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

SDS No. : 237394
V012.0

TEROSON PU 9500 FOAM AE400ML

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Replaces version from: 01.10.2019

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

1.1. Product identifier
TEROSON PU 9500 FOAM AE400ML

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Filling and isolation foam

1.3. Details of the supplier of the safety data sheet
Henkel Ltd
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000
Fax-no.: +44 1442 278071

ua-productsafety.uk@henkel.com

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 0 8701 906777 - For further general health & safety, technical and practical advice on this product, please call +44 (0) 1606 593933 or write to: Technical Services; Henkel Limited; Road 5; Winsford Industrial Estate; Winsford; Cheshire; CW7 3QY- Email: technical.services@henkel.co.uk

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.	
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.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Carcinogenicity	Category 2
H351 Suspected of causing cancer.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:

Contains Diphenylmethane diisocyanate, isomers and homologues

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.

Precautionary statement: Prevention
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 spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement: Response
P308+P313 IF exposed or concerned: Get medical advice/attention.

Precautionary statement: Storage
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

2.3. Other hazards
Solvents contained in the product evaporate during processing and their vapors can form explosive/highly inflammable air/vapor mixtures.
The solvent vapors are heavier than air and may collect in high concentrations at floor level.
The aerosol container is under pressure. Do not expose to high temperatures.
Persons suffering from allergic reactions to isocyanates should avoid contact with the product.
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:
Polyurethane foam
Base substances of preparation:
Isocyanate

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	237-158-7 01-2119486772-26	10- < 25 %	Acute Tox. 4; Oral H302 Aquatic Chronic 3 H412
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9		5- < 20 %	Carc. 2 H351 Acute Tox. 4; Inhalation H332 STOT RE 2 H373 Eye Irrit. 2 H319 STOT SE 3 H335 Skin Irrit. 2 H315 Resp. Sens. 1 H334 Skin Sens. 1 H317
dimethyl ether 115-10-6	204-065-8 01-2119472128-37	2,5- < 10 %	Flam. Gas 1 H220 Press. Gas H280
Ethane-1,2-diol 107-21-1	203-473-3 01-2119456816-28	2,5- < 10 %	Acute Tox. 4; Oral H302 STOT RE 2; Oral H373
Isobutane 75-28-5	200-857-2 01-2119485395-27	2,5- < 10 %	Flam. Gas 1 H220 Press. Gas
Propane 74-98-6	200-827-9 01-2119486944-21	2,5- < 10 %	Flam. Gas 1 H220 Press. Gas

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

Inhalation:
Fresh air, oxygen supply, warmth; seek specialist medical attention.
Delayed effects possible after inhalation.

Skin contact:
IF ON SKIN: Wash with plenty of soap and water.
In case of adverse health effects seek medical advice.

Eye contact:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed
SKIN: Rash, Urticaria.

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

4.3. Indication of any immediate medical attention and special treatment needed
Seek medical attention from a specialist.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:
Water jet (solvent-containing product).

5.2. Special hazards arising from the substance or mixture
In case of fire toxic gases can be released.

5.3. Advice for firefighters
Wear self-contained breathing apparatus.
Wear protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear protective equipment.
Keep unprotected persons away.
Avoid contact with skin and eyes.
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
Avoid open flames and sources of ignition.
Use only non-sparking tools.
Use explosion proof electric equipment.
Ground/bond container and receiving equipment.
Take precautionary measures against static discharge.

Hygiene measures:
Do not eat, drink or smoke while working.
Wash hands before work breaks and after finishing work.
Take off contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.
Store in sealed original container protected against moisture.
Store in a cool, frost-free place.
Store in a cool, well-ventilated place.
Storage at 15 to 25°C is recommended.
Keep away from heat and direct sunlight.

7.3. Specific end use(s)
Filling and isolation foam

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9 [ISOCYANATES, ALL (AS -NCO)]		0,07	Short Term Exposure Limit (STEL):		EH40 WEL
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9 [ISOCYANATES, ALL (AS -NCO)]		0,02	Time Weighted Average (TWA):		EH40 WEL
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, PARTICULATE]		10	Time Weighted Average (TWA):		EH40 WEL
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, VAPOUR]	20	52	Time Weighted Average (TWA):		EH40 WEL
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, PARTICULATE]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, VAPOUR]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, VAPOUR]	40	104	Short Term Exposure Limit (STEL):		EH40 WEL
Ethane-1,2-diol 107-21-1 [ETHYLENE GLYCOL]	40	104	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Ethane-1,2-diol 107-21-1 [ETHYLENE GLYCOL]	20	52	Time Weighted Average (TWA):	Indicative	ECTLV
Dimethyl ether 115-10-6 [DIMETHYL ETHER]	500	958	Short Term Exposure Limit (STEL):		EH40 WEL
Dimethyl ether 115-10-6 [DIMETHYL ETHER]	400	766	Time Weighted Average (TWA):		EH40 WEL
Dimethyl ether 115-10-6 [DIMETHYLETHER]	1.000	1.920	Time Weighted Average (TWA):	Indicative	ECTLV

