



Mungo Befestigungstechnik AG  
4603 Olten

Date printed 04.06.2014, Revision 07.01.2014

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## SECTION 1: Identification of the substance / preparation and of the company

### 1.1 Product identifier

**MPU-P 50/B1 Fire Rated Gun Foam**

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

#### 1.2.1 Relevant uses

For filling, fixing and insulating gaps and cavities.

#### 1.2.2 Uses advised against

None known.

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

<b>Company</b>	Mungo Befestigungstechnik AG Bornfeldstrasse 2 4603 Olten / SWITZERLAND Phone + 41 62 2067575 Fax + 41 62 2067585 Homepage <a href="http://www.mungo.ch">www.mungo.ch</a> E-mail <a href="mailto:mungo@mungo.ch">mungo@mungo.ch</a>
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#### Address enquiries to

<b>Technical information</b>	<a href="mailto:mungo@mungo.ch">mungo@mungo.ch</a>
<b>Safety Data Sheet</b>	<a href="mailto:sdb@chemiebuero.de">sdb@chemiebuero.de</a>

### 1.4 Emergency phone

<b>Company</b>	+ 41 62 2067575 Mo-Fr 8:00 - 16:00
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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Aerosol 1: H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated.  
Carc. 2: H351 Suspected of causing cancer.  
Skin Sens. 1: H317 May cause an allergic skin reaction.  
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Eye Irrit. 2: H319 Causes serious eye irritation.  
Skin Irrit. 2: H315 Causes skin irritation.  
STOT SE 3: H335 May cause respiratory irritation.  
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure through inhalation.  
Aquatic Chronic 4: H413 May cause long lasting harmful effects to aquatic life.  
Lact.: H362 May cause harm to breast-fed children.

#### 2.1.2 Classification according to Regulation 67/548/EEC or 1999/45/EC

F+, Extremely flammable - R 12: Extremely flammable.  
Xn, Harmful - R 20/22: Harmful by inhalation and if swallowed.  
Xi, Irritant - R 36/37/38: Irritating to eyes, respiratory system and skin.  
Xn, carcinogen category 3 - R 40: Limited evidence of a carcinogenic effect.  
Sensitizing - R 42/43: May cause sensitisation by inhalation and skin contact.  
Xn, Harmful - R 48/20: Harmful - danger of serious damage to health by prolonged exposure through inhalation.  
R 53: May cause long-term adverse effects in the aquatic environment.  
R 64: May cause harm to breastfed babies.



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## 2.2 Label elements

### Labelling according to Regulation (EC) 1272/2008

#### Hazard pictograms



#### Signal word

DANGER

#### Contains:

Diphenylmethanediisocyanate, isomeres and homologues

#### Hazard statements

H222 Extremely flammable aerosol.  
H229 Pressurised container: May burst if heated.  
H351 Suspected of causing cancer.  
H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H319 Causes serious eye irritation.  
H315 Causes skin irritation.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure through inhalation.  
H413 May cause long lasting harmful effects to aquatic life.  
H362 May cause harm to breast-fed children.

#### Precautionary statements

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.  
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.  
P260 Do not breathe vapours.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/eye protection/face protection.  
P284 In case of inadequate ventilation wear respiratory protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P311 IF exposed or concerned: Call a POISON CENTER/ doctor/...  
P405 Store locked up.  
P501 Dispose of contents/container to in accordance with local/regional/national/international regulation.  
P102 Keep out of reach of children.

#### Special labelling

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.  
EUH204 Contains isocyanates. May produce an allergic reaction.

## 2.3 Other hazards

#### Physico-chemical hazards

Risk of bursting.

#### Environmental hazards

Does not contain any PBT or vPvB substances.

#### Other hazards

Further hazards were not determined with the current level of knowledge.



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### SECTION 3: Composition / Information on ingredients

#### Product-type:

The product is a mixture.

