



Safety Data Sheet according to (EC) No 1907/2006 as amended

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TEROSON EF 537 known as Terostat TS 537

SDS No. : 222134
V005.0

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

1.1. Product identifier

TEROSON EF 537 known as Terostat TS 537

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

Intended use:

Foam, 1-component with propellant gas

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or www.henkel-adhesives.com.

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

Further information is available at Poison Control Centers.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Flammable aerosols	Category 1
H222 Extremely flammable aerosol.	
H229 Pressurized container: May burst if heated.	
Skin irritation	Category 2
H315 Causes skin irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Respiratory sensitizer	Category 1
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	
Carcinogenicity	Category 2
H351 Suspected of causing cancer.	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	

Acute toxicity Category 4

H332 Harmful if inhaled.

Route of Exposure: **Inhalation**

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains

Diphenylmethane diisocyanate, isomers and homologues

Isocyanic acid, polymethylenepolyphenylene ester polymer with hexanedioic acid, 1,3-isobenzofurandione and 1,2-propanediol

Signal word: **Danger**

Hazard statement:

- H222 Extremely flammable aerosol.
- H229 Pressurized container: May burst if heated.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- 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.
- H332 Harmful if inhaled.

Supplemental information As from 24 August 2023 adequate training is required before industrial or professional use.
Further information: <https://www.feica.eu/PUinfo>

Precautionary statement: 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.
P260 Do not breathe vapours.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/eye protection.
P251 Do not pierce or burn, even after use.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50.DEGREE.C/122.DEGREE.F.
P501 Dispose of contents/container in accordance with national regulation.

2.3. Other hazards

Information according to XVII. 56 REACH

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.

Solvents contained in the product evaporate during processing and their vapors can form explosive/highly inflammable air/vapor mixtures.

Pregnant women should absolutely avoid inhalation and skin contact.

Following substances are present in a concentration \geq the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration \geq the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Isocyanic acid, polymethylenepolyphenylene ester polymer with hexanedioic acid, 1,3-isobenzofurandione and 1,2-propanediol 1141331-70-5	40- 60 %	STOT RE 2, Inhalation, H373 Acute Tox. 4, Inhalation, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335	dermal:ATE = > 5.000 mg/kg oral:ATE = > 5.000 mg/kg inhalation:ATE = 1,5 mg/l;dust/mist	
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	10- 20 %	Acute Tox. 4, Inhalation, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, H373	Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 % Resp. Sens. 1; H334; C >= 0,1 % STOT SE 3; H335; C >= 5 % ===== inhalation:ATE = 1,5 mg/l;dust/mist	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4 01-2119486772-26	10- 20 %	Acute Tox. 4, Oral, H302 Aquatic Chronic 3, H412		
dimethyl ether 115-10-6 204-065-8 01-2119472128-37	5- < 10 %	Flam. Gas 1A, H220 Press. Gas Liquef. Gas, H280		EU OEL
Propane 74-98-6 200-827-9 01-2119486944-21	1- < 5 %	Flam. Gas 1A, H220 Press. Gas H280		
Isobutane 75-28-5 200-857-2 01-2119485395-27	1- < 5 %	Flam. Gas 1A, H220 Press. Gas Liquef. Gas, H280		

**If no ATE values are displayed, please refer to LD/LC50 values in Section 11.
For full text of the H - statements and other abbreviations see section 16 "Other information".**

The hazard classification of this product is based solely on the mixture present within the aerosol, excluding the propellant gases. The information provided in Section 3 is based on the combination of the mixture and propellant gases.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
In case of adverse health effects seek medical advice.

Inhalation:
Move to fresh air, consult doctor if complaint persists.
Delayed effects possible after inhalation.

Skin contact:
Fresh foam : Wipe off affected skin area immediately with a soft cloth and then remove residues with vegetable oil; apply skin care product. Cured foam can be removed only mechanically.

Eye contact:

Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remain (intensive smarting, sensitivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

Ingestion:

Rinse mouth, do not induce vomiting, consult a doctor.

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

SKIN: Redness, inflammation.

Causes serious eye irritation.

May cause an allergic skin reaction.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

carbon dioxide, foam, powder, water spray jet, fine water spray

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x) can be released.

In the event of fire, isocyanate vapors may be formed.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

Additional information:

Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment.

Avoid contact with skin and eyes.

