

## SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830

## **Genius Gun Insulation Foam**

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

#### 1.1. Product identifier

Product name Registration number REACH Product type REACH

- : Genius Gun Insulation Foam : Not applicable (mixture)
- : 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

SOUDAL N.V. Everdongenlaan 18-20 B-2300 Turnhout **2** +32 14 42 42 31 +32 14 42 65 14 msds@soudal.com

#### Manufacturer of the product

SOUDAL N.V. Everdongenlaan 18-20 B-2300 Turnhout T +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):

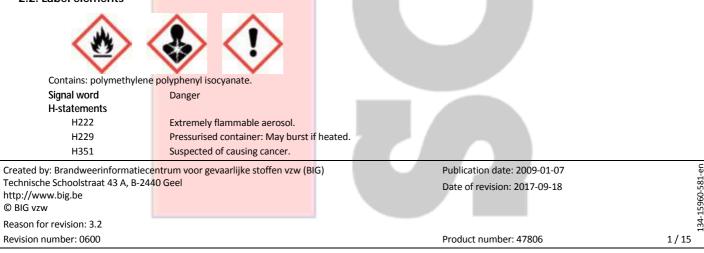
+32 14 58 45 45 (BIG)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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.	categ <mark>ory 1</mark>	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.					
Skin Sens.	categ <mark>ory 1</mark>	H317: May cause an allergic skin reaction.					
Acute Tox.	categ <mark>ory 4</mark>	H332: Harmful if inhaled.					
STOT RE	categ <mark>ory 2</mark>	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.					
Skin Irrit.	categ <mark>ory 2</mark>	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



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.
P362 + P364	Take off contaminated clothing and wash it before reuse.
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 informati	o <mark>n and an </mark>
	- 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

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

#### 3.2. Mixtures

		CAS No EC No		Conc. (C)	Classification according to CLP	Note	Remark
propane 01-2119486944-21		74-98-6 200-827-9		1% <c<10%< th=""><th>Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280</th><th>(1)(2)(10)</th><th>Propellant</th></c<10%<>	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
isobutane 01-2119485395-27		75-28-5 200-857-2		1% <c<20%< td=""><td>Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280</td><td>(1)(2)(10)</td><td>Propellant</td></c<20%<>	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
dimethyl ether 01-2119472128-37		115-10-6 204-065-8		1% <c<10%< td=""><td>Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280</td><td>(1)(2)(10)</td><td>Propellant</td></c<10%<>	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
reaction mass of tris(2-chloropr tris(2-chloro-1-methylethyl) pho phosphoric acid, bis(2-chloro-1- chloropropyl ester and phospho methylethyl bis(2-chloropropyl) 01-2119486772-26	osphate and methylethyl) 2- pric acid, 2-chloro-1-			1% <c<25%< td=""><td>Acute Tox. 4; H302</td><td>(1)(10)</td><td>Constituent</td></c<25%<>	Acute Tox. 4; H302	(1)(10)	Constituent
polymethylene polyphenyl isoc	yanate	9016-87-9			Carc. 2; H351 Resp. Sens. 1; H334 Skin Sens. 1; H317 Acute Tox. 4; H332 STOT RE 2; H373 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	(1)(2)(8)(10)(18)	Constituent
1,3-butadiene, conc<0.1%)							

(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

Reason for revision: 3.2

## 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 eve 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: Not applicable.

- 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 (phosphorus oxides, nitrous vapours, hydrogen chloride, carbon monoxide - carbon dioxide). Pressurised container: May burst if heated. May polymerize on exposure to temperature rise. On heating: release of toxic/combustible gases/vapours (hydrogen cyanide).

#### 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: persistant 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 Reason for revision: 3.2 Publication date: 2009-01-07 Date of revision: 2017-09-18

Revision number: 0600

Product number: 47806

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

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

Allow product to solidify and remove it by mechanical means. 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, (strong) acids, (strong) bases, amines.
- 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.

