

**SECTION 1: Identification of the substance/mixture and of the company/  
undertaking****1.1 Product identifier**

Trade name: FOMEFLEX LOW EXPANSION GUN

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

No further relevant information available.

Application of the substance / the mixture - One-component polyurethane foam - gun grade

**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

TKK d.o.o.  
Srpenica 1  
5224 Srpenica  
Slovenija

**Further information obtainable from:**

Tel: +386 (0) 5 384 13 00  
Fax: +386 (0) 5 384 13 90/91  
e-mail: info@tkk-group.com

**1.4 Emergency telephone number:** - In case of emergency, consult physician

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

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

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS02 GHS07 GHS08

**Signal word** Danger

**Hazard-determining components of labelling:**

diphenylmethanediisocyanate, isomeres and homologues

**Hazard statements**

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.  
H332 Harmful if inhaled.

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- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H317 May cause an allergic skin reaction.
- H351 Suspected of causing cancer.
- H335 May cause respiratory irritation.
- H373 May cause damage to organs through prolonged or repeated exposure.

#### · **Precautionary statements**

- P102 Keep out of reach of children.
- P201 Obtain special instructions before use.
- 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.
- P260 Do not breathe vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection.
- P284 In case of inadequate ventilation wear respiratory protection (a protective mask with an appropriate gas filter - i.e. type A1 according to standard EN 14387).
- P302+P352 IF ON SKIN: Wash with plenty of water/soap.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- 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+P313 IF exposed or concerned: Get medical advice/attention.
- P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
- P501 Dispose of container to in accordance with local/regional/national/international regulation.

#### · **Additional information:**

- Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used. As from 24 August 2023 adequate training is required before industrial or professional use. EUH204 Contains isocyanates. May produce an allergic reaction.

#### · **2.3 Other hazards**

##### · **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

### · **3.1 Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

#### · **Dangerous components:**

CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335, EUH204 Specific concentration limits: Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 % STOT SE 3; H335: C ≥ 5 %	40-50%
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CAS: 13674-84-5 EINECS: 237-158-7	tris(2-chlorisopropyl)-phosphate ⚠ Acute Tox. 4, H302	5-15%
CAS: 115-10-6 EINECS: 204-065-8 Index number: 603-019-00-8	dimethyl ether ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	1-10%
CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-01-8	isobutane ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	1-10%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5	propane ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	1-5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

#### · 4.1 Description of first aid measures

##### · **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

##### · **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

##### · **After skin contact:**

If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

##### · **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

##### · **After swallowing:** Call for a doctor immediately.

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

No further relevant information available.

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

No further relevant information available.

### SECTION 5: Firefighting measures

#### · 5.1 Extinguishing media

##### · **Suitable extinguishing agents:**

Foam

CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

##### · **For safety reasons unsuitable extinguishing agents:** Water with full jet

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

In case of fire, the following can be released:

Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide (CO)

Hydrogen cyanide (HCN)

#### · 5.3 Advice for firefighters

##### · **Protective equipment:** Mouth respiratory protective device.

##### · **Additional information**

Cool endangered receptacles with water spray.

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Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

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

Keep away from ignition sources.

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

#### · **6.2 Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow product to reach sewage system or any water course.

#### · **6.3 Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to section 13.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Do not flush with water or aqueous cleansing agents

Ensure adequate ventilation.

#### · **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### SECTION 7: Handling and storage

#### · **7.1 Precautions for safe handling**

Ensure that suitable extractors are available on processing machines

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

#### · **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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

##### · **Storage:**

##### · **Requirements to be met by storerooms and receptacles:**

Observe official regulations on storing packagings with pressurised containers.

##### · **Information about storage in one common storage facility:**

Do not store together with acids.

Do not store together with alkalis (caustic solutions).

Store away from oxidising agents.

##### · **Further information about storage conditions:**

Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.

Protect from humidity and water.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

#### · **7.3 Specific end use(s)** No further relevant information available.

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

- Ingredients with limit values that require monitoring at the workplace:

<b>CAS: 115-10-6 dimethyl ether</b>
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IOELV   Long-term value: 1920 mg/m <sup>3</sup> , 1000 ppm
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- Additional information: The lists valid during the making were used as basis.

#### 8.2 Exposure controls

- Appropriate engineering controls No further data; see section 7.

- Individual protection measures, such as personal protective equipment

- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

- Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- Hand protection



Protective gloves

Protective gloves according to EN 374.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye/face protection



Tightly sealed goggles

Wear airtight protective goggles EN 166

- Body protection: Protective work clothing

### SECTION 9: Physical and chemical properties

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

- General Information

- Physical state

Aerosol

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· <b>Colour:</b>	According to product specification
· <b>Odour:</b>	Characteristic
· <b>Odour threshold:</b>	Not determined.
· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Boiling point or initial boiling point and boiling range</b>	Not applicable, as aerosol.
· <b>Flammability</b>	Not applicable.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	3.0 Vol %
· <b>Upper:</b>	18.6 Vol %
· <b>Flash point:</b>	Not applicable, as aerosol.
· <b>Auto-ignition temperature:</b>	199 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>pH</b>	Not determined.
· <b>Viscosity:</b>	
· <b>Kinematic viscosity</b>	Not determined.
· <b>Dynamic:</b>	Not determined.
· <b>Solubility</b>	
· <b>water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
· <b>Vapour pressure:</b>	Not determined.
· <b>Density and/or relative density</b>	
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.