Ensure adequate ventilation.

Danger of slipping on spilled product.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

Remove with liquid-absorbing material (sand, peat, sawdust).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

During processing and drying after adhesion, ventilate well. Avoid all sources of fire such as stoves and ovens. Switch off all electrical devices such as parabolic heaters, hot plates, storage heaters etc. in good time for them to have cooled down before commencing work. Avoid all sparks, including those occurring at electrical switches and devices.

Ventilate working rooms thoroughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld. Do not empty waste into waste water drains.

Transport by automobile: leave the container wrapped in a cloth in the trunk, never in the passenger area.

Avoid skin and eye contact.

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Remove any dirt that gets onto the skin with vegetable oil; skin care.

7.2. Conditions for safe storage, including any incompatibilities

For pressurized can: protect from direct sunshine and temperatures above 50°C.

Ensure good ventilation/extraction.

Store in a cool, dry place.

Ensure that storage and workrooms are adequately ventilated.

Avoid strictly temperatures below - 20 °C and above + 50 °C.

Do not store together with oxidants.

Do not store together with flammable solutions.

Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

7.3. Specific end use(s)

Foam, 1-component with propellant gas

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9			STEL (Short Term Exposure Limit) factor:	1 Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.	TRGS 900
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9			Skin designation:	Can be absorbed through the skin.	TRGS 900
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9		0,05	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Dimethyl ether 115-10-6 [DIMETHYLETHER]	1.000	1.920	Time Weighted Average (TWA):	Indicative	ECLTV
Dimethyl ether 115-10-6	1.000	1.900	Exposure limit(s):	8	TRGS 900
Dimethyl ether 115-10-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Propane 74-98-6	1.000	1.800	Exposure limit(s):	4	TRGS 900
Propane 74-98-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Isobutane 75-28-5			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Isobutane 75-28-5	1.000	2.400	Exposure limit(s):	4	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	aqua (intermittent releases)		0,51 mg/l				
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	oral				11,6 mg/kg		
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	aqua (marine water)		0,032 mg/l				
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	aqua (freshwater)		0,32 mg/l				
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	sewage treatment plant (STP)		19,1 mg/l				
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	sediment (marine water)				1,15 mg/kg		
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	sediment (freshwater)				11,5 mg/kg		
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	Soil				0,34 mg/kg		
Dimethyl ether 115-10-6	aqua (freshwater)		0,155 mg/l				
Dimethyl ether 115-10-6	sediment (freshwater)				0,681 mg/kg		
Dimethyl ether 115-10-6	Soil				0,045 mg/kg		
Dimethyl ether 115-10-6	sewage treatment plant (STP)		160 mg/l				
Dimethyl ether 115-10-6	aqua (marine water)		0,016 mg/l				
Dimethyl ether 115-10-6	aqua (intermittent releases)		1,549 mg/l				
Dimethyl ether 115-10-6	sediment (marine water)				0,069 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	Workers	Inhalation	Long term exposure - systemic effects		8,2 mg/m ³	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	Workers	Inhalation	Acute/short term exposure - systemic effects		22,6 mg/m ³	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	Workers	dermal	Long term exposure - systemic effects		2,91 mg/kg	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	General population	inhalation	Long term exposure - systemic effects		1,45 mg/m ³	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	General population	inhalation	Acute/short term exposure - systemic effects		5,6 mg/m ³	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	General population	dermal	Long term exposure - systemic effects		1,04 mg/kg	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	General population	oral	Long term exposure - systemic effects		0,52 mg/kg	
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	General population	oral	Acute/short term exposure - systemic effects		2 mg/kg	

Biological Exposure Indices:

None

8.2. Exposure controls:

Respiratory protection:

The product should only be used at workplaces with intensive ventilation/extraction. If intensive ventilation/extraction is not possible then self-contained independent respiratory protection should be worn.

Hand protection:

Use attached gloves. Perforation time < 5 minutes.

Eye protection:

Goggles which can be tightly sealed.
Protective eye equipment should conform to EN166.

