

Safety data sheet
according to 1907/2006 / EG, article 31

Creation date: 08/21/2002
Version:
Revision: 21.03.2017

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D-92361 Berggau
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RALMO-DÄMM fine cell

SECTION 1: Name of the substance or mixture and the company

1.1. Product identifier:

Trade name: Ralmo-DÄMM fine cell
Registration number REACH: [S257602] Not applicable mixture)
Product type REACH: [S004] mixture

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

1.2.1 Relevant identified uses:

[S015167] polyurethane

1.2.2 Uses advised against:

[S009] No uses known to be discouraged

1.3. Details of the supplier who provides the safety data sheet:

Company name: Ralmont GmbH
Street: Pavelsbacherstr. 17th
Location: D-92361 Berggau
Telephone: +49 (0) 9181 5120240 Fax: + 49 (0) 9181 5120241
E-Mail: info@ralmont.de Contact person: Mr. Thomas Eckstein
Internet: http://www.ralmont.de

1.4. Emergency number:

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

2.1.1 Classification according to Regulation EC No. 1272/2008

[S006] Classified as dangerous according to the criteria of Regulation (EC) No. 1272/2008.

Class	Category	Hazard statements
Aerosol	[S100] 1	H222: [S022200] Extremely flammable aerosol.
Aerosol	[S100] 1	H229: [S0269810] Container is under pressure: May burst if heated.
Carc.	[S200] 2	H351: [S351000] Suspected of causing cancer.
Acute Tox	[S400] 4	H332: [S033200] Harmful if inhaled.
STOT RE	[S200] 2	H373: [S373000] May cause damage to organs through prolonged or repeated exposure.
Eye Irrit ..	[S200] 2	H319: Causes serious eye irritation.
STOT SE	[S300] 3	H335: May cause respiratory irritation.
Skin irrit.	[S200] 2	H315: Causes skin irritation.
Resp. Sens.	[S100] 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sens.	[S100] 1	H317: May cause an allergic skin reaction.

2.2 Label elements:

Labeling according to Regulation EC No. 1272/2008 (CLP):



Contains: polymethylene polyphenyl isocyanate.
Signal word [S001] Danger

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H phrases:

H222 [S022200] Extremely flammable aerosol.
H229 [S269810] Pressurized container: May burst if heated.
H351 [S351000] Suspected of causing cancer.
H332 [S033200] Harmful if inhaled.
H373 [S037302] May cause damage to organs through prolonged or repeated exposure.
H319 [S031900] Causes serious eye irritation.
H335 [S033500] May cause respiratory irritation.
H315 [S031500] Causes skin irritation.
H334 [S033400] May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 [S031700] May cause an allergic skin reaction.

P phrases:

P101 [S101000] If medical advice is needed, have product container or label at hand.
P102 [S102000] Keep out of the reach of children.
P210 [S269813] Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
Do not smoke.
P211 [S211000] Do not spray on an open flame or other ignition source.
P251 [S269816] Do not puncture or burn, even after use.
P362 + P364 [S362364] Take off contaminated clothing and wash before reuse.
P410 + P412 [S410412] Protect from direct sunlight and do not expose to temperatures above 50 ° C / 122 ° F.
P501 [S501007] Contents / container according to local / regional / national / international regulations for disposal respectively.

Additional information:

[S013] – By people who are already sensitized to diisocyanates, handling this product can cause allergic reactions trigger.
– Avoid contact, including skin contact, with the product in the event of asthma, eczematous skin disorders or skin problems.
– Do not use the product in the event of poor ventilation or a protective mask with a suitable gas filter (type A1 according to EN.14387) wear.

2.3 Other dangers:

[S005085] Gas / steam is preparing on the floor: risk of ignition

SECTION 3: Composition / information on ingredients

3.1 Fabrics:

Not applicable.

