

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifier:** CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA**Other means of identification:****UFI:** V101-M97U-UJ0H-E3K6**1.2 Relevant identified uses of the substance or mixture and uses advised against:**

Relevant uses: Foam

Uses advised against: All uses not specified in this section or in section 7.3

1.3 Details of the supplier of the safety data sheet:

Lusavouga
Avenida Europa, 375
3800-533 Aveiro - Cacia - Portugal
Phone: +351 234 915 010 - Fax: +351 234 915 015
lusavouga@lusavouga.pt
www.chemitool.com

1.4 Emergency telephone number: CIAV 800 250 250**SECTION 2: HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture:****CLP Regulation (EC) No 1272/2008:**

Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.

Acute Tox. 4: Acute inhalation toxicity, Category 4, H332

Aerosol 1: Pressurised container: May burst if heated., H229

Aerosol 1: Flammable aerosols, Category 1, H222

Carc. 2: Carcinogenicity, Category 2, H351

Eye Irrit. 2: Eye irritation, Category 2, H319

Resp. Sens. 1: Sensitisation, respiratory, Category 1, H334

Skin Irrit. 2: Skin irritation, Category 2, H315

Skin Sens. 1: Sensitisation, skin, Category 1, H317

STOT RE 2: Specific target organ toxicity — Repeated exposure, Hazard Category 2, H373

STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335

2.2 Label elements:**CLP Regulation (EC) No 1272/2008:**

Danger

**Hazard statements:**

Acute Tox. 4: H332 - Harmful if inhaled.

Aerosol 1: H229 - Pressurised container: May burst if heated.

Aerosol 1: H222 - Extremely flammable aerosol.

Carc. 2: H351 - Suspected of causing cancer.

Eye Irrit. 2: H319 - Causes serious eye irritation.

Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Irrit. 2: H315 - Causes skin irritation.

Skin Sens. 1: H317 - May cause an allergic skin reaction.

STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure.

STOT SE 3: H335 - May cause respiratory irritation.

Precautionary statements:

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 2: HAZARDS IDENTIFICATION (continued)

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.
 P260: Do not breathe dust/fume/gas/mist/vapours/spray.
 P280: Wear protective gloves/protective clothing/face protection.
 P284: Wear respiratory protection.
 P302+P352: IF ON SKIN: Wash with plenty of water.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
 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.

Supplementary information:

EUH204: Contains isocyanates. May produce an allergic reaction.

Substances that contribute to the classification

4,4'-methylenediphenyl diisocyanate, isomers and homologues; Tris(1-chloro-2-propyl) Phosphate

Additional Labelling:

As from 24 August 2023 adequate training is required before industrial or professional use.
 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.

UFI: V101-M97U-UJ0H-E3K6

2.3 Other hazards:

Product fails to meet PBT/VPvB criteria
 Endocrine-disrupting properties: The product fails to meet the criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

Non-applicable

3.2 Mixture:

Chemical description: Mixture of substances

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification		Concentration
CAS: 9016-87-9 EC: 618-498-9 Index: Non-applicable REACH: Non-applicable	4,4'-methylenediphenyl diisocyanate, isomers and homologues ¹	ATP ATP01	30 - <45 %
	Regulation 1272/2008	Acute Tox. 4: H332; Carc. 2: H351; Eye Irrit. 2: H319; Resp. Sens. 1: H334; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT RE 2: H373; STOT SE 3: H335 - Danger	
CAS: 13674-84-5 EC: 237-158-7 Index: Non-applicable REACH: 01-2119480419-30-XXXX	Tris(1-chloro-2-propyl) Phosphate ¹	Self-classified	5 - <20 %
	Regulation 1272/2008	Acute Tox. 4: H302+H312+H332 - Warning	
CAS: 75-28-5 EC: 200-857-2 Index: 601-004-00-0 REACH: 01-2119485395-27-XXXX	Isobutane ¹	ATP CLP00	2,5 - <10 %
	Regulation 1272/2008	Flam. Gas 1A: H220; Press. Gas: H280 - Danger	
CAS: 74-98-6 EC: 200-827-9 Index: 601-003-00-5 REACH: 01-2119486944-21-XXXX	Propane ¹	ATP CLP00	2,5 - <10 %
	Regulation 1272/2008	Flam. Gas 1A: H220; Press. Gas: H280 - Danger	

¹ Voluntarily-listed substance failing to meet any of the criteria set out in Regulation (EU) No. 2020/878

