------------------|
| polymethylene polyphenyl isocyanate | C ≥ 5 %   | Eye Irrit 2;H319  | analogous to Annex VI |
|                                     | C ≥ 5 %   | Skin Irrit 2;H315 | analogous to Annex VI |
|                                     | C ≥ 0.1 % | Resp Sens 1;H334  | analogous to Annex VI |
|                                     | C ≥ 5 %   | STOT SE 3;H335    | analogous to Annex VI |

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet has been elaborated for use within the European Union, Switzerland, Iceland, Norway and Lichtenstein. It may be consulted in other countries, where local legislation with regards to the set-up of safety data sheets will take precedence. It is your obligation to verify and apply such local legislation. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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