[S288677] (1) For the full text of the H-statements: see item 16

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3.2 Mixtures

Surname REACH Registration number	CAS No. EG No.	Conc. (C)	Classification according to CLP	footnote	remark
Tris (2-chloro-1-methyl ethyl) phosphate 01-2119486772-26	13674-84-5 237-158-7	1% <C <25%	Acute Tox. 4; H302	(10)	[S009] component
Polymethylene polyphenyl isocyanat	9016-87-9	25% <C <75%	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	(2) (8) (10)	Polymer
Isobutane 01-2119485395-27	75-28-5 200-857-2	C > 1%	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1) (2) (10)	[S011] Propellant
Propane 01-2119486944-21	74-98-6 200-827-9	C > 1%	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(2) (10)	[S011] propellant
Dimethyl ether 01-2119472128-37	115-10-6204-065-8	C > 1%	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(2) (10)	[S011] propellant

(1,3-butadiene,
 conc <0.1%)

[002] (2) Substance for which a Community limit for exposure at the workplace applies

[S008] (8) Specific concentration limits, see point 16

[S010] (10) Subject to the restrictions in Annex XVII to Regulation (EC) No 1907/2006

SECTION 4: First aid measures

4.1 Descriptions of first aid measures:

General measures:

[S002] Monitor life functions.

[S003] Unconscious victim: keep airways clear.

[S004] If breathing stops: artificial respiration / oxygen addition.

[S005] If cardiac arrest: perform resuscitation.

[S006] If conscious with difficulty breathing: half-sitting position.

[S007] In the event of shock, the following is recommended: body flat, legs raised.

[S008] In case of vomiting: suffocation / aspiration pneumonia may occur.

[S009] Protect against heat loss (cover, do not warm up).

[S010] Constantly watch the victim.

[S011] Provide psychological care.

[S012] Keep victim calm, avoid any exertion.

[S013] Depending on the condition: to the doctor / hospital.

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After inhalation:

[S021] Take victim to fresh air.
[S103] Breathing difficulties: Consult a doctor / medical service.

After skin contact:

[S084] Flush immediately with plenty of water.
[S081] Consult a doctor if irritation persists.

After eye contact:

[S090] Rinse immediately with plenty of water.
[S017] Remove any contact lenses if possible. Continue rinsing.
[S044] Do not use neutralizing agents.
[S045] Consult an ophthalmologist if irritation persists.

After swallowing:

[S051] Rinse mouth with water.
[S052] As soon as possible after ingestion: make victim drink plenty of water.
[S057] No vomiting bring about.
[S152] If you feel unwell: Consult a doctor / medical service.

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

4.2.1 Acute symptoms:

After inhalation:

[S106] Dry throat / sore throat.
[S107] cough.
[S102] Irritation to the respiratory tract.
[S214] irritation of the Nasal mucous membranes.
[S211] Nose running.
[S002] THE FOLLOWING SYMPTOMS MAY APPEAR:
[S096] Inflammation of the airways possible.
[S100] Pulmonary edema possible.
[S091] difficulty breathing.

After skin contact:

[S028] Tingling / irritation of the skin.

After eye contact:

[S186] Irritation of the eye tissue.
[S188] Lacrimation.

After swallowing:

[S998] Not applicable.

4.2.2 Delayed symptoms:

[S996] No effects known.

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

If applicable and available, this is indicated below.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

5.1.1 Suitable extinguishing media:

Water in bulk. Multi-area shoe. BC powder. Carbonic acid.

5.1.2 Unsuitable extinguishing media:

No unsuitable extinguishing agents known.

5.2 Special hazards arising from the substance or mixture:

[S004695] In the event of fire: Formation of toxic and caustic gases / vapors (phosphorus oxide, nitrous gases, hydrogen chloride, Carbon monoxide - carbon dioxide).

[S269810] Container is under pressure: May burst if heated.

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[S003961] Can polymerize when the temperature rises.
[S001013] When heated: formation of toxic / combustible Gases / vapors (hydrogen cyanide).

5.3 Advice for firefighters:

5.3.1 Measures:

[S184] Cool closed containers with water if exposed to fire.
[S076] Physical Risk of explosion: cool / extinguish from cover.
[S080] Do not move heat-sensitive cargo.
[S086] After cooling, there is still a physical explosion hazard.
[S089] Dilute toxic gases with water mist. Expect toxic / caustic rainwater.