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9 [ISOCYANATES (ALL, AS -NCO)]		0,02	Time Weighted Average (TWA):		IR_OEL
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9 [ISOCYANATES (ALL, AS -NCO)]		0,07	Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, PARTICULATE]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, VAPOUR]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Ethane-1,2-diol 107-21-1		10	Time Weighted Average (TWA):	Indicative OELV	IR_OEL

[ETHANE-1,2-DIOL, PARTICULATE]					
Ethane-1,2-diol 107-21-1 [ETHYLENE GLYCOL]	40	104	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Ethane-1,2-diol 107-21-1 [ETHYLENE GLYCOL]	20	52	Time Weighted Average (TWA):	Indicative	ECTLV
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, VAPOUR]		20	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Ethane-1,2-diol 107-21-1 [ETHANE-1,2-DIOL, VAPOUR]	52	104	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL
Dimethyl ether 115-10-6 [DIMETHYL ETHER]	1.000	1.920	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Dimethyl ether 115-10-6 [DIMETHYLETHER]	1.000	1.920	Time Weighted Average (TWA):	Indicative	ECTLV
Isobutane 75-28-5 [ISOBUTANE]	1.000		Short Term Exposure Limit (STEL):	15 minutes	IR_OEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	aqua (freshwater)		0,32 mg/l				
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	aqua (marine water)		0,032 mg/l				
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	aqua (intermittent releases)		0,51 mg/l				
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	sediment (freshwater)				11,5 mg/kg		
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	sediment (marine water)				1,15 mg/kg		
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	Soil				0,34 mg/kg		
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	sewage treatment plant (STP)		19,1 mg/l				
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	oral				11,6 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		
Ethane-1,2-diol 107-21-1	aqua (freshwater)		10 mg/l				
Ethane-1,2-diol 107-21-1	aqua (marine water)		1 mg/l				
Ethane-1,2-diol 107-21-1	aqua (intermittent releases)		10 mg/l				
Ethane-1,2-diol 107-21-1	sewage treatment plant (STP)		199,5 mg/l				
Ethane-1,2-diol 107-21-1	sediment (freshwater)				37 mg/kg		
Ethane-1,2-diol 107-21-1	sediment (marine water)				3,7 mg/kg		
Ethane-1,2-diol 107-21-1	Air						no hazard identified
Ethane-1,2-diol 107-21-1	Soil				1,53 mg/kg		
Ethane-1,2-diol 107-21-1	Predator						no potential for bioaccumulation

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	Workers	dermal	Long term exposure - systemic effects		2,91 mg/kg	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	Workers	Inhalation	Acute/short term exposure - systemic effects		22,6 mg/m3	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	Workers	Inhalation	Long term exposure - systemic effects		8,2 mg/m3	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	General population	dermal	Long term exposure - systemic effects		1,04 mg/kg	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	General population	oral	Long term exposure - systemic effects		0,52 mg/kg	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	General population	Inhalation	Acute/short term exposure - systemic effects		5,6 mg/m3	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	General population	Inhalation	Long term exposure - systemic effects		1,45 mg/m3	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	General population	oral	Acute/short term exposure - systemic effects		2 mg/kg	
Dimethyl ether 115-10-6	Workers	inhalation	Long term exposure - systemic effects		1894 mg/m3	
Dimethyl ether 115-10-6	General population	inhalation	Long term exposure - systemic effects		471 mg/m3	
Ethane-1,2-diol 107-21-1	Workers	dermal	Long term exposure - systemic effects		106 mg/kg	no hazard identified
Ethane-1,2-diol 107-21-1	Workers	inhalation	Long term exposure - local effects		35 mg/m3	no hazard identified
Ethane-1,2-diol 107-21-1	General population	dermal	Long term exposure - systemic effects		53 mg/kg	no hazard identified
Ethane-1,2-diol 107-21-1	General population	inhalation	Long term exposure - local effects		7 mg/m3	no hazard identified

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9 [ISOCYANATES (APPLIES TO HDI, IPDI, TDI AND MDI)]	Isocyanate-derived diamine	Creatinine in urine	Sampling time: At the end of the period of exposure.		UKEH40BMGV		

8.2. Exposure controls:

Engineering controls:
Use only in well ventilated areas.
Draw off vapors and fumes directly at the point of generation or release. In the case of regular work use bench-mounted extraction equipment.

Respiratory protection:
In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).
This recommendation should be matched to local conditions.

Hand protection:
Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

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

Skin protection:
Wear protective equipment.
Protective clothing that covers arms and legs.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway).
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

Appearance	aerosol liquid light blue
Odor	characteristic
Odour threshold	No data available / Not applicable
pH	Not available.
Melting point	Not available.
Solidification temperature	No data available / Not applicable
Initial boiling point	< 60 °C (< 140 °F)
Flash point	Not available.
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	
lower	1,5 %(V)
upper	26,2 %(V)
Vapour pressure	5500 - 6000 mbar
Relative vapour density:	No data available / Not applicable
Density	Not determined
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Partially miscible
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity ()	Not available.
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

Ignition temperature	> 230,0 °C (> 446 °F)

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts with strong oxidants.
Reaction with water, alcohols, amines.
Reacts with water: Pressure built up in closed vessel (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:
Persons suffering from allergic reactions to isocyanates should avoid contact with the product.

