

SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830



PUR PRO

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

1.1. Product identifier

Product name : PUR PRO
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Sealing compound
polyurethane

1.2.2 Uses advised against

No uses advised against

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

TEC7*
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
☎ +32 14 85 97 38
info@tec7.be
*TEC7 is a registered trademark of Novatech International
Industrielaan 5B

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
☎ +32 14 85 97 38
info@tec7.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch):
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

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

2.2. Label elements



Contains: polymethylene polyphenyl isocyanate.

Signal word Danger

H-statements
H222 Extremely flammable aerosol.

PUR PRO

H229	Pressurised container: May burst if heated.
H351	Suspected of causing cancer.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H315	Causes skin irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

P-statements

P101	If medical advice is needed, have product container or label at hand.
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.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
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.

Supplemental information

- Persons already sensitised to diisocyanates may develop allergic reactions when using this product. - Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. - This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
polymethylene polyphenyl isocyanate	9016-87-9	30%≤C≤50%	Carc. 2; H351 Acute Tox. 4; 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	(1)(2)(10)	Constituent
reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester 01-2119486772-26		10%≤C≤20%	Acute Tox. 4; H302	(1)(10)	Constituent
dimethyl ether 01-2119472128-37	115-10-6 204-065-8	5%≤C≤10%	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
isobutane 01-2119485395-27	75-28-5 200-857-2	5%≤C≤10%	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
propane 01-2119486944-21	74-98-6 200-827-9	1%≤C≤5%	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
Castor oil	8001-79-4 232-293-8	1%≤C≤5%	Eye Irrit. 2; H319	(1)(2)(10)	Constituent

(2) Substance with a Community workplace exposure limit

(1) For H-statements in full: see heading 16

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

2 / 13

PUR PRO

General:

If you feel unwell, seek medical advice.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Cured foam is hard to remove from skin. Scrape off using a pumice stone, nail file or sandpaper. Wash with water and soap. Frequent/long soakings/washings are needed to clean skin. Use vegetal oil or water to soak it off. Do not try to soak it off with solvents. If the foam is still uncured: Do not rinse with water. Wipe off with a cloth. Remove with acetone or PU cleaner. Wash with water and soap. Apply hand or skin care cream. Take victim to a doctor if irritation persists.

After eye contact:

Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Consult a doctor/medical service if you feel unwell.

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

4.2.1 Acute symptoms

After inhalation:

Irritation of the respiratory tract. Irritation of the nasal mucous membranes. EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Runny nose. Possible inflammation of the respiratory tract. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema. Respiratory difficulties. Risk of pneumonia.

After skin contact:

Tingling/irritation of the skin.

After eye contact:

Irritation of the eye tissue.

After ingestion:

No effects known.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Water spray. Polyvalent foam. BC powder. Carbon dioxide.

5.1.2 Unsuitable extinguishing media:

Solid water jet ineffective as extinguishing medium.

5.2. Special hazards arising from the substance or mixture

On burning: release of toxic and corrosive gases/vapours (phosphorus oxides, nitrous vapours, hydrogen chloride, carbon monoxide - carbon dioxide). Pressurised container: May burst if heated. On heating: release of toxic/combustible gases/vapours (hydrogen cyanide). Reacts exothermically with water (moisture).

5.3. Advice for firefighters

5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion. Dilute toxic gases with water spray.

5.3.2 Special protective equipment for fire-fighters:

Gloves. Protective goggles. Head/neck protection. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment.

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Gloves. Protective goggles. Head/neck protection. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2. Environmental precautions

Dam up the liquid spill.

6.3. Methods and material for containment and cleaning up

Allow spill to solidify. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

PUR PRO

See heading 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe very strict hygiene - avoid contact. Remove contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Storage temperature: <50 °C. Store in a cool area. Store in a dry area. Keep container in a well-ventilated place. Keep out of direct sunlight. Fireproof storeroom. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, ignition sources, (strong) acids, (strong) bases, water/moisture, oxidizing agents, amines, alcohols, combustible materials.

7.2.3 Suitable packaging material:

Aerosol.