Dimethylether     Time-weighted average exposure limit & h (Indicative occupational exposure limit value)     1920 mg/m³       Belgium     Ime-weighted average exposure limit & h (Indicative occupational exposure limit value)     1920 mg/m³       Belgium     Ime-weighted average exposure limit & h     0.005 ppm       4,4 <sup>4</sup> -Diisocyanate de diphénylméthane (MDI)     Time-weighted average exposure limit & h     0.005 ppm       C4)     Oxyde de diméthyle     Time-weighted average exposure limit & h     1000 ppm       C4)     Oxyde de diméthyle     Time-weighted average exposure limit & h     1000 ppm       Dimethylether     Time-weighted average exposure limit & h     1000 ppm       The Netherlands     Time-weighted average exposure limit & h     1000 ppm       Dimethylether     Time-weighted average exposure limit & h     1000 ppm       France     Time-weighted average exposure limit & h (Public occupational exposure limit value)     783 ppm       Short time value (Public occupational exposure limit & h (VL: Valeur non réglementaire indicative)     0.1 mg/m³       Oxyde de diméthyle     Time-weighted average exposure limit & h (VL: Valeur non réglementaire indicative)     0.2 mg/m³       Bort time value (VL: Valeur non réglementaire indicative)     0.2 mg/m³     1000 ppm       Time-weighted average exposure limit & h (VR: Valeur non réglementaire indicative)     0.2 mg/m³     1000 ppm       Grade     Time-weighted average exposur	EU			
Belgium       4,4*-Diisocyanate de diphénylméthane (MDI)       Time-weighted average exposure limit 8 h       0.005 ppm         Hydrocarbures aliphatiques sous forme gazeuse : (Alcanes C1)       Time-weighted average exposure limit 8 h       0.005 ppm         C(4)       Time-weighted average exposure limit 8 h       1000 ppm         Oxyde de diméthyle       Time-weighted average exposure limit 8 h       1000 ppm         The Netherlands       Time-weighted average exposure limit 8 h       1920 mg/m³         Dimethylether       Time-weighted average exposure limit 8 h       1920 mg/m³         France       Time-weighted average exposure limit 8 h       950 mg/m³         France       Time-weighted average exposure limit 8 h       0.01 ppm         Af-Diisocyanate de diphénylméthane       Time-weighted average exposure limit 8 h       0.01 ppm         France       Time-weighted average exposure limit 8 h       0.01 ppm         Af-Diisocyanate de diphénylméthane       Time-weighted average exposure limit 8 h       0.01 ppm         réglementaire indicative)       0.01 ppm       2 mg/m³         Short time value (VL: Valeur non réglementaire indicative)       0.21 ppm       2 mg/m³         Short time value (VL: Valeur non réglementaire indicative)       0.22 ppm       3 hort time value (VL: Valeur non réglementaire indicative)       0.22 mg/m³         Oxyde de diméthyl	Dimethylether			1000 ppm
4.4*Disocyanate de diphénylméthane (MDI)       Time-weighted average exposure limit 8 h       0.005 ppm         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         The Netherlands       Time-weighted average exposure limit 8 h       1920 mg/m³         Dimethylether       Time-weighted average exposure limit 8 h       1920 mg/m³         The Netherlands       Time-weighted average exposure limit 8 h       1920 mg/m³         Dimethylether       Time-weighted average exposure limit 8 h       1920 mg/m³         Short time value (Public occupational exposure limit value)       350 mg/m³       496 ppm         Short time value (Public occupational exposure limit value)       783 ppm       55 hort time value (Public occupational exposure limit value)       1500 mg/m³         France       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.01 ppm         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VR: Valeur non réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.2 mg/m³				1920 mg/m³
Time-weighted average exposure limit 8 h       0.052 mg/m³         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         The Netherlands       Time-weighted average exposure limit 8 h       1920 mg/m³         Dimethylether       Time-weighted average exposure limit 8 h (Public occupational exposure limit value)       496 ppm         Short time value (Public occupational exposure limit 8 h (Public occupational exposure limit value)       950 mg/m³         France       Time-weighted average exposure limit 8 h (Public occupational exposure limit value)       783 ppm         Short time value (Public occupational 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/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.1 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VR: Valeur réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VR: Valeur réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VR: Valeur réglementaire indicative)       1920 mg/m³	Belgium			1
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         The Netherlands       Time-weighted average exposure limit 8 h       1920 mg/m³         Dimethylether       Time-weighted average exposure limit 8 h       1920 mg/m³         France       Time-weighted average exposure limit 8 h       1500 mg/m³         France       Time-weighted average exposure limit 8 h       1500 mg/m³         4,4'-Diisocyanate de diphénylméthane       Time-weighted average exposure limit 8 h       0.01 ppm         réglementaire indicative)       Short time value (Public occupational exposure limit 8 h       0.01 ppm         Oxyde de diméthyle       Time-weighted average exposure limit 8 h       0.01 ppm         for revision: 3.2       Publication date: 2009-01-07       1920 mg/m³	4,4'-Diisocyanate de dip	hénylméthane (MDI)	Time-weighted average exposure limit 8 h	0.005 ppm
C4)     C4       Oxyde de diméthyle     Time-weighted average exposure limit 8 h     1000 ppm       Time-weighted average exposure limit 8 h     1920 mg/m³       The Netherlands     Time-weighted average exposure limit 8 h (Public occupational exposure limit value)     496 ppm       Dimethylether     Time-weighted average exposure limit 8 h (Public occupational exposure limit value)     950 mg/m³       France     Short time value (Public occupational exposure limit value)     783 ppm       Short time value (Public occupational exposure limit value)     1500 mg/m³       France     Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)     0.01 ppm       France     Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)     0.01 ppm       Oxyde de diméthyle     Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)     0.2 mg/m³       Oxyde de diméthyle     Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)     0.2 mg/m³       Oxyde de diméthyle     Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)     0.2 mg/m³       For revision: 3.2     Publication date: 2009-01-07			Time-weighted average exposure limit 8 h	0.052 mg/m <sup>3</sup>
Time-weighted average exposure limit 8 h       1920 mg/m³         The Netherlands       Time-weighted average exposure limit 8 h (Public occupational exposure limit value)       496 ppm         Dimethylether       Time-weighted average exposure limit 8 h (Public occupational exposure limit value)       950 mg/m³         Short time value (Public occupational exposure limit value)       783 ppm         Short time value (Public occupational exposure limit value)       1500 mg/m³         Year       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.01 ppm         A,4'-Diisocyanate de diphénylméthane       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.01 ppm         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.22 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.22 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.22 mg/m³         Orrevision: 3.2       Publication date: 2009-01-07       1920 mg/m³		ues sous forme gazeuse : (Alcanes C1-	Time-weighted average exposure limit 8 h	1000 ppm
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)       783 ppm         Short time value (Public occupational exposure limit value)       783 ppm         Short time value (Public occupational exposure limit value)       1500 mg/m³         France       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.01 ppm         4,4'-Diisocyanate de diphénylméthane       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.1 mg/m³         Short time value (VL: Valeur non réglementaire indicative)       0.2 ppm       0.1 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.2 mg/m³         Or revision: 3.2       Publication date: 2009-01-07	Oxyde de diméthyle		Time-weighted average exposure limit 8 h	1000 ppm
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/m³         Short time value (Public occupational exposure limit value)       783 ppm         Short time value (Public occupational exposure limit value)       783 ppm         France       Ime-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.01 ppm         4,4'-Diisocyanate de diphénylméthane       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.1 mg/m³         6       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.2 ppm         Short time value (VL: Valeur non réglementaire indicative)       0.2 ppm         Short time value (VL: Valeur non réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         or revision: 3.2       Publication date: 2009-01-07       1920 mg/m³			Time-weighted average exposure limit 8 h	1920 mg/m³
exposure limit value)       Time-weighted average exposure limit 8 h (Public occupational exposure limit value)       950 mg/m³         France       Short time value (Public occupational exposure limit value)       1500 mg/m³         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/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire)       0.2 mg/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.2 mg/m³         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/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³	The Netherlands			
exposure limit value)     783 ppm       Short time value (Public occupational exposure limit value)     783 ppm       Short time value (Public occupational exposure limit value)     1500 mg/m³   France	Dimethylether			496 ppm
Short time value (Public occupational exposure limit value)       1500 mg/m³         France <ul> <li>4,4'-Diisocyanate de diphénylméthane</li> <li>Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)</li> <li>D.1 mg/m³</li> <li>réglementaire indicative)</li> <li>Short time value (VL: Valeur non réglementaire indicative)</li> <li>D.2 mg/m³</li> </ul> O.1 mg/m³ <ul> <li>réglementaire indicative)</li> <li>Short time value (VL: Valeur non réglementaire indicative)</li> <li>D.2 mg/m³</li> </ul> O.2 ppm <ul> <li>Short time value (VL: Valeur non réglementaire indicative)</li> <li>D.2 mg/m³</li> <li>Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)</li> <li>D.2 mg/m³</li> <li>Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)</li> <li>D.2 mg/m³</li> <li>Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)</li> <li>D.2 mg/m³</li> <li>Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)</li> <li>D00 ppm             <ul> <li>rindicative)</li> <li>Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative indicative)</li> <li>Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative indicative)</li> <li>Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative indicative)</li> </ul> </li> </ul>				950 mg/m³
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/m³          Short time value (VL: Valeur non réglementaire indicative)          0.02 ppm          Short time value (VL: Valeur non réglementaire indicative)           0.2 mg/m³          Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)          1000 ppm          Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)           1000 ppm          Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)          120 mg/m³          Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)          1920 mg/m³          Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)          1920 mg/m³          Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire ind			Short time value (Public occupational exposure limit value)	783 ppm
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/m³         Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.1 mg/m³         Short time value (VL: Valeur non réglementaire indicative)       0.02 ppm         Short time value (VL: Valeur non réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.2 mg/m³         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/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³			Short time value (Public occupational exposure limit value)	1500 mg/m³
réglementaire indicative)       Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)       0.1 mg/m³         Short time value (VL: Valeur non réglementaire indicative)       0.02 ppm         Short time value (VL: Valeur non réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1000 ppm         indicative)       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)       1920 mg/m³         or revision: 3.2       Publication date: 2009-01-07       1920 mg/m³	France			
or revision: 3.2     réglementaire indicative)     0.02 ppm       Short time value (VL: Valeur non réglementaire indicative)     0.2 mg/m³       Oxyde de diméthyle     Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)     0.2 mg/m³       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/m³	4,4'-Diisocyanate de diph	iénylméthane		0.01 ppm
Short time value (VL: Valeur non réglementaire indicative)       0.2 mg/m³         Oxyde de diméthyle       Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)         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/m³         Tor revision: 3.2       Publication date: 2009-01-07				0.1 mg/m³
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/m³         or revision: 3.2       Publication date: 2009-01-07			Short time value (VL: Valeur non réglementaire indicative)	0.02 ppm
indicative) Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire 1920 mg/m <sup>3</sup> indicative) For revision: 3.2 Publication date: 2009-01-07			Short time value (VL: Valeur non réglementaire indicative)	0.2 mg/m <sup>3</sup>
indicative)	Oxyde de diméthyle			1000 ppm
				1920 mg/m³
	for rovision: 2.2		Publication date: 2009.01.07	
	101 121151011. 3.2			
number: 0600 Product number: 47806 4 / 1	number: 0600		Product number: 47806	4 / 15