5.3.2 Special protective equipment for firefighters:

[S001] gloves.
[S004] Tightly sealed goggles.
[S006] Head / neck protection.
[S008] protective suit.
[S014] With heating / combustion: compressed air / oxygen device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

[S034] Stop engines and do not smoke.
[S035] No open fire and no sparks.
[S038] Non-sparking and explosion-proof devices and lights.

6.1.1 Protective equipment for personnel not trained for emergencies:

See point 8.2

6.1.2 Protective equipment for emergency services:

[S001] gloves.
[S004] Tightly sealed goggles.
[S006] Head / neck protection.
[S008] protective suit.

Suitable protective clothing

See point 8.2

6.2 Environmental protection measures:

[S005] Contain the released material.
[S143] Avoid environmental pollution by suitable containment.

6.3 Methods and material for containment and cleaning up:

[S018732] Allow the product to harden and remove mechanically.
[S018026] Carefully collect spilled solid / residues.
[S212300] Clean (treat) contaminated surfaces with acetone.
[S018041] Deliver groupage to manufacturer / responsible body.
[S018041] Clean clothing and equipment after work.

6.4 Reference to other sections:

See point 13.

SECTION 7: Handling and storage

The information contained in this section is a general description. If applicable and available, the exposure scenarios are included in the appendix. You must always use relevant exposure scenarios that correspond to their identified uses.

7.1 Precautions for safe handling:

[S026] Non-sparking / explosion-proof devices / lights.
[S031] Keep away from open flames / heat sources.
[S032] Keep away from sources of ignition / sparks.
[S030] Gas / steam heavier than air at 20 ° C.
[S050] Follow very strict hygiene - avoid contact.
[S011] Take off contaminated clothing immediately.

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7.2 Conditions for safe storage taking into account incompatibilities:

7.2.1 Conditions for safe storage:

Storage temperature: <50 °C.
[S001] Store in a cool place.
[S052] Protect from direct sunlight.
[S005] Floor ventilation on the floor.
[S007] Fireproof storage room.
[S014] Unauthorized persons are prohibited from entering.
[S040] Meet the legal requirements. Max. Storage time: 1 year (s).

7.2.2 Keep away from:

[S051] heat sources,
[S052] ignition sources,
[S057] (strong) acids,
[S058] (strong) bases,
[S068] amines.

7.2.3 Suitable packaging material:

[S037] Compressed gas pack.

7.2.4 Unsuitable packaging material:

No data available.

7.3 Specific end uses:

If applicable and available, the exposure scenarios are included in the appendix. Follow the manufacturer's instructions.

SECTION 8: Exposure controls / personal protection

8.1 Parameters to be monitored:

8.1.1 Workplace exposure:

a) Limits for occupational exposure

The limit values are listed below, insofar as they are available and applicable.

the Netherlands

Dimethyl ether	[S001] Time-weighted average exposure limit 8 h	
	[S001] Public workplace benchmark	496 ppm
	[S001] Time-weighted average exposure limit 8 h	
	[S001] Public workplace benchmark	950 mg / m ³
	[002] Short-term value ([S001] indicative public workplace limit value)	783 ppm
	[002] Short-term value ([S001] Public workplace standard limit value)	1500 mg / m ³

EU

[S260561] Dimethyl ether	[S001] Time-weighted average exposure limit 8 h	
	[S020] Workplace guideline limit	1000 ppm
	[S001] Time-weighted average exposure limit 8 h	
	[S020] Workplace guideline limit	1920 mg / m ³

Belgium

[S256680] Hydrocarbures aliphatiques sous forme gazeuse: C1- C4)	[S001] Time-weighted average exposure limit 8 h	1000 ppm
[S256894] Oxides de dimethyle	[S001] Time-weighted average exposure limit 8 h	1000 ppm
	[S001] Time-weighted average exposure limit 8 h	1920 mg / m ³

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USA (TLV-ACGIH)

Butanes, all isomers [S002] Short-term value ([S003] TLV - Adopted Value) 1000 ppm

Germany

Dimethyl ether [S001] Time-weighted average exposure limit 8 h ([S004] TRGS 900) 1000 ppm
 [S001] Time-weighted average exposure limit 8 h ([S004] TRGS 900) 1900 mg / m³