- CONTINUED ON NEXT PAGE -


CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

Identification	Chemical name/Classification	Concentration
CAS: 115-10-6 EC: 204-065-8 Index: 603-019-00-8 REACH: 01-2119472128-37-XXXX	dimethyl ether ¹ Regulation 1272/2008 Flam. Gas 1A: H220; Press. Gas: H280 - Danger	ATP CLP00  2,5 - <10 %

¹ Voluntarily-listed substance failing to meet any of the criteria set out in Regulation (EU) No. 2020/878

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

Other information:

Identification	Specific concentration limit
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	% (w/w) >=5: Skin Irrit. 2 - H315 % (w/w) >=5: Eye Irrit. 2 - H319 % (w/w) >=0,1: Resp. Sens. 1 - H334 % (w/w) >=5: STOT SE 3 - H335

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Non-applicable

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media:

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO₂).

Unsuitable extinguishing media:

IT IS RECOMMENDED NOT to use full jet water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 5: FIREFIGHTING MEASURES (continued)

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures:****For non-emergency personnel:**

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

For emergency responders:

See section 8.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling:****A.- General precautions for safe use**

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, handling and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:**A.- Technical measures for storage**

Minimum Temp.: 5 °C

Maximum Temp.: 30 °C

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 7: HANDLING AND STORAGE (continued)

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation):

Directive (EU) 2000/39, Directive 2004/37/EC, Directive (EU) 2006/15, Directive (EU) 2009/161, Directive (EU) 2017/164, Directive (EU) 2019/1831:

Identification		Occupational exposure limits		
dimethyl ether		IOELV (8h)	1000 ppm	1920 mg/m ³
CAS: 115-10-6	EC: 204-065-8	IOELV (STEL)		

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	0,1 mg/m ³	Non-applicable	0,05 mg/m ³
dimethyl ether CAS: 115-10-6 EC: 204-065-8	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	Non-applicable	1894 mg/m ³	Non-applicable

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	0,05 mg/m ³	Non-applicable	0,025 mg/m ³
dimethyl ether CAS: 115-10-6 EC: 204-065-8	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	Non-applicable	471 mg/m ³	Non-applicable

PNEC:

Identification				
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	STP	1 mg/L	Fresh water	1 mg/L
	Soil	1 mg/kg	Marine water	0,1 mg/L
	Intermittent	10 mg/L	Sediment (Fresh water)	Non-applicable
	Oral	Non-applicable	Sediment (Marine water)	Non-applicable
dimethyl ether CAS: 115-10-6 EC: 204-065-8	STP	160 mg/L	Fresh water	0,155 mg/L
	Soil	0,045 mg/kg	Marine water	0,016 mg/L
	Intermittent	1,549 mg/L	Sediment (Fresh water)	0,681 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	0,069 mg/kg

8.2 Exposure controls:

A.- Individual protection measures, such as personal protective equipment

In accordance with the order of importance to control professional exposure (Directive 98/24/EC) it is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding the occupational exposure limits. In case of using personal protective equipment it should have CE marking in accordance with Directive 2016/425/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For additional information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

- CONTINUED ON NEXT PAGE -

CH0600003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA



Printing: 26/01/2023

Date of compilation: 25/01/2023



Version: 1

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

B.- Respiratory protection



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases, vapours and particles		EN 149:2001+A1:2009 EN 405:2002+A1:2010 EN ISO 136:1998	Replace when an increase in resistance to breathing is observed and/or a smell or taste of the contaminant is detected.

C.- Specific protection for the hands





Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves		EN ISO 374-1:2016+A1:2018 EN 16523-1:2015+A1:2018 EN 420:2004+A1:2010	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.


D.- Eye and face protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Face shield		EN 166:2002 EN 167:2002 EN 168:2002 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties		EN 1149-1,2,3 EN 13034:2005+A1:2009 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2013 EN ISO 6530:2005 EN ISO 13688:2013 EN 464:1994	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk, with antistatic and heat resistant properties		EN ISO 13287:2013 EN ISO 20345:2011 EN 13832-1:2019	Replace boots at any sign of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	27 % weight
V.O.C. density at 20 °C:	2 kg/m ³ (2 g/L)
Average carbon number:	Non-applicable
Average molecular weight:	Non-applicable

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C:	Aerosol
Appearance:	Not available
Colour:	 Grey
Odour:	Not available
Odour threshold:	Non-applicable *

Volatility:

Boiling point at atmospheric pressure:	Non-applicable *
Vapour pressure at 20 °C:	499959 Pa
Vapour pressure at 50 °C:	Non-applicable *
Evaporation rate at 20 °C:	Non-applicable *