Range [%]	Substance
10 - <20	Tris(2-chloro-1-methylethyl) phosphate CAS: 13674-84-5, EINECS/ELINCS: 237-158-7, ECB-Nr.: 01-2119486772-26-xxxx GHS/CLP: Acute Tox. 4: H302 EEC: Xn, R 22
1 - <20	Dimethyl ether CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, ECB-Nr.: 01-2119472128-37-XXXX GHS/CLP: Flam. Gas 1: H220 - Press. Gas (*): H280 EEC: F+, R 12
10 - <15	Diphenylmethanediisocyanate, isomeres and homologues CAS: 32055-14-4, EINECS/ELINCS: 500-079-6, ECB-Nr.: 01-2119457024-46-xxxx GHS/CLP: Skin Irrit. 2: H315 - Skin Sens. 1: H317 - Eye Irrit. 2: H319 - Acute Tox. 4: H332 - Resp. Sens. 1: H334 - STOT SE 3: H335 - Carc. 2: H351 - STOT RE 2: H373 EEC: Xn, R 20-42/43-36/37/38-40-48/20
1 - <20	iso-Butane CAS: 75-28-5, EINECS/ELINCS: 200-857-2, EU-INDEX: 601-004-00-0 GHS/CLP: Flam. Gas 1: H220 - Press. Gas (*): H280 EEC: F+, R 12
1 - <10	Alkanes, C14-17, chloro CAS: 85535-85-9, EINECS/ELINCS: 287-477-0, EU-INDEX: 602-095-00-X, ECB-Nr.: 01-2119519269-33-xxxx GHS/CLP: Lact.: H362 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410, M = 100 EEC: N, R 64-66-50/53
1 - <20	Propane CAS: 74-98-6, EINECS/ELINCS: 200-827-9, EU-INDEX: 601-003-00-5 GHS/CLP: Flam. Gas 1: H220 - Press. Gas (*): H280 EEC: F+, R 12

#### Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.  
For full text of H-statements and R-phrases: see SECTION 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information

Remove contaminated soaked clothing immediately and dispose of safely.

##### Inhalation

Remove the victim into fresh air and keep him calm.  
In the event of symptoms seek for medical treatment.

##### Skin contact

In case of contact with skin wash off immediately with soap and water.  
Consult a doctor if skin irritation persists.

##### Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

##### Ingestion

Seek medical advice immediately.

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

Headache  
Vertigo  
Drowsiness  
Allergic reactions

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

Treat symptomatically.



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## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** Carbon dioxide.  
Water spray jet.  
Dry powder.  
Foam.

**Extinguishing media that must not be used** Full water jet.

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

Unknown risk of formation of toxic pyrolysis products.  
Hydrogen chloride (HCl).  
Hydrogen cyanide (HCN).  
Nitrogen oxides (NO<sub>x</sub>).  
Bursting aerosols can be forcibly projected from a fire.

### 5.3 Advice for firefighters

Use self-contained breathing apparatus.  
Do not inhale explosion and/or combustion gases.  
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.  
Cool containers at risk with water spray jet.

## SECTION 6: Accidental release measures

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

Keep away from all sources of ignition.  
Ensure adequate ventilation.  
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

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

Take up mechanically.  
Take up residues with absorbent material (e.g. sand).  
Dispose of absorbed material in accordance with the regulations.

### 6.4 Reference to other sections

See SECTION 8+13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Use only in well-ventilated areas.  
Keep away from all sources of ignition - Refrain from smoking.  
Vapours can form an explosive mixture with air.  
Do not eat, drink, smoke or take drugs at work.  
After worktime and before work breaks the affected skin areas must be thoroughly cleaned.  
Use barrier skin cream.  
Take off contaminated clothing and wash before reuse.

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

Prevent penetration into the ground.  
Do not store together with oxidizing agents.  
Do not store together with food and animal food/diet.  
Keep container in a well-ventilated place.  
Protect from heat/overheating.  
Keep in a cool place, heat causes increase in pressure and risk of bursting.  
Keep under lock and key. Should only be accessible to specialists or people authorized by them.



### 7.3 Specific end use(s)

See product use, SECTION 1.2



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## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

#### Ingredients with occupational exposure limits to be monitored (GB)

Range [%]	Substance
10 - <15	Diphenylmethanediisocyanate, isomeres and homologues
	CAS: 32055-14-4, EINECS/ELINCS: 500-079-6, ECB-Nr.: 01-2119457024-46-xxxx
	Long-term exposure: 0,02 mg/m <sup>3</sup> , as NCO, Sen
	Short-term exposure (15-minute): 0,07 mg/m <sup>3</sup>
1 - <20	Dimethyl ether
	CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, ECB-Nr.: 01-2119472128-37-XXXX
	Long-term exposure: 400 ppm, 766 mg/m <sup>3</sup>
	Short-term exposure (15-minute): 500 ppm, 958 mg/m <sup>3</sup>
1 - <20	iso-Butane
	CAS: 75-28-5, EINECS/ELINCS: 200-857-2, EU-INDEX: 601-004-00-0
	Long-term exposure: 600 ppm, 1450 mg/m <sup>3</sup> , (Butane)
	Short-term exposure (15-minute): 750 ppm, 1810 mg/m <sup>3</sup>