Germany								
4,4'-Methylendiphenyldi <mark>isocyana</mark>	t	Time-weighted aver	age exposure limit 8 h (TRGS 900)		0.05 mg/m³			
Dimethylether			age exposure limit 8 h (TRGS 900)		1000 ppm			
			age exposure limit 8 h (TRGS 900)		1900 mg/m³			
Isobutan		Time-weighted aver	age exposure limit 8 h (TRGS 900)		1000 ppm			
		Time-weighted aver	age exposure limit 8 h (TRGS 900)		2400 mg/m <sup>3</sup> 0.05 mg/m <sup>3</sup>			
pMDI (als MDI berechnet)			Time-weighted average exposure limit 8 h (TRGS 900)					
Propan			Time-weighted average exposure limit 8 h (TRGS 900)					
		Time-weighted avera	age exposure limit 8 h (TRGS 900)		1800 mg/m³			
ИК					-			
Dimethyl ether		Time-weighted avera	age exposure limit 8 h (Workplace	exposure limit	400 ppm			
			age exposure limit 8 h (Workplace	exposure limit	766 mg/m³			
			orkplace exposure limit (EH40/200	5))	500 ppm			
			orkplace exposure limit (EH40/200		958 mg/m <sup>3</sup>			
Isocyanates, all (as -NCO) Except	methyl isocyanate		age exposure limit 8 h (Workplace		0.02 mg/m <sup>3</sup>			
			orkplace exposure limit (EH40/200	5))	0.07 mg/m <sup>3</sup>			
USA (TLV-ACGIH)								
Butane, all isomers		Short time value (TL	V - Adopted Value)		1000 ppm			
Methylene bisphenyl isocyanate	(MDI)		age exposure limit 8 h (TLV - Adopt	ted Value)	0.005 ppm			
b) National biological limit value					1			
If limit values are applicable and		e listed below.						
1.2 Sampling methods		<b>T</b>	Number					
Product name		Test	Number					
Isocyanates		NIOSH	5521					
Isocyanates		NIOSH	5522					
ester and phosphoric acid, 2-chlo Effect level (DNEL/DMEL)	Type	(2-chloropropyl) ester	Value	Remark				
DNEL	Long-term syste	emic effects inhalation	5.82 mg/m <sup>3</sup>					
	Acute systemic	effects inhalation	22.4 mg/m <sup>3</sup>					
	Long-term syste	emic effects dermal	2.08 mg/kg bw/day					
	Acute systemic	effects dermal	8 mg/kg bw/day					
DNEL/DMEL - General populatio								
	ovl) phosphato and t							
ester and phosphoric acid, 2-chlo			osphate and phosphoric acid, bis(2	2-chloro-1-meth	ylethyl) 2-chloro			
Effect I would (DNIEL (DNAEL)	ro-1-methylethyl bis				ylethyl) 2-chloro			
Effect level (DNEL/DMEL)	ro-1-methylethyl bis Type	(2-chloropropyl) ester	Value	2-chloro-1-meth Remark	ylethyl) 2-chloro			
Effect level (DNEL/DMEL) DNEL	ro-1-methylethyl bis Type Long-term syste	(2-chloropropyl) ester emic effects inhalation	Value 1.46 mg/m <sup>3</sup>		ylethyl) 2-chloro			
, , ,	ro-1-methylethyl bis Type Long-term syste Acute systemic	(2-chloropropyl) ester emic effects inhalation effects inhalation	Value 1.46 mg/m³ 11.2 mg/m³		ylethyl) 2-chloro			
, ,	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal	Value 1.46 mg/m³ 11.2 mg/m³ 1.04 mg/kg bw/day		ylethyl) 2-chloro			
, ,	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day		ylethyl) 2-chloro			
DNEL	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal	Value 1.46 mg/m³ 11.2 mg/m³ 1.04 mg/kg bw/day		ylethyl) 2-chloro			
DNEL PNEC	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL PNEC reaction mass of tris(2-chloropro	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day	Remark				
DNEL PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases)	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.51 mg/l	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases) Marine water	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.064 mg/l	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases)	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.51 mg/l 0.064 mg/l 7.84 mg/l	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL  PNEC  reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases) Marine water STP	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.51 mg/l 0.064 mg/l 1.3.4 mg/kg sediment dw	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL  PNEC  reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases) Marine water STP Fresh water sediment	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.51 mg/l 0.064 mg/l 13.4 mg/kg sediment dw 1.34 mg/kg sediment dw	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL  PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases) Marine water STP Fresh water sediment Marine water sediment Soil	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.51 mg/l 0.064 mg/l 1.3.4 mg/kg sediment dw 1.34 mg/kg sediment dw 1.7 mg/kg soil dw	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL  PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases) Marine water STP Fresh water sediment Marine water sediment Soil Oral	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.51 mg/l 0.064 mg/l 13.4 mg/kg sediment dw 1.34 mg/kg sediment dw	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL  PNEC  reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases) Marine water STP Fresh water sediment Marine water sediment Soil	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.51 mg/l 0.064 mg/l 1.3.4 mg/kg sediment dw 1.34 mg/kg sediment dw 1.7 mg/kg soil dw	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL         PNEC         reaction mass of tris(2-chloropro         ester and phosphoric acid, 2-chlor         Compartments         Fresh water         Aqua (intermittent releases)         Marine water         STP         Fresh water sediment         Marine water sediment         Soil         Oral         1.5 Control banding	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.51 mg/l 0.064 mg/l 1.3.4 mg/kg sediment dw 1.34 mg/kg sediment dw 1.7 mg/kg soil dw	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark				
DNEL         PNEC         reaction mass of tris(2-chloropro         ester and phosphoric acid, 2-chloropro         compartments         Fresh water         Aqua (intermittent releases)         Marine water         STP         Fresh water sediment         Marine water sediment         Soil         Oral         1.5 Control banding         If applicable and available it will be         Exposure controls         e information in this section is a get	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis be listed below. eneral description. If	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.64 mg/l 0.64 mg/l 13.4 mg/kg sediment dw 1.34 mg/kg sediment dw 1.7 mg/kg soil dw 11.6 mg/kg food	Value 1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day 4 mg/kg bw/day 0.52 mg/kg bw/day 0.52 mg/kg bw/day	Remark	ylethyl) 2-chloro			
DNEL  PNEC reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Compartments Fresh water Aqua (intermittent releases) Marine water STP Fresh water sediment Marine water sediment Soil Oral I.5 Control banding If applicable and available it will b Exposure controls	ro-1-methylethyl bis Type Long-term syste Acute systemic Long-term syste Acute systemic Long-term syste pyl) phosphate and t ro-1-methylethyl bis be listed below. eneral description. If	(2-chloropropyl) ester emic effects inhalation effects inhalation emic effects dermal effects dermal emic effects oral ris(2-chloro-1-methylethyl) ph (2-chloropropyl) ester Value 0.64 mg/l 0.64 mg/l 0.64 mg/l 13.4 mg/kg sediment dw 1.34 mg/kg sediment dw 1.7 mg/kg soil dw 11.6 mg/kg food	Value  1.46 mg/m <sup>3</sup> 11.2 mg/m <sup>3</sup> 1.04 mg/kg bw/day  4 mg/kg bw/day  0.52 mg/kg bw/day  osphate and phosphoric acid, bis(2  Remark  Remark  I I I I I I I I I I I I I I I I I I	Remark	ylethyl) 2-chloro			

Reason for revision: 3.2

9-01-07 Date of revision: 2017-09-18

Product number: 47806

#### 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 filte <mark>r type A if conc. in</mark>	air > exposure limit.		
b) Hand protection:			
Gloves.			
Materials	Breakthrough time	Thickness	
LDPE (Low Density Poly E <mark>thylene)</mark>	> 10 minutes	0.025 mm	
- materials (good resistance)			
LDPE (Low Density Poly E <mark>thylene).</mark>			
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 No data available Particle size No data available Explosion limits Flammability Extremely flammable aerosol. Log Kow Not applicable (mixture) Dynamic viscosity No data available Kinematic viscosity No data available Melting point No data available No data available Boiling point Flash point No data available Evaporation rate No data available Relative vapour density >1 Vapour pressure No data available Solubility Water ; insoluble Organic solvents ; soluble Relative density 0.92 ; 20 °C No data available Decomposition temperature Auto-ignition temperature No data available Explosive properties No chemical group associated with explosive properties Oxidising properties No chemical group associated with oxidising properties pН No data available

### 9.2. Other information

Absolute density

920 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

May polymerize with many compounds e.g.: (strong) bases and amines. Reacts violently with (some) acids/bases.

## 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

(strong) acids, (strong) bases, amines.

## 10.6. Hazardous decomposition products

Reason for revision: 3.2

Publication date: 2009-01-07 Date of revision: 2017-09-18

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

## **SECTION 11: Toxicological information**

#### 11.1.1 Information on toxicological effects 11.1.1 Test results

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### Acute toxicity

Genius Gun Insulation Foam

No (test)data on the mixture available

Classification 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

Route of exposure	Paramet	ter Method	Value	Exposure time	Species	Value	Remark
						determination	
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	

#### polymethylene polyphenyl isocyanate

Route of exposure	Parameter	Method	Value	Exposure time		Value determination	Remark
Oral	LD50		<mark>&gt; 10000</mark> mg/kg		Rat	Literature study	
Dermal	LD50		<mark>&gt; 5000 m</mark> g/kg		Rabbit	Literature study	
Inhalation (vapours)	LD50		10 mg/l - 20 mg/l	4 h	Rat	Literature study	
Inhalation			category 4			Literature study	

Conclusion

Harmful if inhaled.