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

The Netherlands

Dimethylether	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	496 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	950 mg/m ³
	Short time value (Public occupational exposure limit value)	783 ppm
	Short time value (Public occupational exposure limit value)	1500 mg/m ³

EU

Dimethylether	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	1000 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	1920 mg/m ³

Belgium

Huiles végétales (brouillards)	Time-weighted average exposure limit 8 h	10 mg/m ³
Hydrocarbures aliphatiques sous forme gazeuse : (Alcanes C1-C4)	Time-weighted average exposure limit 8 h	1000 ppm
Oxyde de diméthyle	Time-weighted average exposure limit 8 h	1000 ppm
	Time-weighted average exposure limit 8 h	1920 mg/m ³

USA (TLV-ACGIH)

Butane, all isomers	Short time value (TLV - Adopted Value)	1000 ppm
---------------------	--	----------

Germany

Dimethylether	Time-weighted average exposure limit 8 h (TRGS 900)	1000 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	1900 mg/m ³
Isobutan	Time-weighted average exposure limit 8 h (TRGS 900)	1000 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	2400 mg/m ³
pMDI (als MDI berechnet)	Time-weighted average exposure limit 8 h (TRGS 900)	0.05 mg/m ³
Propan	Time-weighted average exposure limit 8 h (TRGS 900)	1000 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	1800 mg/m ³

France

Oxyde de diméthyle	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	1000 ppm
	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	1920 mg/m ³

UK

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

4 / 13

PUR PRO

Dimethyl ether	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	400 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	766 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	500 ppm
	Short time value (Workplace exposure limit (EH40/2005))	958 mg/m ³
Isocyanates, all (as -NCO) Except methyl isocyanate	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.02 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	0.07 mg/m ³

b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

If applicable and available it will be listed below.

Isocyanates	NIOSH	5521
Isocyanates	NIOSH	5522

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 DNEL/PNEC values

DNEL/DMEL - Workers

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl es

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	5.82 mg/m ³	
	Acute systemic effects inhalation	22.4 mg/m ³	
	Long-term systemic effects dermal	2.08 mg/kg bw/day	
	Acute systemic effects dermal	8 mg/kg bw/day	

DNEL/DMEL - General population

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl es

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.46 mg/m ³	
	Acute systemic effects inhalation	11.2 mg/m ³	
	Long-term systemic effects dermal	1.04 mg/kg bw/day	
	Acute systemic effects dermal	4 mg/kg bw/day	
	Long-term systemic effects oral	0.52 mg/kg bw/day	

PNEC

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl es

Compartments	Value	Remark
Fresh water	0.64 mg/l	
Marine water	0.064 mg/l	
Aqua (intermittent releases)	0.51 mg/l	
STP	7.84 mg/l	
Fresh water sediment	13.4 mg/kg sediment dw	
Marine water sediment	1.34 mg/kg sediment dw	
Soil	1.7 mg/kg soil dw	
Oral	11.6 mg/kg food	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly.

8.2.2 Individual protection measures, such as personal protective equipment

Observe very strict hygiene - avoid contact. Do not eat, drink or smoke during work.

a) Respiratory protection:

Wear gas mask with filter type A if conc. in air > exposure limit.

b) Hand protection:

Gloves.

Materials	Breakthrough time	Thickness
nitrile rubber		>=0.4 mm
butyl rubber		>=0.7 mm

- materials (good resistance)

Nitrile rubber, butyl rubber.

c) Eye protection:

Protective goggles.

d) Skin protection:

Head/neck protection. Protective clothing.

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

5 / 13

PUR PRO

8.2.3 Environmental exposure controls:
See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Aerosol
Odour	Characteristic odour
Odour threshold	No data available
Colour	No data available on colour
Particle size	Not applicable
Explosion limits	3.0 - 18.6 vol %
Flammability	Extremely flammable aerosol.
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available
Kinematic viscosity	No data available
Melting point	No data available
Boiling point	No data available
Flash point	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Vapour pressure	5600 hPa ; 20 °C
Solubility	water ; insoluble
Relative density	1.0 ; 20 °C
Decomposition temperature	No data available
Auto-ignition temperature	No data available
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	No data available

9.2. Other information

Absolute density	1030 kg/m ³ ; 20 °C
------------------	--------------------------------

SECTION 10: Stability and reactivity

10.1. Reactivity

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts exothermically with water (moisture). Reacts with many compounds e.g. (strong) oxidizers, alcohols, amines and (some) acids/bases.

10.4. Conditions to avoid

Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

10.5. Incompatible materials

(strong) acids, (strong) bases, water/moisture, oxidizing agents, amines, alcohols, combustible materials.

10.6. Hazardous decomposition products

On heating: release of toxic/combustible gases/vapours (hydrogen cyanide). On burning: release of toxic and corrosive gases/vapours (phosphorus oxides, nitrous vapours, hydrogen chloride, carbon monoxide - carbon dioxide).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

PUR PRO

No (test)data on the mixture available

polymethylene polyphenyl isocyanate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		> 10000 mg/kg		Rat	Literature study	
Dermal	LD50		> 5000 mg/kg		Rabbit	Literature study	
Inhalation (vapours)	LD50		10 mg/l - 20 mg/l	4 h	Rat	Literature study	
			category 4			Literature study	

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

6 / 13

PUR PRO

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	EU Method B.1 tris	632 mg/kg bw		Rat (female)	Experimental value	
Oral	LD50	EU Method B.1 tris	500 mg/kg bw - 2000 mg/kg bw		Rat (male)	Experimental value	

Classification is based on the relevant ingredients

Conclusion

Harmful if inhaled.