Isobutane [S001] Time-weighted average exposure limit 8 h ([S004] TRGS 900) 1000 ppm
 [S001] Time-weighted average exposure limit 8 h ([S004] TRGS 900) 2400 mg / m³

pMDI (calculated as MDI) [S001] Time-weighted average exposure limit value 8 h ([S004] TRGS 900) 0.05 mg / m³

Propane [S001] Time-weighted average exposure limit 8 h ([S004] TRGS 900) 1000 ppm
 [S001] Time-weighted average exposure limit 8 h ([S004] TRGS 900) 1800 mg / m³

France

Oxyde de diméthyle [S001] Time-weighted average exposure limit 8 h
 [S019] (VRI: Valeur réglementaire indicative) 1000 ppm
 [S001] Time-weighted average exposure limit 8 h
 [S019] (VRI: Valeur réglementaire indicative) 1920 mg / m³

UK

Dimethyl ether [S001] Time-weighted average exposure limit 8 h
 ([S024] Workplace exposure limit (EH40 / 2005)) 440 ppm
 [S001] Time-weighted average exposure limit 8 h
 [S024] Workplace exposure limit (EH40 / 2005)) 766 mg / m³
 ([S002] Short-term value ([S024] Workplace exposure limit (EH40 / 2005)) 500 ppm
 ([S002] Short-term value ([S024] Workplace exposure limit (EH40 / 2005)) 958 mg / m³

Isocyanates all (as-NCO) except methyl isocyanate [S001] Time-weighted average exposure limit 8 h
 ([S024] Workplace exposure limit (EH40 / 2005)) 0.02 mg / m³
 ([S002] Short-term value ([S024] Workplace exposure limit (EH40 / 2005)) 0.07 mg / m³

b) National biological limit values

The limit values are listed below, insofar as they are available and applicable.

8.1.2 Sampling procedure:

Working Substance	Test	Number
[S291543] Isocyanates	[S292230] NIOSH	[S292729] 5521
[S291543] Isocyanates	[S292230] NIOSH	[S292730] 5522
[S291682] Methylene Bisphenyl Isocyanate (MDI)	[S292228] OSHA	[S292639] 47

8.1.3 Applicable limit values for the intended use:

The limit values are listed below, insofar as they are available and applicable.

8.1.4 DNEL / PNEC values:

DNEL workers

Tris (2-chloro-1-methylethyl) phosphate

Threshold (DNEL / DMEL)	Type	value	comment
[S001] DNEL	[S006] Long-term systemic effects, inhalation	0,93 mg / kg bw / day	
	[S002] Acute systemic effects, inhalation	0,93 mg / m ³	
	[S005] Long-term systemic effects, dermal	0,528 mg / kg bw / day	
	[S001] Acute systemic effects, dermal	0,582 mg / m ³	

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DNEL General population

Tris (2-chloro-1-methylethyl) phosphate

Threshold

(DNEL / DMEL) Typ

	value	comment
[S001] DNEL [S001] Acute systemic effects, dermal	0.264 mg / m ³	
[S002] Acute systemic effects, inhalation	0.23 mg / m ³	
Acute systemic effects, oral	0.33 mg / m ³	
[S005] Long-term systemic effects, dermal	1.04 mg / kg bw / day	
[S006] Long-term systemic effects, inhalation	1.46 mg / m ³	
[S010] Long-term systemic effects, oral	0.52 mg / kg bw / day	

PNEC

Tris (2-chloro-1-methylethyl) phosphate

media	value	comment
Fresh water	0.64 mg / l	
Sea water	0.064 mg / l	
Water (intermittent release)	0.51 mg / l	
STP	7.84 mg / l	
Freshwater sediment	2.92 mg / kg sediment dw	
Sea water sediment	0.29 mg / kg sediment dw	
Soil	1.7 mg / kg soil dw	
Oral	11600 g / kg food	
Fresh water	0.42 mg / l	
Sea water	0.42 mg / l	
Freshwater sediment	2.96 mg / kg sediment dw	
Sea water sediment	2.96 mg / kg sediment dw	
Soil	1.33 mg / kg soil dw	

8.1.5 Control banding:

If applicable and available, this is indicated below.