11.1. Information on toxicological effects

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
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	LD50	1.150 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	LD50	> 10.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Ethane-1,2-diol 107-21-1	Acute toxicity estimate (ATE)	500 mg/kg		Expert judgement
Ethane-1,2-diol 107-21-1	LD50	7.712 mg/kg	rat	not specified

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
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	LD50	> 9.400 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Ethane-1,2-diol 107-21-1	LD50	10.600 mg/kg	rabbit	not specified

Acute inhalative 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	Test atmosphere	Exposure time	Species	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	LC50	> 7,19 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
dimethyl ether 115-10-6	LC50	164000 ppm		4 h	rat	not specified
Isobutane 75-28-5	LC50	260200 ppm	gas	4 h	mouse	not specified
Propane 74-98-6	LC50	> 800000 ppm	gas	15 min	rat	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
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	slightly irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Ethane-1,2-diol 107-21-1	not irritating	20 h	rabbit	BASF Test

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
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Ethane-1,2-diol 107-21-1	not irritating		rabbit	BASF Test

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
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	not sensitising	Guinea pig maximisation test	guinea pig	Magnusson and Kligman Method
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	sensitising	Skin sensitisation	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Ethane-1,2-diol 107-21-1	not sensitising	Guinea pig maximisation test	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
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	negative	bacterial gene mutation assay	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diphenylmethane diisocyanate, isomers and homologues 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		not specified
Ethane-1,2-diol 107-21-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
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)
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)
Ethane-1,2-diol 107-21-1	negative	oral: feed		rat	Chromosome Aberration Test
Isobutane 75-28-5	negative			Drosophila melanogaster	not specified
Isobutane 75-28-5	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Propane 74-98-6	negative			Drosophila melanogaster	not specified
Propane 74-98-6	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

No data available.

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
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)
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)

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
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	NOAEL 800 - 7500 ppm	oral: feed	90 days ad libitem	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Diphenylmethane diisocyanate, isomers and homologues 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 > 10000 ppm	inhalation	4 week 6 hours/day, 5 days/week	rat	not specified
Ethane-1,2-diol 107-21-1	NOAEL 150 mg/kg	oral: feed	16 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Isobutane 75-28-5		inhalation: gas	28 d	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
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)

Aspiration hazard:

No data available.

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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	LC50	51 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	LC50	> 1.000 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
dimethyl ether 115-10-6	LC50	> 4.000 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
Ethane-1,2-diol 107-21-1	LC50	72.860 mg/l	96 h	Pimephales promelas	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
Ethane-1,2-diol 107-21-1	NOEC	15.380 mg/l	7 d	Pimephales promelas	other guideline:

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	EC50	131 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	EC50	> 1.000 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
dimethyl ether 115-10-6	EC50	> 4.000 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Ethane-1,2-diol 107-21-1	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	NOEC	32 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	NOEC	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Ethane-1,2-diol 107-21-1	NOEC	8.590 mg/l	7 d	Ceriodaphnia dubia	other guideline:

Toxicity (Algae):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	EC50	82 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	EC10	42 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	EC50	> 1.640 mg/l	72 h	Desmodesmus subspicatus	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)
Ethane-1,2-diol 107-21-1	EC50	> 6.500 - 13.000 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethane-1,2-diol 107-21-1	NOEC	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Isobutane 75-28-5	EC50	7,71 mg/l	96 h		not specified

Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	EC 50	784 mg/l	3 h	activated sludge	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	EC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
dimethyl ether 115-10-6	EC10	> 1.600 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27 (Bacterial oxygen consumption test)
Ethane-1,2-diol 107-21-1	EC20	> 1.995 mg/l	30 min	activated sludge, domestic	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	not inherently biodegradable	aerobic	0 %	28 d	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))
dimethyl ether 115-10-6	not readily biodegradable.	aerobic	5 %	28 d	EU Method C.4-A (Determination of the "Ready" BiodegradabilityDissolved Organic Carbon (DOC) Die-Away Test)
Ethane-1,2-diol 107-21-1	readily biodegradable	aerobic	90 - 100 %	10 d	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	> 0,8 - < 2,8	42 d		no data	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	200			Cyprinus carpio	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	2,68		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
dimethyl ether 115-10-6	0,07	25 °C	QSAR (Quantitative Structure Activity Relationship)
Ethane-1,2-diol 107-21-1	-1,36		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

Hazardous substances CAS-No.	PBT / vPvB
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	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.
Ethane-1,2-diol 107-21-1	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.
Propane 74-98-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.
080409

SECTION 14: Transport information

14.1. UN 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. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

VOC content (VOCV 814.018 VOC regulation CH)	17,7 %
VOC content (2010/75/EU)	17,7 %

VOC Paints and Varnishes (EU):
Product (sub)category: This product is not a subject of the Directive 2004/42/EC

15.2. Chemical safety assessment
A chemical safety assessment has not been carried out.

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.

Further information:
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