### · 9.2 Other information

· <b>Appearance:</b>	
· <b>Form:</b>	Aerosol
· <b>Important information on protection of health and environment, and on safety.</b>	
· <b>Ignition temperature:</b>	Product is not selfigniting.
· <b>Explosive properties:</b>	Not determined.
· <b>Solvent content:</b>	
· <b>VOC (EC)</b>	19.20 %
· <b>Change in condition</b>	
· <b>Evaporation rate</b>	Not applicable.

### · Information with regard to physical hazard classes

· <b>Explosives</b>	Void
· <b>Flammable gases</b>	Void
· <b>Aerosols</b>	Extremely flammable aerosol. Pressurised container: May burst if heated.
· <b>Oxidising gases</b>	Void
· <b>Gases under pressure</b>	Void
· <b>Flammable liquids</b>	Void
· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void
· <b>Self-heating substances and mixtures</b>	Void

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|--|------|
| · <b>Substances and mixtures, which emit flammable gases in contact with water</b> | Void |
| · <b>Oxidising liquids</b>   | Void |
| · <b>Oxidising solids</b>  | Void |
| · <b>Organic peroxides</b>   | Void |
| · <b>Corrosive to metals</b>   | Void |
| · <b>Desensitised explosives</b>   | Void |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Contact with water releases flammable gases.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
Hydrogen cyanide (prussic acid)  
Carbon monoxide  
Nitrogen oxides (NO<sub>x</sub>)

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**  
Harmful if inhaled.

- **LD/LC50 values relevant for classification:**

**CAS: 115-10-6 dimethyl ether**

Inhalative	LC50/4 h	308 mg/l (rat)
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**CAS: 13674-84-5 tris(2-chlorisopropyl)-phosphate**

Oral	LD50	3,600 mg/kg (rat)
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- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation**  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**  
Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause respiratory irritation.
- **STOT-repeated exposure**  
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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**11.2 Information on other hazards**
**Endocrine disrupting properties**

None of the ingredients is listed.

**SECTION 12: Ecological information**
**12.1 Toxicity**
**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

**12.5 Results of PBT and vPvB assessment** Not applicable.

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

**12.7 Other adverse effects**
**Additional ecological information:**
**General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**SECTION 13: Disposal considerations**
**13.1 Waste treatment methods**
**Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**European waste catalogue**

08 05 01*	waste isocyanates
16 05 04*	gases in pressure containers (including halons) containing hazardous substances
15 01 10*	packaging containing residues of or contaminated by hazardous substances

**Uncleaned packaging:**
**Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**
**14.1 UN number or ID number**
**ADR, IMDG, IATA** 1950

**14.2 UN proper shipping name**
**ADR** 1950 AEROSOLS

**IMDG, IATA** AEROSOLS

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**14.3 Transport hazard class(es)**

- **ADR**
- **Class** 2 5F Gases.
- **Label** 2.1

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**IMDG, IATA**

- **Class** 2.1 Gases.
- **Label** 2.1

**14.4 Packing group**

- **ADR, IMDG, IATA** Void

**14.5 Environmental hazards:**

- **Marine pollutant:** No

**14.6 Special precautions for user** Warning: Gases.

- **EMS Number:** F-D,S-U

**14.7 Maritime transport in bulk according to IMO instruments**
**Transport/Additional information:**

- 
- **ADR**
  - **Limited quantities (LQ)** 1l
  - **UN "Model Regulation":** UN 1950 AEROSOLS, 2.1

### SECTION 15: Regulatory information

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

COMMISSION REGULATION (EU) 2020/878

amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P3a** FLAMMABLE AEROSOLS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 150 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

**REGULATION (EU) 2019/1148**
**Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

**Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

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· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H220 Extremely flammable gas.  
 H280 Contains gas under pressure; may explode if heated.  
 H302 Harmful if swallowed.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H332 Harmful if inhaled.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H335 May cause respiratory irritation.  
 H351 Suspected of causing cancer.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 EUH204 Contains isocyanates. May produce an allergic reaction.

· **Abbreviations and acronyms:**

Flam. Gas 1A: Flammable gases – Category 1A  
 Aerosol 1: Aerosols – Category 1  
 Press. Gas (Comp.): Gases under pressure – Compressed gas  
 Acute Tox. 4: Acute toxicity – Category 4  
 Skin Irrit. 2: Skin corrosion/irritation – Category 2  
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
 Resp. Sens. 1: Respiratory sensitisation – Category 1  
 Skin Sens. 1: Skin sensitisation – Category 1  
 Carc. 2: Carcinogenicity – Category 2  
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- EU -