8.2 Exposure controls:

The information contained in this section is a general description. If applicable and available, the exposure scenarios are included in the appendix. You must always use relevant exposure scenarios that correspond to their identified uses.

8.2.1 Suitable technical control devices:

- [S026] Non-sparking / explosion-proof devices / lights.
- [S031] Keep away from open flames / heat sources.
- [S032] Keep away from sources of ignition / sparks.
- [S003] Carry out regular concentration measurements in the air.

8.2.2 Individual protective measures, e.g. personal protective equipment:

- [S050] Follow very strict hygiene - avoid contact.
- [S601] Do not eat, drink or smoke while working.

a) Respiratory protection:

- [S354] Gas mask with filter type A at conc. In air > exposure limit.

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b) Hand protection:

[S001] gloves.

– material selection (good protection)

[S133] LDPE (low density polyethylene).

Eye protection:

[S004] Tightly sealed goggles.

Skin protection:

[S006] Head / neck protection.

[S009] protective clothing.

8.2.3 Limitation and monitoring of environmental exposure:

See point 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	[S037] Aerosol
Odor:	[S021] Characteristic smell
Odor threshold:	[S] No data available.
Color:	[S303] The product color depends on the composition.
Particle size:	[S23196] No data available.
Explosion limits:	[S23196] No data available.
Flammability:	[S006] Extremely flammable aerosol.
Log Kow:	[S257602] Not applicable (mixture)
Dynamic viscosity:	[S23196] No data available.
Kinematic viscosity:	[S23196] No data available.
Melting point:	[S23196] No data available.
Boiling point:	[S23196] No data available.
Flash point:	[S23196] No data available.
Evaporation rate:	[S23196] No data available.
Relative vapor density:	> 1
Vapor pressure:	[S23196] No data available.
Solubility:	[S100] water; [S006] insoluble; [S114] organic solvents; [S003] soluble
Relative density:	0.95; 20 °C
Decomposition temperature:	[S] No data available.
Autoignition temperature:	[S23196] No data available.
Explosion hazard:	[S001] No chemical group associated with explosive properties.
Oxidizing:	[S001] No chemical group associated with oxidizing properties.
Properties p H:	[S23196] No data available.

9.2 Other information:

Surface tension	[S23196] No data available.
Absolute density:	950kg / m ³ ; 20 °C

SECTION 10: Stability and reactivity

10.1 reactivity:

[S065] Possible ignition from sparks. [S066] Gas / steam spreads on the floor: danger of ignition. [S23196] No data available.

10.2 Chemical stability:

[S098] Stable under normal conditions.

10.3 Possibility of hazardous reactions:

[S011460] Can polymerize with many compounds, e.g.: (strong) bases and amines.

[S002882] Reacts violently with (some) acids / bases.

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10.4 Conditions to avoid:

[S026] Non-sparking / explosion-proof devices / lights.
 [S031] Keep away from open flames / heat sources.
 [S032] Keep away from sources of ignition / sparks.

10.5 Incompatible materials:

[S057] (strong) acids,
 [S058] (strong) bases,
 [S068] amines.

10.6 Hazardous decomposition products:

[S001013] When heated: formation of toxic / combustible gases / vapors (hydrogen cyanide).
 [S004695] In the event of fire: Education toxic and corrosive gases / vapors (phosphorus oxide, nitrous gases, hydrogen chloride, carbon monoxide - carbon dioxide).

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

11.1.1 Acute toxicity test results:

acute toxicity

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No (experimental) data on the mixture available.