Product description:

Density at 20 °C:	16 - 22 kg/m ³
Relative density at 20 °C:	Non-applicable *
Dynamic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *
Recipient pressure:	Non-applicable *

Flammability:

Flash Point:	Non-applicable
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	Non-applicable *
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *

Particle characteristics:

Median equivalent diameter:	Non-applicable
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9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
Corrosive to metals:	Non-applicable *
Heat of combustion:	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023 Date of compilation: 25/01/2023 Version: 1

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Aerosols-total percentage (by mass) of flammable components: Non-applicable *

Other safety characteristics:

Surface tension at 20 °C: Non-applicable *

Refraction index: Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

The experimental information related to the toxicological properties of the product itself is not available

Contains glycols. It is recommended not to breathe the vapours for prolonged periods of time due to the possibility of effects that are hazardous to the health .

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation (acute effect):

- Acute toxicity : Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.
- Corrosivity/Irritability: Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Carcinogenicity: Exposure to this product can cause cancer. For more specific information on the possible health effects see section 2.

IARC: 4,4'-methylenediphenyl diisocyanate, isomers and homologues (3)

- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Prolonged exposure can result in specific respiratory hypersensitivity.

- Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

F- Specific target organ toxicity (STOT) - single exposure:

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.

- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification		Acute toxicity	Genus
4,4'-methylenediphenyl diisocyanate, isomers and homologues	LD50 oral	>2000 mg/kg	
CAS: 9016-87-9	LD50 dermal	>2000 mg/kg	
EC: 618-498-9	LC50 inhalation	11 mg/L (ATEi)	
Tris(1-chloro-2-propyl) Phosphate	LD50 oral	632 mg/kg	Rat
CAS: 13674-84-5	LD50 dermal	2000 mg/kg	Rabbit
EC: 237-158-7	LC50 inhalation	11 mg/L (4 h)	Rat
Isobutane	LD50 oral	>2000 mg/kg	
CAS: 75-28-5	LD50 dermal	>2000 mg/kg	
EC: 200-857-2	LC50 inhalation	>5 mg/L	
Propane	LD50 oral	>2000 mg/kg	
CAS: 74-98-6	LD50 dermal	>2000 mg/kg	
EC: 200-827-9	LC50 inhalation	>5 mg/L	
dimethyl ether	LD50 oral	>2000 mg/kg	
CAS: 115-10-6	LD50 dermal	>2000 mg/kg	
EC: 204-065-8	LC50 inhalation	308,5 mg/L (4 h)	Rat

Acute Toxicity Estimate (ATE mix):

	ATE mix	Ingredient(s) of unknown toxicity
Oral	3326,32 mg/kg (Calculation method)	0 %
Dermal	10526,32 mg/kg (Calculation method)	0 %
Inhalation	17,46 mg/L (4 h) (Calculation method)	0 %

11.2 Information on other hazards:

Endocrine disrupting properties

Endocrine-disrupting properties: The product fails to meet the criteria.

Other information

Non-applicable

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

Contains phosphates. Excessive discharge may cause eutrophication.

12.1 Toxicity:

Acute toxicity:

Identification	Concentration	Species	Genus
Tris(1-chloro-2-propyl) Phosphate CAS: 13674-84-5 EC: 237-158-7	LC50 56,2 mg/L (96 h)	Brachydanio rerio	Fish
	EC50 131 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 45 mg/L (72 h)	Scenedesmus subspicatus	Algae

12.2 Persistence and degradability:

Identification	Degradability	Biodegradability
Tris(1-chloro-2-propyl) Phosphate CAS: 13674-84-5 EC: 237-158-7	BOD5 Non-applicable	Concentration 100 mg/L
	COD Non-applicable	Period 28 days
	BOD5/COD Non-applicable	% Biodegradable 0 %

12.3 Bioaccumulative potential:

Identification	Bioaccumulation potential
Tris(1-chloro-2-propyl) Phosphate CAS: 13674-84-5 EC: 237-158-7	BCF 5 Pow Log 2.59 Potential Low
Isobutane CAS: 75-28-5 EC: 200-857-2	BCF 27 Pow Log 2.76 Potential Low
Propane CAS: 74-98-6 EC: 200-827-9	BCF 13 Pow Log 2.86 Potential Low