Not classified as acute toxic in contact with skin

Not classified as acute toxic if swallowed

#### Corrosion/irritation

Genius Gun Insulation Foam

No (test)data on the mixture available

Classification 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

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irrit <mark>ating</mark>	OECD 405	24 h	7 days	Rabbit	Experimental value	
Skin	Not irritating	OECD 404	4 h	7 days	Rabbit	Experimental value	
olymethylene polyph	enyl isocyanate						
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritatin <mark>g;</mark> category 2					Literature study	
Skin	Irritating; category 2					Literature study	
	Irritating; STOT SE cat.3					Literature study	
Causes skin irritation. Causes serious eye irrit May cause respiratory ratory or skin sensitisa ius Gun Insulation Foa No (test)data on the m Classification is based o	irritation. ation am nixture available	ngredients					
n for revision: 3.2				-	Publication date		
on number: 0600					Date of revision: Product number		7

ester and phosphoric	2-chloropropy			anropy	) ester	if phosphate and p					007.
Route of exposure		Method			re time	Observation tin point	e Species		/alue determin	ation Remark	
Skin	Not sensitizin	-					Mouse (	female) I	xperimental va	alue	
polymethylene polyp Route of exposure		ate Method		Evnocu	re time	Observation tim	e Species		Value determin	ation Domark	
Skin	Sensitizing;	Ivietilou		Exposu	ie time	point	le species		iterature study		
Inhalation	category 1						_				
onclusion	category 1								iterature study.	1	
May cause an allergio May cause allergy or ific target organ toxio nius Gun Insulation Fo lo (test)data on the m	asthma sympt ity <u>pam</u>	oms or breathin	ng difficultie	es if inh	aled.						
Classification is based reaction mass of tris(	l on the r <mark>eleva</mark>	int ingredients	d tris(2-chl	oro-1-n	nethvlethv	() phosphate and r	phosphoric a	cid. bis(2-	chloro-1-methv	(lethyl) 2-chlorop	lvao
ester and phosphoric Route of exposur	acid, 2-c <mark>hlorc</mark>	-1-methylethyl				Effect		ure time	Species	Value	
Oral (diet)	NOAEL	Subchronic toxicity test	171 mg/ bw/day	kg		No effect	13 wee	eks (daily)	Rat (female)	determina Experimer value	
Oral (diet)	LOAEL	Subchronic toxicity test	52 mg/k bw/day	g	Liver	Weight gair	13 wee	eks (daily)	Rat (male)	Experimer value	ntal
Inhalation (vapours)	Dose level		0.586 m	g/l air		No effect			Mouse (male)		ntal
polymethylene polyp											
Route of exposur	e Parameter	Method	Value		Organ	Effect	Exposu	ure time	Species	Value determina	ation
Inhalation			STOT RE	cat.2						Literature	stud
May cause damage to Not classified as sub- Not classified as sub-	chronicall <mark>y to</mark>	tic in contact wit	-	exposu	re if inhale	ed.					
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris(	chronically to chronically to <u>bam</u> mixture availa <u>2-chloropropy</u>	ic in contact wit ic if swallowed ble 1) phosphate an	h skin d tris(2-chl	oro-1-n	nethylethy		hosphoric a	cid, bis(2-i	chloro-1-methy	rlethyl) 2-chloropr	
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric	chronically to chronically to <u>pam</u> mixture availa <u>2-chloropropy</u> acid, 2-chloro	iic in contact wit iic if swallowed ble 1) phosphate an i-1-methylethyl i	h skin d tris(2-chl	oro-1-n opropy	nethylethy I) ester	1) phosphate and p		cid, bis(2-			
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me activation, negati	chronically to chronically to chronically to <u>bam</u> mixture availa <u>2-chloropropy</u> <u>acid, 2-chloro</u> tabolic ve without	ic in contact wit ic if swallowed ble 1) phosphate an	h skin d tris(2-chl	oro-1-n opropy	nethylethy	I) phosphate and prate	phosphoric a	cid, bis(2-	Value	rlethyl) 2-chloropr e determination rimental value	
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me	chronically to chronically to chronically to mixture availa <u>2-chloropropy</u> acid, 2-chloro etabolic ve without ion metabolic ve with	tic in contact wit tic if swallowed ble 1) phosphate an 1-1-methylethyl I Vlethod	h skin d tris(2-chl	oro-1-n opropy	<u>nethylethy</u> I <u>) ester</u> Test subst Rat liver co	I) phosphate and prate		cid, bis(2-	Value Expe	e determination	
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me activation, negati metabolic activat Negative without activation, positiv metabolic activat agenicity (in vivo) nius Gun Insulation Fo No (test)data on the Judgement is based of reaction mass of tris(	chronically to chronically to chronically to mixture availa <u>2-chloropropy</u> acid, 2-chloro tabolic we without ion metabolic we with ion	tic in contact with tic if swallowed ble <u>1) phosphate an</u> <u>-1-methylethyl 1</u> <u>Method</u> DECD 482 DECD 476 ble t ingredients <u>1) phosphate an</u>	d tris(2-chlori bis(2-chlori d tris(2-chlori	oro-1-n opropy	<u>nethylethy</u> I) <u>ester</u> Test subst Rat liver ce Mouse (lyn cells)	1) phosphate and p rate ells mphoma L5178Y	Effect		Value Expe Expe	e determination rimental value rimental value	ropyl
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me activation, negati metabolic activat Negative without Activation, positiv metabolic activat agenicity (in vivo) nius Gun Insulation Fo No (test)data on the Judgement is based of	chronically to chronically to chronically to mixture availa <u>2-chloropropy</u> acid, 2-chloro tabolic we without ion metabolic we with ion	tic in contact with tic if swallowed ble <u>1) phosphate an</u> <u>-1-methylethyl 1</u> Method DECD 482 DECD 476 ble t ingredients <u>1) phosphate an</u> <u>-1-methylethyl 1</u>	d tris(2-chlori bis(2-chlori d tris(2-chlori	oro-1-n opropy	<u>nethylethy</u> I) <u>ester</u> Test subst Rat liver ce Mouse (lyn cells) nethylethy I) <u>ester</u>	1) phosphate and p rate ells mphoma L5178Y	Effect	<u>cid, bis(2-</u>	Value Expe Exper	e determination rimental value rimental value riethyl) 2-chloropr	ropγl
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me activation, negati metabolic activat Negative without activation, positiv metabolic activat agenicity (in vivo) nius Gun Insulation Fo No (test)data on the Judgement is based of reaction mass of tris(	chronically to chronically to chronically to mixture availa <u>2-chloropropy</u> acid, 2-chloro tabolic we without ion metabolic we with ion	tic in contact with tic if swallowed ble <u>1) phosphate an</u> <u>-1-methylethyl 1</u> <u>Method</u> DECD 482 DECD 476 ble t ingredients <u>1) phosphate an</u>	h skin d tris(2-chlo bis(2-chlor bis(2-chlor bis(2-chlor	oro-1-n opropy	<u>nethylethy</u> I) <u>ester</u> Test subst Rat liver ce Mouse (lyn cells)	1) phosphate and p rate ells mphoma L5178Y 1) phosphate and p	Effect	cid, bis(2-	Value Expe Exper	e determination rimental value rimental value	ropyl
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me activation, negatii metabolic activat Negative without activation, positiv metabolic activat agenicity (in vivo) nius Gun Insulation Fo No (test)data on the Judgement is based of reaction mass of tris( ester and phosphoric Result Negative Onclusion	chronically to chronically to chronically to mixture availa <u>2-chloropropy</u> acid, 2-chloro etabolic metabolic metabolic metabolic on <u>pam</u> mixture availa on the relevan <u>2-chloropropy</u> acid, 2-chlorop	ble ble ble ble ble ble ble DECD 476 DECD 476 DECD 476 DECD 476 ble t ingredients ble t ingredients bl	h skin d tris(2-chlo bis(2-chlor bis(2-chlor bis(2-chlor	oro-1-n opropy	<u>nethylethy</u> I) <u>ester</u> Test subst Rat liver ce Mouse (lyn cells) nethylethy	1) phosphate and p rate ells mphoma L5178Y 1) phosphate and p	Effect	cid, bis(2-	Value Expe Exper Exper	e determination rimental value rimental value riethyl) 2-chloropr	ropyl
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me activation, negatii metabolic activat Negative without activation, positiv metabolic activat agenicity (in vivo) nius Gun Insulation Fo No (test)data on the Judgement is based of reaction mass of tris( ester and phosphoric Result Negative	chronically to chronically to chronically to mixture availa <u>2-chloropropy</u> acid, 2-chloro etabolic metabolic metabolic metabolic on <u>pam</u> mixture availa on the relevan <u>2-chloropropy</u> acid, 2-chlorop	ble ble ble ble ble ble ble DECD 476 DECD 476 DECD 476 DECD 476 ble t ingredients ble t ingredients bl	h skin d tris(2-chlo bis(2-chlor bis(2-chlor bis(2-chlor	oro-1-n opropy	<u>nethylethy</u> I) <u>ester</u> Test subst Rat liver ce Mouse (lyn cells) nethylethy	1) phosphate and p rate ells mphoma L5178Y 1) phosphate and p	Effect	cid, bis(2-	Value Expe Exper Exper	e determination rimental value rimental value riethyl) 2-chloropr	ropyl
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation Fo No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me activation, negati metabolic activat Negative without activation, positiv metabolic activat agenicity (in vivo) nius Gun Insulation Fo No (test)data on the Judgement is based of reaction mass of tris( ester and phosphoric Result Negative onclusion Not classified for mut	chronically to chronically to chronically to mixture availa 2-chloropropy acid, 2-chloro etabolic we without ion metabolic we without ion mixture availa on the relevant 2-chloropropy acid, 2-chloroc	tic in contact with the	h skin d tris(2-chlo bis(2-chlor bis(2-chlor bis(2-chlor	oro-1-n opropy	<u>nethylethy</u> I) <u>ester</u> Test subst Rat liver ce Mouse (lyn cells) nethylethy	1) phosphate and p rate ells mphoma L5178Y 1) phosphate and p	Effect	cid, bis(2-	Value Expe Exper Exper	e determination rimental value rimental value riethyl) 2-chloropr	ropyl
Not classified as sub- Not classified as sub- agenicity (in vitro) nius Gun Insulation For No (test)data on the reaction mass of tris( ester and phosphoric Result Negative with me activation, negati metabolic activat Negative without activation, positiv metabolic activat Negative without activation, positiv metabolic activat agenicity (in vivo) nius Gun Insulation For No (test)data on the Judgement is based of reaction mass of tris( ester and phosphoric Result Negative onclusion Not classified for mut nogenicity	chronically to chronically to chronically to mixture availa 2-chloropropy acid, 2-chloro etabolic we without ion metabolic we without ion mixture availa on the relevant 2-chloropropy acid, 2-chloroc	tic in contact with the	h skin d tris(2-chlo bis(2-chlor bis(2-chlor bis(2-chlor	oro-1-n opropy	<u>nethylethy</u> I) <u>ester</u> Test subst Rat liver ce Mouse (lyn cells) nethylethy	1) phosphate and p rate ells mphoma L5178Y 1) phosphate and p	Effect	cid, bis(2-r Org: ) Bon	Value Expendent	e determination rimental value rimental value riethyl) 2-chloropr	ropyl