Tris (2-chloro-1-methylethyl) phosphate							
Route of exposure	parameter	method	value	Exposure time	species	Valuation	comment
[S003] Oral	[S010] LD50	EU method B.1 tris	500 mg / kg bw - 2000mg {kg bw		[S238828] rat ([s001] male)	[S002] Experimental value	
[S002] Dermal	[S010] LD50	OECD 402	> 2000 mg / kg bw	24 hours	[S238828] rat ([s003] male / female)	[S002] Experimental value	
[S013] Inhalation (Aerosol)	[S001] LC50	Equivalent to OECD 403	> 5 mg / l air	4 hours	[S238828] rat ([s003] male / female)	Evidence	

polymethylene polyphenyl isocyanat							
Route of exposure	parameter	method	value	Exposure time	species	Valuation	comment
[S003] Oral	[S010] LD50		> 10000mg / kg		[S238828] rat	[S020] Literature study	
[S002] Dermal	[S010] LD50		> 5000mg / kg		[S238827] rabbits	[S020] Literature study	
[S007] Inhalation (vapors)	[S010] LD50		10mg / l - 20mg / l	4 hours	[S238828] rat	[S020] Literature study	
[S001] inhalation			[S400] Category 4			[S020] Literature study	

Conclusion:

[S031500] Harmful if inhaled.
 [S002] Low acute toxicity through dermal uptake.
 [S003] Low acute toxicity through oral intake.

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Corrosion / irritation:

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No (experimental) data on the mixture available.

Tris (2-chloro-1-methylethyl) phosphate							
Route of exposure	Result	method	Exposure time	time	species	Valuation	comment
[S005] eye	[S001] No irritant effect	Equivalent to OECD 405	72 hours	24; 48; 72 hours	[S238827] rabbits	[S002] Experimental value	
[S004] skin	S001] No irritant effect	OECD 404	4 hours		[S238827] rabbits	[S002] Experimental value	

polymethylene polyphenyl isocyanates							
[S005] eye	[S003] Irritant effect [S200] Category 2					[S020] Literature study	
[S004] skin	[S003] Irritant effect [S200] Category 2					[S020] Literature study	
[S001] inhalation	[S003] Irritant effect [S003] STOT SE Cat. 3					[S020] Literature study	

Conclusion:

[S031500] Causes skin irritation.

[S031900] Causes serious eye irritation.

[S033500] May cause respiratory irritation.

[S012] Specific target organ toxicity, single exposure: classified as irritating to the respiratory tract

Respiratory / skin sensitization:

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No (experimental) data on the mixture available.

Tris (2-chloro-1-methylethyl) phosphate							
Route of exposure	Result	method	Exposure time	time	species	Valuation	comment
[S004] skin	[S002] Not sensitizing	OECD 429			[S001] mouse	[S002] Experimental value	

polymethylene polyphenyl isocyanates							
[S004] skin	[S004] Sensitizing [S100] Category 1					[S020] Literature study	
[S001] inhalation	[S004] Sensitizing [S100] Category 1					[S020] Literature study	

[S007] Classification is based on the relevant components.

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Conclusion:

[S031700] May cause an allergic skin reaction.
 [S033400] May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Specific target organ toxicity:

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No (experimental) data on the mixture available.

Tris (2-chloro-1-methylethyl) phosphate								
exposure route	Parameter	method	value	organ	effect	Exposure time	species	Value determination
[S005] Oral (diet)	[S013] NOAEL	Equivalent to OECD 408	2500ppm		[S283] No effect	13 weeks (daily)	[S238828] rat ([s002] female)	[S002] Experimental value
[S005] Oral (diet)	[S014] LOAEL	Equivalent to OECD 408	800ppm	[S006] liver	[S382] Weight gain	13 weeks (daily)	[S238828] rat ([s001] male)	[S002] Experimental value

polymethylene polyphenyl isocyanates								
[S001] inhalation		[S005] STOT RE Cat.2				[S020] Literature study		

[S007] Classification is based on the relevant components.

Conclusion:

[S373000] May cause damage to organs through prolonged or repeated exposure.
 [S002] Low subchronic toxicity through dermal uptake.
 [S003] Low subchronic toxicity through oral intake.

Germ cell mutagenicity (in vitro):

RALMO - DÄMM feinzell

No (experimental) data on the mixture available.