12.4 Mobility in soil:

Identification	Absorption/desorption	Volatility
Isobutane CAS: 75-28-5 EC: 200-857-2	Koc 35 Conclusion Very High Surface tension 9,84E-3 N/m (25 °C)	Henry 120576,75 Pa·m ³ /mol Dry soil Yes Moist soil Yes
Propane CAS: 74-98-6 EC: 200-827-9	Koc 460 Conclusion Moderate Surface tension 7,02E-3 N/m (25 °C)	Henry 71636,78 Pa·m ³ /mol Dry soil Yes Moist soil Yes

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023 Date of compilation: 25/01/2023 Version: 1

SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Absorption/desorption			Volatility
dimethyl ether	Koc	Non-applicable	Henry	Non-applicable
CAS: 115-10-6	Conclusion	Non-applicable	Dry soil	Non-applicable
EC: 204-065-8	Surface tension	1,136E-2 N/m (25 °C)	Moist soil	Non-applicable

12.5 Results of PBT and vPvB assessment:

Product fails to meet PBT/vPvB criteria

12.6 Endocrine disrupting properties:

Endocrine-disrupting properties: The product fails to meet the criteria.

12.7 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
16 05 04*	gases in pressure containers (including halons) containing hazardous substances	Dangerous

Type of waste (Regulation (EU) No 1357/2014):

HP3 Flammable, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP6 Acute Toxicity, HP7 Carcinogenic, HP13 Sensitising, HP4 Irritant — skin irritation and eye damage

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2021 and RID 2021:

- 14.1 UN number or ID number:** Non-applicable
- 14.2 UN proper shipping name:** Non-applicable
- 14.3 Transport hazard class(es):** Non-applicable
- Labels:** Non-applicable
- 14.4 Packing group:** Non-applicable
- 14.5 Environmental hazards:** No
- 14.6 Special precautions for user**
- Special regulations: Non-applicable
- Tunnel restriction code: Non-applicable
- Physico-Chemical properties: see section 9
- Limited quantities: Non-applicable
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

Transport of dangerous goods by sea:

With regard to IMDG 39-18:

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023 Date of compilation: 25/01/2023 Version: 1

SECTION 14: TRANSPORT INFORMATION (continued)

- 14.1 UN number or ID number:** Non-applicable
- 14.2 UN proper shipping name:** Non-applicable
- 14.3 Transport hazard class(es):** Non-applicable
Labels: Non-applicable
- 14.4 Packing group:** Non-applicable
- 14.5 Marine pollutant:** No
- 14.6 Special precautions for user**
Special regulations: Non-applicable
EmS Codes:
Physico-Chemical properties: see section 9
Limited quantities: Non-applicable
Segregation group: Non-applicable
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

Transport of dangerous goods by air:

With regard to IATA/ICAO 2022:

- 14.1 UN number or ID number:** Non-applicable
- 14.2 UN proper shipping name:** Non-applicable
- 14.3 Transport hazard class(es):** Non-applicable
Labels: Non-applicable
- 14.4 Packing group:** Non-applicable
- 14.5 Environmental hazards:** No
- 14.6 Special precautions for user**
Physico-Chemical properties: see section 9
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

SECTION 15: REGULATORY INFORMATION

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

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable
 Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable
 Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable
 Article 95, REGULATION (EU) No 528/2012: Non-applicable
 REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Seveso III:

Section	Description	Lower-tier requirements	Upper-tier requirements
P3a	FLAMMABLE AEROSOLS	150	500

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc):

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 15: REGULATORY INFORMATION (continued)

Contains more than 0.1 % of 4,4'-methylenediphenyl diisocyanate, isomers and homologues by weight. 1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless:

(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s).

2. Shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless:

(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: "As from 24 August 2023 adequate training is required before industrial or professional use".

3. For the purpose of this entry "industrial and professional user(s)" means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks.

4. The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training. That training shall cover as a minimum:

(a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s).

(b) the training elements in points (a) and (b) of paragraph 5 for the following uses:

- handling open mixtures at ambient temperature (including foam tunnels)
 - spraying in a ventilated booth
 - application by roller
 - application by brush
 - application by dipping and pouring
 - mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore
 - cleaning and waste
 - any other uses with similar exposure through the dermal and/or inhalation route
- (c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses:
- handling incompletely cured articles (e.g. freshly cured, still warm)
 - foundry applications
 - maintenance and repair that needs access to equipment
 - open handling of warm or hot formulations (> 45 °C)
 - spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers)
 - and any other uses with similar exposure through the dermal and/or inhalation route.