Corrosion/irritation

PUR PRO

No (test)data on the mixture available
polymethylene polyphenyl isocyanate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating; category 2					Literature study	
Skin	Irritating; category 2					Literature study	
Inhalation	Irritating; STOT SE cat.3					Literature study	

Castor oil

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating; category 2					Literature study	

Classification is based on the relevant ingredients

Conclusion

Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
Specific target organ toxicity, single exposure: classified as irritant to respiratory organs

Respiratory or skin sensitisation

PUR PRO

No (test)data on the mixture available
polymethylene polyphenyl isocyanate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Sensitizing; category 1					Literature study	
Inhalation	Sensitizing; category 1					Literature study	

Classification is based on the relevant ingredients

Conclusion

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

Specific target organ toxicity

PUR PRO

No (test)data on the mixture available
polymethylene polyphenyl isocyanate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Inhalation			STOT RE cat.2					Literature study

Classification is based on the relevant ingredients

Conclusion

May cause damage to organs through prolonged or repeated exposure if inhaled.

Mutagenicity (in vitro)

PUR PRO

No (test)data on the mixture available

Mutagenicity (in vivo)

PUR PRO

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

7 / 13

PUR PRO

No (test)data on the mixture available

Carcinogenicity

PUR PRO

No (test)data on the mixture available

polymethylene polyphenyl isocyanate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown			category 2					Literature study

Reproductive toxicity

PUR PRO

No (test)data on the mixture available

Classification is based on the relevant ingredients

Conclusion CMR

Suspected of causing cancer.

Not classified for mutagenic or genotoxic toxicity

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

PUR PRO

No (test)data on the mixture available

Chronic effects from short and long-term exposure

PUR PRO

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Feeling of weakness. Itching. Skin rash/inflammation. May stain the skin. Respiratory difficulties.

SECTION 12: Ecological information

12.1. Toxicity

PUR PRO

No (test)data on the mixture available

polymethylene polyphenyl isocyanate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity other aquatic organisms	LC50		> 1000 mg/l	96 h				Literature study
Toxicity aquatic micro-organisms	EC50	OECD 209	> 100 mg/l		Activated sludge			Literature study

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Other	56.2 mg/l	96 h	Brachydanio rerio	Static system	Fresh water	Experimental value; GLP
Acute toxicity invertebrates						Static system	Fresh water	
Toxicity algae and other aquatic plants	ErC50	OECD 201	82 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
Long-term toxicity aquatic invertebrates	NOEC	OECD 202	32 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50	ISO 8192	784 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; GLP

Judgement of the mixture is based on the relevant ingredients

Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2. Persistence and degradability

polymethylene polyphenyl isocyanate

Biodegradation water

Method	Value	Duration	Value determination
OECD 302C: Inherent Biodegradability: Modified MITI Test (II)	< 60 %		Experimental value

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

8 / 13

PUR PRO

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

Biodegradation water

Method	Value	Duration	Value determination
OECD 301E: Modified OECD Screening Test	14 %; GLP	28 day(s)	Experimental value

Conclusion

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

PUR PRO

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

polymethylene polyphenyl isocyanate

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		1		Pisces	Literature study

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	OECD 305	0.8 - 14	6 week(s)	Cyprinus carpio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
EU Method A.8		2.68	30 °C	Experimental value

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

(log) Koc

Parameter	Method	Value	Value determination
log Koc	EU Method C.19	2.76	Experimental value

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
0.00042 Pa.m ³ /mol		25 °C		Read-across

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level I	0.01 %	0 %	3.55 %	3.52 %	92.89 %	Read-across

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Other adverse effects

PUR PRO

Global warming potential (GWP)

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Ground water

Ground water pollutant

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

9 / 13

PUR PRO

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

08 04 09* (wastes from MFSU of adhesives and sealants (including waterproofing products): waste adhesives and sealants containing organic solvents or other hazardous substances). Depending on branch of industry and production process, also other waste codes may be applicable. Hazardous waste according to Directive 2008/98/EC.

13.1.2 Disposal methods

Refer to manufacturer/supplier for information on recovery/ recycling. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Specific treatment. Do not discharge into drains or the environment.