Skin protection:

Suitable protective clothing
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Delivery form	pressurized can
Colour	beige
Odor	characteristic
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	Not applicable, Not measurable since pressurized gas pack.
Initial boiling point	-42 °C (-43.6 °F) Values referring to propellant

Flammability	Flammable aerosol.
Explosive limits lower	1,5 % (V); Values referring to propellant
Flash point	Not applicable, Flammable aerosol.
Auto-ignition temperature	350 °C (662 °F) Values referring to propellant
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Not applicable, Product reacts with water.
Viscosity (kinematic) (40 °C (104 °F);)	> 20,5 mm ² /s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Reacts slowly with water to liberate carbon dioxide gas.
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (20 °C (68 °F))	Mixture 0,5 MPa Referring to liquefied propellant at 20 °C
Density (20 °C (68 °F))	1 g/cm ³ no method / method unknown
Relative vapour density: (20 °C)	1,7
Particle characteristics	Not applicable Product is a liquid

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Aerosols:	Classified as Aerosol category 1 because it contains more than 1 % (by mass) flammable components or has a heat of combustion of at least 20 kJ/g and is not submitted to the flammability classification procedures
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with water, alcohols, amines.
Pressure build-up in closed containers.
Reaction with water, formation of CO₂

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Humidity
Temperatures over appr. 50 °C

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

At higher temperatures isocyanate may be released.
Carbon dioxide is generated under contact with moisture, leading to pressure in the cans. Danger of cans bursting!

SECTION 11: Toxicological information**General toxicological information:**

Cross-reactions with other isocyanate compounds are possible.

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

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Isocyanic acid, polymethylenepolyphenyl ene ester polymer with hexanedioic acid,1,3- isobenzofurandione and 1,2-propanediol 1141331-70-5	Acute toxicity estimate (ATE)	> 5.000 mg/kg		Expert judgement
Isocyanic acid, polymethylenepolyphenyl ene ester 9016-87-9	LD50	> 10.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	LD50	632 mg/kg	rat	EU Method B.1 (Acute Toxicity (Oral))

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Isocyanic acid, polymethylenepolyphenyl ene ester polymer with hexanedioic acid,1,3- isobenzofurandione and 1,2-propanediol 1141331-70-5	Acute toxicity estimate (ATE)	> 5.000 mg/kg		Expert judgement
Isocyanic acid, polymethylenepolyphenyl ene ester 9016-87-9	LD50	> 9.400 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

The toxicity of the product is due to its narcotic effect after inhalation.
In the event of protracted or repeated exposure, damage to health cannot be excluded.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenyl ene ester polymer with hexanedioic acid,1,3- isobenzofurandione and 1,2-propanediol 1141331-70-5	Acute toxicity estimate (ATE)	1,5 mg/l	dust/mist			Expert judgement
Isocyanic acid, polymethylenepolyphenyl ene ester 9016-87-9	Acute toxicity estimate (ATE)	1,5 mg/l	dust/mist	4 h		Expert judgement
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	LC50	> 7 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
dimethyl ether 115-10-6	LC50	164000 ppm	gas	4 h	rat	not specified
Propane 74-98-6	LC50	> 800000 ppm	gas	15 min	rat	not specified
Isobutane 75-28-5	LC50	260200 ppm	gas	4 h	mouse	not specified

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenyl ene ester 9016-87-9	irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenyl ene ester 9016-87-9	irritating		human	Weight of evidence

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
Isocyanic acid, polymethylenepolyphenyl ene ester 9016-87-9	sensitising	Skin sensitisation	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenyl ene ester 9016-87-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
dimethyl ether 115-10-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
dimethyl ether 115-10-6	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
dimethyl ether 115-10-6	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Propane 74-98-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Propane 74-98-6	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Isobutane 75-28-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Isobutane 75-28-5	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
dimethyl ether 115-10-6	negative	inhalation: gas		Drosophila melanogaster	equivalent or similar to OECD Guideline 477 (Genetic Toxicology: Sex-linked Recessive Lethal Test in Dros. melanog.)
Propane 74-98-6	negative			Drosophila melanogaster	not specified
Propane 74-98-6	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Isobutane 75-28-5	negative	oral: feed		Drosophila melanogaster	not specified
Isobutane 75-28-5	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
dimethyl ether 115-10-6	not carcinogenic	inhalation	2 y 6 h/d, 5 d/w	rat	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
dimethyl ether 115-10-6	NOAEL P 2.5 %	other	inhalation: gas	rat	other guideline:
dimethyl ether 115-10-6	NOAEL P 1.6 %	screening	inhalation: gas	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Propane 74-98-6	NOAEL P 21,6 mg/l NOAEL F1 21,6 mg/l	screening	inhalation: gas	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Isobutane 75-28-5	NOAEL P 21,4 mg/l NOAEL F1 21,4 mg/l	screening	inhalation: gas	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure:

No data available.