#### Ingredients with occupational exposure limits to be monitored (EU)

Range [%]	Substance / EC LIMIT VALUES
1 - <20	Dimethyl ether
	CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, ECB-Nr.: 01-2119472128-37-XXXX
	Eight hours: 1000 ppm, 1920 mg/m <sup>3</sup>

#### DNEL

Range [%]	Substance
1 - <10	Alkanes, C14-17, chloro, CAS: 85535-85-9
	Industrial, dermal, Long-term - systemic effects: 47.9 mg/kg/d.
	Industrial, inhalative, Long-term - systemic effects: 1,6 mg/m <sup>3</sup> .
	general population, inhalative, Long-term - systemic effects: 2.0 mg/m <sup>3</sup> .
	general population, dermal, Long-term - systemic effects: 28.75 mg/kg/d.
	general population, oral, Long-term - systemic effects: 0.58 mg/kg/d.
10 - <20	Tris(2-chloro-1-methylethyl) phosphate, CAS: 13674-84-5
	Industrial, inhalative, Acute - systemic effects: 22,4 mg/m <sup>3</sup> .
	Industrial, inhalative, Long-term - systemic effects: 5,82 mg/m <sup>3</sup> .
	Industrial, dermal, Acute - systemic effects: 8 mg/kg bw/day.
	Industrial, dermal, Long-term - systemic effects: 2,08 mg/kg bw/day.
10 - <15	Diphenylmethanediisocyanate, isomeres and homologues, CAS: 32055-14-4
	Industrial, inhalative, Acute - local effects: 0,1 mg/m <sup>3</sup> .
	Industrial, dermal, Acute - systemic effects: 50 mg/kg/day.
	Industrial, inhalative, Acute - systemic effects: 0,1 mg/m <sup>3</sup> .
	Industrial, inhalative, Long-term - systemic effects: 0,05 mg/m <sup>3</sup> .
	Industrial, inhalative, Long-term - local effects: 0,05 mg/m <sup>3</sup> .
1 - <20	Dimethyl ether, CAS: 115-10-6
	Industrial, inhalative, Long-term - systemic effects: 1894 mg/m <sup>3</sup> .
	general population, inhalative, Long-term - systemic effects: 471 mg/m <sup>3</sup> .

#### PNEC

Range [%]	Substance
1 - <10	Alkanes, C14-17, chloro, CAS: 85535-85-9
	sediment (seaater), 2,6 mg/kg.
	sediment (freshwater), 13 mg/kg.



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	seawater, 0,2 µg/l.
	freshwater, 1 µg/l.
	soil, 11,9 mg/kg.
10 - <20	Tris(2-chloro-1-methylethyl) phosphate, CAS: 13674-84-5
	sediment (seaater), 1,34 mg/kg dwt.
	soil, 1,7 mg/kg dwt.
	sewage treatment plants (STP), 7,84 mg/l.
	seawater, 0,064 mg/l.
	freshwater, 0,64 mg/l.
	sediment, 13,4 mg/kg dwt.
10 - <15	Diphenylmethanediisocyanate, isomeres and homologues, CAS: 32055-14-4
	seawater, > 0,1 mg/l.
	soil, > 1 mg/kg.
	sewage treatment plants (STP), > 1 mg/l.
	freshwater, > 1 mg/l.
1 - <20	Dimethyl ether, CAS: 115-10-6
	freshwater, 0,155 mg/l.
	sewage treatment plants (STP), 160 mg/l.
	soil, 0,045 mg/kg.
	sediment, 0,681 mg/kg.

## 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation.
<b>Eye protection</b>	Safety glasses.
<b>Hand protection</b>	Butyl rubber, >120 min (EN 374). The details concerned are recommendations. Please contact the glove supplier for further information.
<b>Skin protection</b>	Light protective clothing.
<b>Other</b>	Avoid contact with eyes and skin. Do not inhale vapours. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier.
<b>Respiratory protection</b>	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, combination filter A-P2.
<b>Thermal hazards</b>	none
<b>Delimitation and monitoring of the environmental exposition</b>	See SECTION 6+7.