13.1.3 Packaging/Container

Waste material code packaging (Directive 2008/98/EC).

15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1. UN number

UN number	1950
-----------	------

14.2. UN proper shipping name

Proper shipping name	Aerosols
----------------------	----------

14.3. Transport hazard class(es)

Hazard identification number	
Class	2
Classification code	5F

14.4. Packing group

Packing group	
Labels	2.1

14.5. Environmental hazards

Environmentally hazardous substance mark	no
--	----

14.6. Special precautions for user

Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)

14.1. UN number

UN number	1950
-----------	------

14.2. UN proper shipping name

Proper shipping name	Aerosols
----------------------	----------

14.3. Transport hazard class(es)

Hazard identification number	23
Class	2
Classification code	5F

14.4. Packing group

Packing group	
Labels	2.1

14.5. Environmental hazards

Environmentally hazardous substance mark	no
--	----

14.6. Special precautions for user

Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Inland waterways (ADN)

14.1. UN number

UN number	1950
-----------	------

14.2. UN proper shipping name

Proper shipping name	Aerosols
----------------------	----------

14.3. Transport hazard class(es)

Class	2
Classification code	5F

14.4. Packing group

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

10 / 13

PUR PRO

Packing group	
Labels	2.1
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Sea (IMDG/IMSBC)

14.1. UN number	
UN number	1950
14.2. UN proper shipping name	
Proper shipping name	Aerosols
14.3. Transport hazard class(es)	
Class	2.1
14.4. Packing group	
Packing group	
Labels	2.1
14.5. Environmental hazards	
Marine pollutant	-
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	63
Special provisions	190
Special provisions	277
Special provisions	327
Special provisions	344
Special provisions	959
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	
Annex II of MARPOL 73/78	Not applicable

Air (ICAO-TI/IATA-DGR)

14.1. UN number	
UN number	1950
14.2. UN proper shipping name	
Proper shipping name	Aerosols, flammable
14.3. Transport hazard class(es)	
Class	2.1
14.4. Packing group	
Packing group	
Labels	2.1
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	A145
Special provisions	A167
Special provisions	A802
Passenger and cargo transport: limited quantities: maximum net quantity per packaging	30 kg G

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
15.19 %	

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

Designation of the substance, of the group of substances or of the mixture	Conditions of restriction

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

11 / 13

PUR PRO

<p>· polymethylene polyphenyl isocyanate · reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester · Castor oil</p>	<p>Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.</p>	<p>1. 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. 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with R65 or H304. 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life-threatening lung damage"; b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: "Just a sip of grill lighter may lead to life threatening lung damage"; c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010. 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public. 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'</p>
<p>· polymethylene polyphenyl isocyanate</p>	<p>Methylenediphenyl diisocyanate (MDI) including the following specific isomers: 4,4'-Methylenediphenyl diisocyanate; 2,4'-Methylenediphenyl diisocyanate; 2,2'-Methylenediphenyl diisocyanate</p>	<p>1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0,1 % by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging: (a) contains protective gloves which comply with the requirements of Council Directive 89/686/EEC; (b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures: "— 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." 2. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives.</p>

National legislation The Netherlands

PUR PRO

Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 06
Waterbezwaarlijkheid	8

National legislation Germany

PUR PRO

WGK	1; Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)
-----	---

polymethylene polyphenyl isocyanate

TRGS905 - Krebszerzeugend	3
TRGS905 - Erbgutverändernd	-
TRGS905 - Fruchtbarkeitsgefährdend	-
TRGS905 - Fruchtschädigend	-
MAK - Krebszerzeugend Kategorie	4
Schwangerschaft Gruppe	C
MAK 8-Stunden-Mittelwert mg/m ³	„polymeres MDI“ (einatembare Fraktion); 0.05 mg/m ³ ; gemessen als einatembare Fraktion (vgl. Abschn. Vd) S. 191)

reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester

TA-Luft	5.2.5
---------	-------

National legislation France

PUR PRO

Reason for revision: 2.2

Publication date: 2006-08-16

Date of revision: 2015-11-23

Revision number: 0700

Product number: 44258

12 / 13

PUR PRO

No data available

National legislation Belgium

PUR PRO

No data available

Other relevant data

PUR PRO

No data available

polymethylene polyphenyl isocyanate

IARC - classification	3; Polymethylene polyphenyl isocyanate
-----------------------	--

15.2. Chemical safety assessment

No chemical safety assessment is required.

SECTION 16: Other information

Full text of any H-statements referred to under headings 2 and 3:

- H220 Extremely flammable gas.
- H222 Extremely flammable aerosol.
- H229 Pressurised container: May burst if heated.
- 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 if inhaled.

(*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.