STOT-repeated exposure:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Isocyanic acid, polymethylenepolyphenyl ene ester 9016-87-9	NOAEL 0,0002 mg/l	inhalation: aerosol	2 y 6 h per d, 5 d per week	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
dimethyl ether 115-10-6	NOAEL 47,106 mg/l NOAEL 2.5 %	inhalation: gas	2 y 6 h/d; 5 d/w	rat	equivalent or similar to OECD Guideline 452 (Chronic Toxicity Studies)
Propane 74-98-6		inhalation: gas	28 d 6 h/d, 7 d/w	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Isobutane 75-28-5	NOAEL 9000 ppm	inhalation: gas	28 d 6 h/d, 7 d/w	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information**General ecological information:**

Do not empty into drains, soil or bodies of water.

12.1. Toxicity**Toxicity (Fish):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	LC50	> 1.000 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	LC50	56,2 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	other guideline:
dimethyl ether 115-10-6	LC50	> 4.000 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	EC50	> 1.000 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	EC50	131 mg/l	48 h	Daphnia magna	not specified
dimethyl ether 115-10-6	EC50	> 4.000 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity (aquatic invertebrates):

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	NOEC	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	NOEC	32 mg/l	21 d	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	EC50	> 1.640 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	EC50	82 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	NOEC	13 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
dimethyl ether 115-10-6	EC50	> 1.000 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	EC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	EC 50	784 mg/l	3 h	activated sludge	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
dimethyl ether 115-10-6	EC10	> 1.600 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27 (Bacterial oxygen consumption test)

12.2. Persistence and degradability

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	not inherently biodegradable	aerobic	0 %	28 d	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	not readily biodegradable.	not specified	0 %	28 d	OECD 301 A - F
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	not readily biodegradable.	aerobic	14 %	28 day	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
dimethyl ether 115-10-6	readily biodegradable	aerobic	> 60 %	28 d	OECD 301 A - F
Propane 74-98-6	readily biodegradable	aerobic	> 60 %	28 d	OECD 301 A - F
Isobutane 75-28-5	readily biodegradable	aerobic	71,43 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	200			Cyprinus carpio	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	0,8 - < 14	42 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

12.4. Mobility in soil

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	2,68	30 °C	EU Method A.8 (Partition Coefficient)
dimethyl ether 115-10-6	0,07	25 °C	QSAR (Quantitative Structure Activity Relationship)
Isobutane 75-28-5	2,88	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	PBT / vPvB
Phosphorous oxychloride, reaction products with propylene oxide 1244733-77-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
dimethyl ether 115-10-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Propane 74-98-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Isobutane 75-28-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

Dispose of waste and residues in accordance with local authority requirements.

Disposal of uncleaned packages:

Empty PU foam canisters should be returned in the original carton to PDR GmbH, D-95449 Thurnau (free of charge collection service under tel.: 0800-783 6736, Fax: 0800-783 6737, Germany) for recycling. Individual containers should be disposed of at communal collection points.

Use packages for recycling only when totally empty.

Waste code

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

SECTION 14: Transport information

14.1. UN number or ID number

ADR	1950
RID	1950
ADN	1950
IMDG	1950
IATA	1950

14.2. UN proper shipping name

ADR	AEROSOLS
RID	AEROSOLS
ADN	AEROSOLS
IMDG	AEROSOLS
IATA	Aerosols, flammable

14.3. Transport hazard class(es)

ADR	2.1
RID	2.1
ADN	2.1
IMDG	2.1
IATA	2.1

14.4. Packing group

ADR
RID
ADN
IMDG
IATA

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (D)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

WGK:

WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV))

Classification according to AwSV, Annex 1 (5.2)

BG regulations, rules, infos:

BG regulation: BGV B 1 Handling hazardous substances

BG data sheet: BGI 524 Hazardous substances: polyurethane production and processing / isocyanates (M 044)

Storage class according to TRGS 510: 2B

GISCODE: PU80 PU assembly foams, highly flammable

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

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.
H412 Harmful to aquatic life with long lasting effects.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

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