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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	aerosol
Color	not determined
Odor	characteristic
Odour threshold	not applicable
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	not applicable
Flammability [°C]	yes
Lower explosion limit	not determined
Upper explosion limit	not determined
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	not determined
Bulk density [kg/m <sup>3</sup> ]	not applicable
Solubility in water	reacts with water
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not applicable
Evaporation speed	not applicable
Melting point [°C]	not applicable
Autoignition temperature [°C]	not applicable
Decomposition temperature [°C]	not applicable

### 9.2 Other information

none

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reactions known if used as directed.

### 10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

### 10.3 Possibility of hazardous reactions

Because of the high vapour pressure, containers are liable to burst if temperature rises.  
Formation of explosive gas/air mixtures.

### 10.4 Conditions to avoid

See SECTION 7.2.

### 10.5 Incompatible materials

not determined

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.





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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product
ATE-mix, dermal, Rabbit: > 5000 mg/kg.
ATE-mix, inhalativ (mist), Rat: > 5 mg/l 4h.
ATE-mix, oral, Rat: > 2000 mg/kg.

Range [%]	Substance
1 - <10	Alkanes, C14-17, chloro, CAS: 85535-85-9 LD50, oral, Rat: > 4000 mg/kg (IUCLID).
1 - <20	iso-Butane, CAS: 75-28-5 LC50, inhalative, Rat: 570000 ppm (IUCLID).
10 - <20	Tris(2-chloro-1-methylethyl) phosphate, CAS: 13674-84-5 LD50, oral, Rat: > 500 -2000 mg/kg. LD50, dermal, Rat: > 2000 mg/kg. LC0, inhalative, Rat: > 7 mg/l 4h.
1 - <20	Propane, CAS: 74-98-6 LC50, inhalative, Rat: 658 mg/L (IUCLID).
10 - <15	Diphenylmethanediisocyanate, isomeres and homologues, CAS: 32055-14-4 LD50, inhalative, Rat: 310 mg/m <sup>3</sup> , 4 h OECD 403. LD50, dermal, Rabbit: > 9400 mg/kg OECD 402. LD50, oral, Rat: > 10000 mg/kg OECD 401. NOAEL, inhalative, Rat: 0,2 mg/m <sup>3</sup> . LOAEL, inhalative, Rat: 1 mg/m <sup>3</sup> .

<b>Serious eye damage/irritation</b>	not determined
<b>Skin corrosion/irritation</b>	not determined
<b>Respiratory or skin sensitisation</b>	not determined
<b>Specific target organ toxicity — single exposure</b>	not determined
<b>Specific target organ toxicity — repeated exposure</b>	not determined
<b>Mutagenicity</b>	not determined
<b>Reproduction toxicity</b>	not determined
<b>Carcinogenicity</b>	not determined
<b>General remarks</b>	

The product was classified on the basis of the calculation procedure of the preparation directive.

Toxicological data of complete product are not available.

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.



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## SECTION 12: Ecological information

### 12.1 Toxicity

Product
EC50, (48h), Daphnia magna: > 1000 mg/l.

Range [%]	Substance
1 - <10	Alkanes, C14-17, chloro, CAS: 85535-85-9
	LC50, (96h), fish: > 5000 mg/l (IUCLID).
	EC50, (48h), Daphnia magna: 0,006 mg/l.
10 - <20	Tris(2-chloro-1-methylethyl) phosphate, CAS: 13674-84-5
	LC50, (96h), Pimephales promelas: 51 mg/l.
	EC50, (48h), Daphnia magna: 131 mg/l.
	EC50, (3h), Bacteria: 784 mg/l.
	IC50, (72h), Algae: 82 mg/l.
10 - <15	Diphenylmethanediisocyanate, isomeres and homologues, CAS: 32055-14-4
	LC50, (96h), Danio rerio: > 1000 mg/l OECD 203.
	EC50, (24h), Daphnia magna: > 1000 mg/l OECD 202.
	EC50, (72h), Scenedesmus subspicatus: > 1640 mg/l OECD 201.
	NOEC, (21d), Daphnia magna: > 10 mg/l OECD 202.