Classification 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

	Route of	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value		
	exposure							•	determination		
	Inhalation								Data waiving		
	Dermal								Data waiving		
	Oral								Data waiving		
pol	ymethylene po	lyphenyl isocy	vanate								
	Route of	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value		
	exposure								determination		
	Unknown			category 2					Literature study		
Conc	lusion		•	•							

<u>Conclusion</u>

Suspected of causing cancer.

#### Reproductive toxicity

Genius Gun Insulation Foam

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	<mark>99 mg/</mark> kg		Rat (female)	Embryotoxicity		Experimental
			<mark>bw/da</mark> y					value
Effects on fertility	LOAEL	OECD 416	<mark>99 mg/</mark> kg		Rat	Weight changes	Female	Experimental
			bw/day		(male/female)		reproductive	value
							organ	

#### Conclusion

Not classified for reprotoxic or developmental toxicity

#### Toxicity other effects

<u>Genius Gun Insulation Foam</u> No (test)data on the mixture available

#### Chronic effects from short and long-term exposure

Genius Gun Insulation Foam

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

Genius Gun Insulation Foam

No (test)data on the mixture available

Judgement of the mixture 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

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

Reason for revision: 3.2

Publication date: 2009-01-07 Date of revision: 2017-09-18

Acute toxicity other aquatic organisms Toxicity aquatic micro- organisms Not classified as dangerous for th 2.2. Persistence and degra reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Biodegradation water Method OECD 301E: Modified OECD S Phototransformation air (DT50 Method AOPWIN v1.92 Biodegradation soil Method	adability opyl) phosphate oro-1-methylet Screening Test	e and tris(2-ch thyl bis(2-chlor Value	> 100 mg/l the criteria of Re	ıyl) phospha			loro-1-methyle	Literature study
Toxicity aquatic micro- organisms onclusion Not classified as dangerous for th 2.2. Persistence and degra reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Biodegradation water Method OECD 301E: Modified OECD S Phototransformation air (DT50 Method AOPWIN v1.92 Biodegradation soil	he environmen adability opyl) phosphate oro-1-methylet Screening Test	at according to e and tris(2-ch thyl bis(2-chlor Value 14 %; GLP	the criteria of Re	ıyl) phospha	C) No 1272/2008		loro-1-methyle	Literature study
organisms onclusion Not classified as dangerous for th 2.2. Persistence and degra reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Biodegradation water Method OECD 301E: Modified OECD S Phototransformation air (DT50 Method AOPWIN v1.92 Biodegradation soil	he environmen adability opyl) phosphate oro-1-methylet Screening Test	at according to e and tris(2-ch thyl bis(2-chlor Value 14 %; GLP	the criteria of Re	ıyl) phospha	C) No 1272/2008		loro-1-methyle	Literature stud
Not classified as dangerous for th 2.2. Persistence and degra reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor Biodegradation water Method OECD 301E: Modified OECD S Phototransformation air (DT50 Method AOPWIN v1.92 Biodegradation soil	adability opyl) phosphate oro-1-methylet Screening Test	e and tris(2-ch thyl bis(2-chlor Value 14 %; GLP	loro-1-methyleth	ıyl) phospha		acid, bis(2-ch	loro-1-methyle	
OECD 301E: Modified OECD S Phototransformation air (DT50 Method AOPWIN v1.92 Biodegradation soil		14 %; GLP		Dura				thyl) 2-chloroprop
Phototransformation air (DT50 Method AOPWIN v1.92 Biodegradation soil				Dura	tion		/alue determin	ation
Method AOPWIN v1.92 Biodegradation soil	0 air)	Value		28 da	ay(s)	E	Experimental va	lue
AOPWIN v1.92 Biodegradation soil		Value						
Biodegradation soil					. OH-radicals		/alue determin	ation
		8.6 h		5000	100 /cm³	C	Calculated value	
Method								
1		Value		Dura	tion		Value determin	ation
							Data waiving	
Half-life water (t1/2 water) Method		Value		Prim	ary adation/mineralisa		/alue determin	ation
EU Method C.7		> 1 year(s)			ary degradation		Experimental va	lue
polymethylene polyphenyl isocya	anate	_ ; cur(s)			,		r	
Biodegradation water								
Method		Value		Dura	tion	N	/alue determin	ation
OECD 302C: Inherent Biodeg	radability:	< 60 %					Experimental va	
Modified MITI Test (II)								
nius Gun Insulation Foam				۰.				
g Kow Method Re	e <b>mark</b> lot applicable (I		Value		Temperature		Value determ	ination
g Kow Method Re reaction mass of tris(2-chloropro	lot applicable (i opyl) phosphate	mixture) e and tris(2-ch	loro-1-methyleth	nyl) phospha		acid, bis(2-ch		
g Kow Method Re reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor	lot applicable (i opyl) phosphate	mixture) e and tris(2-ch	loro-1-methyleth	nyl) phospha		acid, bis(2-ch		
g Kow Method Re reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor BCF fishes	lot applicable (i opyl) phosphate oro-1-methylet	mixture) e and tris(2-ch thyl bis(2-chlor	loro-1-methyleth ropropyl) ester		te and phosphoric	acid, bis(2-ch	loro-1-methyle	thyl) 2-chloroprop
g Kow Method Re eaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor BCF fishes Parameter Method	lot applicable (i opyl) phosphate oro-1-methylet Vali	mixture) e and tris(2-ch thyl bis(2-chlor ue	loro-1-methyleth opropyl) ester Duration	Spe	te and phosphoric	acid, bis(2-ch	loro-1-methyle	thyl) 2-chloroprop
g Kow Method Re reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chloropro BCF fishes Parameter Method BCF OECD 30	lot applicable (i opyl) phosphate oro-1-methylet Vali	mixture) e and tris(2-ch thyl bis(2-chlor	loro-1-methyleth ropropyl) ester	Spe	te and phosphoric	acid, bis(2-ch	loro-1-methyle	thyl) 2-chloroprop
g Kow Method Re reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chloropro BCF fishes Parameter Method BCF OECD 30 Log Kow	ot applicable (r ppyl) phosphate pro-1-methylet Valu 15 0.8	mixture) e and tris(2-ch thyl bis(2-chlor ue	loro-1-methyleth copropyl) ester Duration 6 week(s)	Spe	te and phosphoric ecies prinus carpio		loro-1-methyle Value c Experir	hyl) 2-chloroprop letermination nental value