5. Training elements:

(a) general training, including on-line training, on:

- chemistry of diisocyanates
- toxicity hazards (including acute toxicity)
- exposure to diisocyanates
- occupational exposure limit values
- how sensitisation can develop
- odour as indication of hazard
- importance of volatility for risk
- viscosity, temperature, and molecular weight of diisocyanates
- personal hygiene
- personal protective equipment needed, including practical instructions for its correct use and its limitations
- risk of dermal contact and inhalation exposure
- risk in relation to application process used
- skin and inhalation protection scheme
- ventilation
- cleaning, leakages, maintenance
- discarding empty packaging
- protection of bystanders
- identification of critical handling stages
- specific national code systems (if applicable)
- behaviour-based safety
- certification or documented proof that training has been successfully completed

(b) intermediate level training, including on-line training, on:

- additional behaviour-based aspects
- maintenance
- management of change

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 15: REGULATORY INFORMATION (continued)

- evaluation of existing safety instructions
- risk in relation to application process used
- certification or documented proof that training has been successfully completed
- (c) advanced training, including on-line training, on:
 - any additional certification needed for the specific uses covered
 - spraying outside a spraying booth
 - open handling of hot or warm formulations (> 45 °C)
 - certification or documented proof that training has been successfully completed

6. The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), as long as the minimum requirements set out in paragraphs 4 and 5 are met.

7. The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design.

8. The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years.

9. Member States shall include in their reports pursuant to Article 117(1) the following information:

- (a) any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law
- (b) the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates
- (c) national exposure limits for diisocyanates, if there are any
- (d) information about enforcement activities related to this restriction.

10. This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

Contains more than 0.1 % of 4,4'-methylenediphenyl diisocyanate, isomers and homologues by weight. This product may not be distributed in its present form for first-time sale to the general public after 27th December 2010 unless the packaging contains protective gloves meeting the provisions of Regulation (EU) 2016/425.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

Council Directive 75/324/EEC of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers

Commission Directive 94/1/EC of 6 January 1994 adapting some technicalities of Council Directive 75/324/EEC on the approximation of the laws of the relating Member States to aerosol dispensers

Commission Directive 2008/47/EC of 8 April 2008 amending, for the purposes of adapting to technical progress, Council Directive 75/324/EEC on the approximation of the laws of the Member States relating to aerosol dispensers

Commission Directive 2013/10/EU of 19 March 2013 amending Council Directive 75/324/EEC on the approximation of the laws of the Member States relating to aerosol dispensers in order to adapt its labelling provisions to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures

COMMISSION DIRECTIVE (EU) 2016/2037 of 21 November 2016 amending Council Directive 75/324/EEC as regards the maximum allowable pressure of aerosol dispensers and to adapt its labelling provisions to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION**Legislation related to safety data sheets:**

The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

SECTION 16: OTHER INFORMATION (continued)**Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:**

Non-applicable

Texts of the legislative phrases mentioned in section 2:

H315: Causes skin 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.

H332: Harmful if inhaled.

H229: Pressurised container: May burst if heated.

H222: Extremely flammable aerosol.

H319: Causes serious eye irritation.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled.

Acute Tox. 4: H332 - Harmful if inhaled.

Carc. 2: H351 - Suspected of causing cancer.

Eye Irrit. 2: H319 - Causes serious eye irritation.

Flam. Gas 1A: H220 - Extremely flammable gas.

Press. Gas: H280 - Contains gas under pressure, may explode if heated.

Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Irrit. 2: H315 - Causes skin irritation.

Skin Sens. 1: H317 - May cause an allergic skin reaction.

STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure.

STOT SE 3: H335 - May cause respiratory irritation.

Classification procedure:

Skin Irrit. 2: Calculation method

Resp. Sens. 1: Calculation method

Skin Sens. 1: Calculation method

Carc. 2: Calculation method

STOT SE 3: Calculation method

STOT RE 2: Calculation method

Acute Tox. 4: Calculation method

Aerosol 1: Calculation method

Aerosol 1: Calculation method

Eye Irrit. 2: Calculation method

Advice related to training:

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:<http://echa.europa.eu><http://eur-lex.europa.eu>**Abbreviations and acronyms:**

ADR: European agreement concerning the international carriage of dangerous goods by road

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

LogPOW: Octanolwater partition coefficient

Koc: Partition coefficient of organic carbon

UFI: unique formula identifier

IARC: International Agency for Research on Cancer

- CONTINUED ON NEXT PAGE -

CH06000003 - CHEMIFOAM ESPUMA POLIURETANO B1 PISTOLA

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -

Printing: 26/01/2023

Date of compilation: 25/01/2023

Version: 1

Page 16/16