### 12.2 Persistence and degradability

<b>Behaviour in environment compartments</b>	not determined
<b>Behaviour in sewage plant</b>	not determined
<b>Biological degradability</b>	not determined

### 12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

### 12.4 Mobility in soil

not determined

### 12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

### 12.6 Other adverse effects

The product contains organically bound halogen in accordance with the formulation.  
The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.  
No classification due to toxicological investigations.



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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

##### Product

-  
Dispose of as hazardous waste.

##### Waste no. (recommended)

160504\* gases in pressure containers (including halons) containing dangerous substances  
080501\*

##### Contaminated packaging

Uncontaminated packaging may be taken for recycling.

##### Waste no. (recommended)

150110\*

### SECTION 14: Transport information

#### 14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

#### 14.2 UN proper shipping name

Transport by land according to ADR/RID UN 1950 AEROSOLS 2.1

- Classification Code

5F

- Label



- ADR LQ

1 I

- ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code) 2 (D)

Inland navigation (ADN)

UN 1950 AEROSOLS 2.1

- Classification Code

5F

- Label



Marine transport in accordance with IMDG UN 1950 Aerosols 2.1 -

- EMS

F-D, S-U

- Label



- IMDG LQ

1 I

Air transport in accordance with IATA UN 1950 Aerosols, flammable 2.1

- Label



#### 14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

#### 14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

#### 14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name



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#### 14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

#### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not determined

### SECTION 15: Regulatory information

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

<b>EEC-REGULATIONS</b>	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
<b>TRANSPORT-REGULATIONS</b>	DOT-Classification, ADR (2013); IMDG-Code (2013, 36. Amdt.); IATA-DGR (2013).
<b>NATIONAL REGULATIONS (GB):</b>	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
<b>- Observe employment restrictions for people</b>	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
<b>- VOC (1999/13/CE)</b>	19 - 21%

#### 15.2 Chemical safety assessment

not applicable

### SECTION 16: Other information

#### 16.1 R-phrases (SECTION 3)

R 12: Extremely flammable.  
R 20: Harmful by inhalation.  
R 42/43: May cause sensitisation by inhalation and skin contact.  
R 36/37/38: Irritating to eyes, respiratory system and skin.  
R 40: Limited evidence of a carcinogenic effect.  
R 48/20: Harmful - danger of serious damage to health by prolonged exposure through inhalation.  
R 22: Harmful if swallowed.  
R 64: May cause harm to breastfed babies.  
R 66: Repeated exposure may cause skin dryness or cracking.  
R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 16.2 Hazard statements (SECTION 3)

H410 Very toxic to aquatic life with long lasting effects.  
H400 Very toxic to aquatic life.  
H362 May cause harm to breast-fed children.  
H302 Harmful if swallowed.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H351 Suspected of causing cancer.  
H335 May cause respiratory irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H332 Harmful if inhaled.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H315 Causes skin irritation.  
H280 Contains gas under pressure; may explode if heated.  
H220 Extremely flammable gas.



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### 16.3 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging  
 DMEL = Derived Minimum Effect Level  
 DNEL = Derived No Effect Level  
 EC50 = Median effective concentration  
 ECB = European Chemicals Bureau  
 EEC = European Economic Community  
 EINECS = European Inventory of Existing Commercial Chemical Substances  
 ELINCS = European List of Notified Chemical Substances  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
 IC50 = Inhibition concentration, 50%  
 IMDG = International Maritime Code for Dangerous Goods  
 IUCLID = International Uniform Chemical Information Database  
 LC50 = Lethal concentration, 50%  
 LD50 = Median lethal dose  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 TLV@TWA = Threshold limit value – time-weighted average  
 TLV@STEL = Threshold limit value – short-time exposure limit  
 VOC = Volatile Organic Compounds  
 vPvB = very Persistent and very Bioaccumulative

### 16.4 Other information

#### Classification procedure

Aerosol 1: H222 Extremely flammable aerosol. (Bridging principle "Aerosols") H229 Pressurised container: May burst if heated. (Bridging principle "Aerosols")  
 Carc. 2: H351 Suspected of causing cancer. (Calculation method)  
 Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)  
 Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Calculation method)  
 Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)  
 Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)  
 STOT SE 3: H335 May cause respiratory irritation. (Calculation method)  
 STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure through inhalation. (Calculation method)  
 Aquatic Chronic 4: H413 May cause long lasting harmful effects to aquatic life. (On basis of test data)  
 Lact.: H362 May cause harm to breast-fed children. (Calculation method)

#### Modified position

none



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