g Kow Method Re eaction mass of tris(2-chloropro ester and phosphoric acid, 2-chloropro BCF fishes Parameter Method BCF OECD 30 Log Kow Method	lot applicable (i opyl) phosphate oro-1-methylet Vali	mixture) e and tris(2-ch thyl bis(2-chlor ue	loro-1-methyleth copropyl) ester Duration 6 week(s) Value	Spe	te and phosphoric		loro-1-methyle Value o Experir Value deto	hyl) 2-chloroprop letermination nental value
g Kow Method Re reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chloropro BCF fishes Parameter Method BCF OECD 30 Log Kow Method EU Method A.8	ot applicable (r ppyl) phosphate oro-1-methylet Valu 5 0.8 Remark	mixture) e and tris(2-ch thyl bis(2-chlor ue	loro-1-methyleth copropyl) ester Duration 6 week(s)	Spe	te and phosphoric ecies prinus carpio		loro-1-methyle Value c Experir	hyl) 2-chloroprop letermination nental value
g Kow Method Re reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chloropro BCF fishes Parameter Method BCF OECD 30 Log Kow Method	ot applicable (r ppyl) phosphate oro-1-methylet Valu 5 0.8 Remark	mixture) e and tris(2-ch thyl bis(2-chlor ue	loro-1-methyleth copropyl) ester Duration 6 week(s) Value	Spe	te and phosphoric ecies prinus carpio		loro-1-methyle Value o Experir Value deto	hyl) 2-chloroprop letermination nental value
g Kow Method Re reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor BCF fishes Parameter Method BCF OECD 30 Log Kow Method EU Method A.8 polymethylene polyphenyl isocya	ot applicable (r ppyl) phosphate pro-1-methylet Vali 15 0.8 Remark anate	mixture) e and tris(2-ch thyl bis(2-chlor thyl bis(2-chlor ue - 14; Fresh	loro-1-methyleth copropyl) ester Duration 6 week(s) Value	<u>Spe</u> Сур	te and phosphoric ecies prinus carpio		loro-1-methyle Value o Experir Value deto Experimen	hyl) 2-chloroprop letermination nental value
g Kow Method Re eaction mass of tris(2-chloropro sster and phosphoric acid, 2-chlor BCF fishes Parameter Method BCF OECD 30 Log Kow Method EU Method A.8 polymethylene polyphenyl isocya BCF fishes	ot applicable (r ppyl) phosphate pro-1-methylet Vali 15 0.8 Remark anate	mixture) e and tris(2-ch thyl bis(2-chlor thyl bis(2-chlor ue - 14; Fresh	Duration 6 week(s) Value 2.68	<u>Spe</u> Сур	te and phosphoric ecies prinus carpio Temperature 30 °C ecies		loro-1-methyle Value o Experin Value deto Experimen	etermination nental value rmination tal value
g Kow Method Re Method Re Reaction mass of tris(2-chloropro Seter and phosphoric acid, 2-chlor BCF fishes Parameter Method BCF OECD 30 Log Kow Method EU Method A.8 Solymethylene polyphenyl isocys BCF fishes Parameter Method BCF Method BCF Method BCF Method BCF Method BCF Method BCF Method	ot applicable (r ppyl) phosphate pro-1-methylet Vali 15 0.8 Remark anate	mixture) e and tris(2-ch thyl bis(2-chlor thyl bis(2-chlor ue - 14; Fresh	Duration 6 week(s) Value 2.68	<u>Бре</u> Сур Бре	te and phosphoric ecies prinus carpio Temperature 30 °C ecies		loro-1-methyle Value o Experin Value deto Experimen	etermination nental value rmination tal value
g Kow Method Re reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor BCF fishes Parameter Method BCF OECD 30 Log Kow Method EU Method A.8 polymethylene polyphenyl isocya BCF fishes Parameter Method	ot applicable (r ppyl) phosphate pro-1-methylet Vali 15 0.8 Remark anate	mixture) e and tris(2-ch thyl bis(2-chlor thyl bis(2-chlor ue - 14; Fresh	Duration 6 week(s) Value 2.68	<u>Бре</u> Сур Бре	te and phosphoric ecies prinus carpio Temperature 30 °C ecies	2	loro-1-methyle Value o Experin Experimen Experimen Value o Literato	etermination nental value rmination tal value
g Kow Method Re Method Re Method Re Reaction mass of tris(2-chloropro ester and phosphoric acid, 2-chlor BCF fishes Parameter Method BCF OECD 30 Log Kow Method EU Method A.8 bolymethylene polyphenyl isocya BCF fishes Parameter Method BCF Meth	ot applicable (r ppyl) phosphate pro-1-methylet Valu 55 0.8 Remark anate Valu 1	mixture) e and tris(2-ch thyl bis(2-chlor ue - 14; Fresh ue	Duration 6 week(s) Value 2.68	<u>Бре</u> Сур Бре	te and phosphoric ecies prinus carpio Temperature 30 °C ecies ces	2	loro-1-methyle Value o Experin Experimen Experimen Value o Literato	etermination nental value rmination tal value determination ure 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

g) Koc								
Parameter				Method			Value	Value determination
од Кос				EU Metho	d C.19		2.76	Experimental value
rcent distribution								
/lethod	Fraction a	ir Fraction bio	ota Fraction	FI	raction s	oil Fraction	water Value	e determination
			sedimen	t				
Aackay level I	0.01 %	0 %	3.55 %	3	.52 %	92.89 %	Read	-across
		Parameter og Koc rcent distribution Method Fraction a	Parameter og Koc rcent distribution Method Fraction air Fraction bio	Parameter og Koc rcent distribution Method Fraction air Fraction biota Fraction sedimen	Parameter Method og Koc EU Metho rcent distribution Fraction air Fraction biota Fraction Fraction Fraction Sediment	Parameter     Method       og Koc     EU Method C.19       rcent distribution     Fraction biota       Method     Fraction air       Fraction biota     Fraction sediment	Parameter Method og Koc EU Method C.19 rcent distribution Method Fraction air Fraction biota Fraction sediment Fraction soil Fraction	Parameter     Method     Value       og Koc     EU Method C.19     2.76       rcent distribution     Fraction air     Fraction biota     Fraction soil     Fraction water     Value       Method     Fraction air     Fraction biota     Fraction soil     Fraction water     Value

#### **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

Genius Gun Insulation Foam

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

None of the known components is 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.

#### 13.1.2 Disposal methods

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 na	ame		-
Proper shipping name		Aerosols	
14.3. Transport hazard class	s(es)		-
Hazard identification nu	umber		
Class		2	
Classification code		SF	
14.4. Packing group			-
Packing group			1
Labels		2.1	7
14.5. Environmental hazard	is		_
Environmentally hazard	lous substance mark	no	7
14.6. Special precautions fo	r user		-
Special provisions		190	]
Special provisions		327	1
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)	
son for revision: 3.2		Publication date: 2009-01-07	
		Date of revision: 2017-09-18	
rision number: 0600		Product number: 47806	11/15

Iiquids. A packag         A1. UN number         UN number         2. UN proper shipping name         Proper shipping name         A2. UN proper shipping name         A2. UN proper shipping name         A2. UN proper shipping name         A2. Or proper shipping name         A2. UN proper shipping name         A2. Classification code         A3. Transport hazard class(es)         Classification code         A5. Environmental hazards         Environmental hazards         Special provisions         ClMDG/IMSBC)         4.1. UN number         UN number         UN number         Stransport hazard class(es)         Class         2.1. UN proper shipping name         Proper shipping name         Proper shipping name         Proper shipping name         Packing group         Labels<	
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Hazard identification number       23         Class       2         Classification code       SF         4.4. Packing group	
Class       2         Classification code       5F         4. Packing group	
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Packing group Labels 4.5. Environmental hazards Environmental hazards Environmental hazards Special provisions 190 Special provisions 195 Special provisions 190 Special provisions 195	
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Special provisions       344         Special provisions       625         Limited quantities       Combination pacification pacificatiprovisions         Si	
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4. 2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2         Class       2         Classification code       SF         4.4. Packing group       Packing group         Labels       2.1         4.5. Environmental hazards       Point in the packing substance mark         6. Special provisions       190         Special provisions       327         Special provisions       324         Special provisions       625         Limited quantities       Combination pactiguids. A packag         (IMDG/IMSBC)       4.1. UN number         4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         Proper shipping name       2.1         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       2.1         Packing group       2.1         4.5. Environmental hazards       2.1         VA. Noromental hazards       3.1         Marine pollutant       -         Environmental hazards       327         Special provisions       327         Special provisions<	
Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2         Class       2         Classification code       5F         4.4. Packing group       2.1         Packing group       2.1         Labels       2.1         5. Environmental hazards       100         Special provisions       327         Special provisions       327         Special provisions       327         Special provisions       327         Special provisions       625         Limited quantities       Combination pace liquids. A packag         (IMDG/IMSBC)       190         4.1. UN number       1950         JUN number       1950         JUN number       1950         VUN proper shipping name       Aerosols         Proper shipping name       Aerosols         A.3. Transport hazard class(es)       2.1         Class       2.1         4.5. Environmental hazards       2.1         Marine pollutant       -         Environmental hazards       -         Marine pollutant       -         Environmental hazards       2.1         4.5. Special provisions       63	
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Classification code       SF         4.4. Packing group       Packing group         Packing group       2.1         4.5. Environmental hazards       0         Environmental hyzardous substance mark       no         4.6. Special precations for user       327         Special provisions       327         Special provisions       327         Special provisions       625         Limited quantities       Combination pace         UN number       1950         4.1. UN number       1950         4.2. Unpoper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       2.1         Packing group       2.1         4.4. Packing group       2.1         4.5. Environmental hazards       0         Marine pollutant       -         Environmental hazards       190         Special provisions       63         Special provisions       190         Special provisions       2.77         Special provisions       2.77         Special provisions       2.77         Spe	
4. A. Packing group       Packing group         Packing group       2.1         Labels       2.1         4.5. Environmental hazards       Environmentally hazardous substance mark       no         4.6. Special provisions       190         Special provisions       327         Special provisions       3244         Special provisions       625         Limited quantities       Combination pace         IWN number       1950         4.1. UN number       1950         4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       Packing group         Labels       2.1         4.5. Environmental hazards       5         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special provisions       63         Special provisions       63         Special provisions       327         Special provisions       327         Special provisions       327         Special provisions       53         Special provisions <t< td=""><td></td></t<>	
Packing group       2.1         Labels       2.1         4.5. Environmentally hazardous substance mark       no         6.6. Special provisions       327         Special provisions       625         Limited quantities       Combination pace         Ilimited quantities       Combination pace         UN number       1950         4.1. UN number       1950         4.2. UN proper shipping name       Proper shipping name         Proper shipping name       Aerosols         A.3. Transport hazard class(es)       Class         Class       2.1         4.4. Packing group       2.1         Labels       2.1         4.5. Environmental hazards       Marine pollutant         Environmentally hazardous substance mark       no         4.6. Special provisions       190         Special provisions       190         Special provisions       277         Special provisions       277         Special provisions       327         Special provisions       327	
Labels       2.1         4.5. Environmentall hazards       no         Environmentally hazardous substance mark       no         4.6. Special precautions for user       190         Special provisions       327         Special provisions       327         Special provisions       625         Limited quantities       Combination pace         Imited quantities       Combination pace         UN number       1950         4.1. UN number       1950         4.2. UN proper shipping name       Proper shipping name         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       2.1         Labels       2.1         4.5. Environmental hazards       7         Marine pollutant       -         Environmentall hazards       63         Special provisions       53         Special provisions       327         Special provisions       327 <td< td=""><td></td></td<>	
4.5. Environmental hazards       no         Environmentally hazardous substance mark       no         4.6. Special prevations for user       190         Special provisions       327         Special provisions       324         Special provisions       344         Special provisions       625         Limited quantities       Combination pace         (IMDG/IMSBC)       190         4.1. UN number       1950         4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.5. Environmental hazards       2.1         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special provisions       63         Special provisions       190         Special provisions       327         Special provisions       321         Special provisions       327	
Environmentally hazardous substance mark       no         4.6. Special precautions for user       190         Special provisions       327         Special provisions       327         Special provisions       327         Special provisions       625         Limited quantities       Combination pace liquids. A package         (IMDG/IMSBC)       0         4.1. UN number       1950         4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       2.1         Labels       2.1         4.5. Environmental hazards       0         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special provisions       63         Special provisions       327         Special provisions       344 </td <td></td>	
4.6. Special precautions for user Special provisions Special provisions Special provisions Special provisions Limited quantities Combination pace liquids. A packag (IMDG/IMSBC) 4.1. UN number UN number UN number UN number 1950 4.2. UN proper shipping name Proper shipping name Proper shipping name Proper shipping name Aerosols 4.3. Transport hazard class(es) Class 4.4. Packing group Labels 4.5. Environmental hazards Marine pollutant Environmentall hazards Marine pollutant 6.5 Special provisions Special provisions	
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Special provisions       327         Special provisions       344         Special provisions       625         Limited quantities       Combination pace liquids. A package         (IMDG/IMSBC)       1950         4.1. UN number       1950         VIN number       1950         4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       2.1         Packing group       2.1         Labels       2.1         4.5. Environmental hazards       -         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special provisions       63         Special provisions       327         Special provisions <td></td>	
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Special provisions       344         Special provisions       625         Limited quantities       Combination pace liquids. A package         (IMDG/IMSBC)       1         4.1. UN number       1950         4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         2.1       4.3. Transport hazard class(es)         Class       2.1         4.4. Packing group       Labels         Packing group       2.1         4.5. Environmental hazards       Marine pollutant         Environmentally hazardous substance mark       no         4.6. Special provisions       63         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       327         Special provisions       327         Special provisions       381	
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Limited quantities Combination pac liquids. A packag Combination pac Proper shipping name Aerosols A.2. UN proper shipping name Aerosols Class Cla	
4.1. UN number       1950         J.N number       1950         4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       Packing group         Packing group       2.1         4.4. Packing group       2.1         A.5. Environmental hazards       2.1         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       381         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         Limited quantities       Combination pace         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	ackagings: not more than 1 liter per inner packaging fo ge shall not weigh more than 30 kg. (gross mass)
4.1. UN number       1950         J.N number       1950         4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       Packing group         Packing group       2.1         4.4. Packing group       2.1         A.5. Environmental hazards       2.1         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       381         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         Limited quantities       Combination pace         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
UN number19504.2. UN proper shipping nameAerosolsProper shipping nameAerosols4.3. Transport hazard class(es)2.1Class2.1A.4. Packing groupLabelsPacking group2.1Labels2.14.5. Environmental hazards-Marine pollutant-Environmentally hazardous substance markno4.6. Special provisions63Special provisions190Special provisions327Special provisions327Special provisions344Special provisions959Limited quantitiesCombination pacting duids. A packag4.7. Transport in bulk according to Annex II of Marpol and the IBC CodeNot applicable	
4.2. UN proper shipping name       Aerosols         Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       Packing group         Packing group       2.1         Labels       2.1         4.5. Environmental hazards       7         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special provisions       63         Special provisions       63         Special provisions       190         Special provisions       327         Special provisions       327         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         Imited quantities       Combination pace         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Proper shipping name       Aerosols         4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       2.1         Labels       2.1         4.4. Packing group       2.1         Labels       2.1         4.5. Environmental hazards       -         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. 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 pace         Limited quantities       Combination pace         4.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
4.3. Transport hazard class(es)       2.1         Class       2.1         4.4. Packing group       2.1         Labels       2.1         4.5. Environmental hazards       2.1         Marine pollutant       -         Environmental hazardsus       -         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special precautions for user       63         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pactiquids. A package         4.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Class       2.1         4.4. Packing group       Packing group         Labels       2.1         4.5. Environmental hazards       -         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special previsions       63         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         Limited quantities       Combination pace         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
4.4. Packing group         Packing group         Labels       2.1         4.5. Environmental hazards         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special precautions for user       63         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         Limited quantities       Combination pace         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Packing group       2.1         Labels       2.1         4.5. Environmental hazards       -         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special precautions for user       63         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         Limited quantities       Combination pace         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Labels       2.1         4.5. Environmental hazards       -         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special precautions for user       63         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         Limited quantities       Combination pace         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
4.5. Environmental hazards       -         Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special precautions for user       -         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Marine pollutant       -         Environmentally hazardous substance mark       no         4.6. Special precautions for user       -         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pace         Initiation pace       190         A.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Environmentally hazardous substance mark       no         4.6. Special precautions for user       63         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pactiquids. A package         4. 7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
4.6. Special precautions for user         Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pactiquids. A package         4. 7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Special provisions       63         Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pactiquids. A package         4.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Special provisions       190         Special provisions       277         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       381         Special provisions       959         Limited quantities       Combination pactiquids. A package         4.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Special provisions       277         Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pactiquids. A package         4.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Special provisions       327         Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination pactiquids. A packag         4.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Special provisions       344         Special provisions       381         Special provisions       959         Limited quantities       Combination paceer         Iquids. A package       10 f Marpol and the IBC Code         Annex II of MARPOL 73/78       Not applicable	
Special provisions       381         Special provisions       959         Limited quantities       Combination paceer         Iquids. A package       Iquids. A package         4.7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable	
Special provisions       381         Special provisions       959         Limited quantities       Combination paceer         liquids. A package       10 Marpol and the IBC Code         Annex II of MARPOL 73/78       Not applicable	
Special provisions       959         Limited quantities       Combination paceer         liquids. A packag       1         4. 7. Transport in bulk according to Annex II of Marpol and the IBC Code       Not applicable         Annex II of MARPOL 73/78       Not applicable	
Limited quantities Combination pace liquids. A packag 4.7. Transport in bulk according to Annex II of Marpol and the IBC Code Annex II of MARPOL 73/78 Not applicable	
4.7. Transport in bulk according to Annex II of Marpol and the IBC Code Annex II of MARPOL 73/78 Not applicable	ackagings: not more than 1 liter per inner packaging fo
Annex II of MARPOL 73/78 Not applicable	ige shall not weigh more than 30 kg. (gross mass)
or revision: 3.2	Publication date: 2009-01-07
	Date of revision: 2017-09-18

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 s	substance mark	no
14.6. Special precautions for use	۲.	
Special provisions		A145
Special provisions		A167
Special provisions		A802
Limited quantities: maximum	n 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	
< 25.49 %		
< 234.51 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.

and use of certain dang	erous substances, mixtures and articles.	
	Designation of the substance, of the group of	f Conditions of restriction
	substances or of the mixture	
· reaction mass of tris(2-chloropropyl)	Liquid substances or mixtures which are	1. Shall not be used in:
phosphate and tris(2-chloro-1-methylet		<ul> <li>ornamental articles intended to produce light or colour effects by means of different</li> </ul>
phosphate and phosphoric acid, bis(2-	Directive 1999/45/EC or are fulfilling the	phases, for example in ornamental lamps and ashtrays,
chloro-1-methylethyl) 2-chloropropyl e		
	ethyl or categories set out in Annex I to Regulatio	
bis(2-chloropropyl) ester	(EC) No 1272/2008:	ornamental aspects,
· polymethylene polyphenyl isocyanate		2. Articles not complying with paragraph 1 shall not be placed on the market.
	types A and B, 2.9, 2.10, 2.12, 2.13 categorie	
	and 2, 2.14 categories 1 and 2, 2.15 types A	
	F;	<ul> <li>can be used as fuel in decorative oil lamps for supply to the general public, and,</li> </ul>
	(b) hazard classes 3.1 to 3.6, 3.7 adverse	<ul> <li>present an aspiration hazard and are labelled with R65 or H304,</li> </ul>
	effects on sexual function and fertility or on	<ol><li>Decorative oil lamps for supply to the general public shall not be placed on the market</li></ol>
	development, 3.8 effects other than narcoti	unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted
	effects, 3.9 and 3.10;	by the European Committee for Standardisation (CEN).
	(c) hazard class 4.1;	5. Without prejudice to the implementation of other Community provisions relating to the
	(d) hazard class 5.1.	classification, packaging and labelling of dangerous substances and mixtures, suppliers shall
	. ,	ensure, before the placing on the market, that the following requirements are met:
		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";
		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";
		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.
		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.
		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.'
· polymethylene polyphenyl isocyanate		1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in
	including the following specific isomers: 4,4'	
	Methylenediphenyl diisocyanate; 2,4'-	public, unless suppliers shall ensure before the placing on the market that the packaging:
	Methylenediphenyl diisocyanate; 2,2'-	(a) contains protective gloves which comply with the requirements of Council Directive
	Methylenediphenyl diisocyanate	89/686/EEC;
ason for revision: 3.2		Publication date: 2009-01-07
		Date of revision: 2017-09-18
		Date of revision. 2017-03-10
		Date of revision. 2017-05-18
evision number: 0600		Product number: 47806 13 / 15

	Genius Gui	n Insulation Foam
		(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: "— 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. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives.
National legislation Belgium		
<u>Genius Gun Insulation Foam</u> No data available		
National legislation The Netherla	<u>nds</u>	
<u>Genius Gun Insulation Foam</u> Waterbezwaarlijkheid	Z (2)	
National legislation France	<u>+ (-)</u>	
Genius Gun Insulation Foam No data available		
polymethylene polyphen <mark>yl iso</mark>	<u>cyanate</u>	
Catégorie cancérogène	4,4'-Diisocyanate de diphényln	néthane; C2
National legislation Germany		
Genius Gun Insulation Foam WGK		g based on the components in compliance with Verwaltungsvorschrift wassergefährdender
reaction mass of tris(2-chloror	Stoffe (VwVwS) of 27 July 2005	; (Anhang 4) ro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropy
	hloro-1-methylethyl bis(2-chlorog	
TA-Luft polymethylene polyphenyl iso	5.2.5	
TA-Luft	5.2.5; I	
TRGS900 - Risiko der		nat; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes
Fruchtschädigung	-	rtes nicht befürchtet zu werden lisiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des
	biologischen Grenzwertes nich	t befürchtet zu werden
Sensibilisierende Stoffe	4,4'-Methylendiphenyldiisocya Zielorganen Allergien auslösen	nat; Sah; Atemwegssensibilisierende Stoffe Und Hautsensibilisierende Stoffe, an beiden de
		Atemwegssensibilisierende Stoffe
TRGS905 - Krebserzeugend		DI) (in Form atembarer Aerosole, A-Fraktion); 2
TRGS905 - Erbgutverandern TRGS905 -		DI) (in Form atembarer Aerosole, A-Fraktion); - DI) (in Form atembarer Aerosole, A-Fraktion); -
Fruchtbarkeitsgefährd <mark>end</mark>		
TRGS905 - Fruchtschädigenc Hautresorptive Stoffe	I Techn. ("Polymeres") MDI (pM 4,4'-Methylendiphenyldiisocya	DI) (in Form atembarer Aerosole, A-Fraktion); -
nutresorptive stone	pMDI (als MDI berechnet); H; H	
National legislation United Kingd	<u>om</u>	
<u>Genius Gun Insulation Foam</u>		
No data available polymethylene polyphenyl iso	cuanate	
Skin Sensitisation	Isocyanates, all (as -NCO) Exce	ept methyl isocyanate; Sen
Respiratory sensitisation	Isocyanates, all (as -NCO) Exce	pt methyl isocyanate; Sen
Other relevant data		
Genius Gun Insulation Foam No data available		
polymethylene polyphenyl iso	cyanate	
IARC - classification	3; Polymethylene polyphenyl i	socyanate
15.2. Chemical safety assessment No chemical safety assessment	<b>nent</b> t has been conducted for the mix	rture.
SECTION 16: Other infor	mation	
Full text of any H-statements refe		
H220 Extremely flammable g		
H222 Extremely flammable a H229 Pressurised container:		
H280 Contains gas under pre	-	
H302 Harmful if swallowed.		
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	Genius Gun Insulation Foam						
H315 Causes ski H317 May cause	n irritat <mark>ion.</mark> e an allergic skin reaction.						
H319 Causes set	rious ey <mark>e irritation.</mark>						
H332 Harmful if	inhaled.						
	e allergy <mark>or asthma symptoms or breathing diff</mark> iculties if inhaled.						
•	H335 May cause respiratory irritation.						
H351 Suspected of causing cancer.							
H373 May cause	e damag <mark>e to organs through prolonged or rep</mark> eated exposure if inhaled.						
(*)							
(*) CLD (ELL CLLS)	INTERNAL CLASSIFICATION BY BIG						
CLP (EU-GHS) DMEL	Classification, labelling and packaging (Globally Harmonised System in Europe) 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						
vPvB	very Persistent & very Bioaccumulative						
Specific concentration	on limits CLP						

polymethylene polypher	nyl 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 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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