Tris (2-chloro-1-methylethyl) phosphate				
Result	method	Test substrate	effect	Valuation
[S005] Negatives		Chinese hamster lung fibroblasts (V79)	No effect	Evidence
[S005] Negatives	OECD 471	Bacteria (S.typhimurium)	No effect	Evidence
[S005] Negatives	OECD 476	Mouse (lymphoma cells)	No effect	Evidence

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Germ cell mutagenicity (in vivo):

RALMO - DÄMM fine cell

No (experimental) data on the mixture available.

Tris (2-chloro-1-methylethyl) phosphate					
Result	method	Exposure time	Test substrate	organ	Valuation
[S005] Negatives	Equivalent to OECD 475		rat male	Evidence	Evidence

[S004] Classification is based on the relevant components.

Conclusion:

[S008] Not classified for mutagenic or genotoxic.

Carcinogenicity:

RALMO - DÄMM feinzell

No (experimental) data on the mixture available.

polymethylene polyphenyl isocyanates								
exposure route	Parameter	method	value	Exposure time	species	effect	organ	Value determination
[S005] unknown		[S200] category 2						[S020] Literature study

[S004] Classification is based on the relevant components.

Conclusion:

[S351000] Suspected of causing cancer.

Reproductive toxicity:

RALMO - DÄMM feinzell

No (experimental) data on the mixture available.

Tris (2-chloro-1-methylethyl) phosphate								
	Parameter	method	value	Exposure time	species	effect	organ	Value determination
Developmental toxicity	[S014] LOAEL	OECD 416	99mg / kg bw	> 10 weeks (dailz)	[S238828] rat ([s002] female)	Body weight, organ weight, food consumption	female reproductive organ	[S002] Experimental value
Developmental toxicity	[S013] NOAEL	OECD 416	85mg / kg bw	> 10 weeks (daily)	[S238828] rat ([s001] male)	No effect	[S002] Experimental value	
Developmental toxicity	[S013] NOAEL	Equivalent to OECD 414	1000mg / kg bw	70 day (s)	[S238828] rat ([s002] female)	No effect	[S002] Experimental value	

[S004] Classification is based on the relevant components.

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Conclusion:

[S007] Not classified for reproductive or developmental toxicity.

Toxicity other effects:

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No (experimental) data on the mixture available.

Chronic effects after short or long-term exposure:

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[S001] AFTER LONG-TERM / REPEATED EXPOSURE / CONTACT:

[S014] Feeling weak. [S029] itching.

[S036] rash / inflammation.

[S039] May produce spots on the skin.

[S025] Dry skin.

[S107] cough.

[S107] Inflammation of the airways possible.

[S091] difficulty breathing.

SECTION 12: Ecological information

12.1 Toxicity:

RALMO - DÄMM fine cell

No (experimental) data on the mixture available.

Tris (2-chloro-1-methylethyl) phosphate								
	Parameter	method	value	Exposure time	species	Test plan	Fresh / salt water	Value determination
Acute toxicity to fish	[S001] LC50		56.2mg/l	96 hours	[S001] Brachydanio rerio	S001 static system	S001 fresh water	[S002] Experimental value [862] GLP
Acute toxicity crustaceans	EC50	OECD 202	65mg/l – 335 mg/l	48 hours	[S145] Daphnia magna			[S002] Experimental value [862] GLP
Toxicity algae and other aquatic plants	EC50	OECD 201	73mg/l	96 hours	[S911] Pseudokirchneriella subcapitata			[S002] Experimental value Growth rate
polymethylenpolyphenylisocyanat								
Acute toxicity to other aquatic organisms	[S001] LC50		>1000mg/l	96 hours				[S020] Literature study
Toxicity water microorganisms	[S020] EC50	OECD 209	>100mg/l		[S731] Activated sludge			[S020] Literature study

[S009] Classification is based on the relevant components.

Conclusion:

[S002] Not classified as dangerous for the environment according to the criteria of Regulation (EC) No. 1272/2008.

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12.2 Persistence and degradability:

Tris (2-chloro-1-methylethyl) phosphate Biodegradability water			
Biodegradability water:			
method	value	Exposure time	Value determination
[S048] OECD 301E: Modified OECD screening test	14%; [S862] GLP	28 days	[S002] Experimental value
OECD 301C: Modified MITI test (I)	0%	28 days	[S002] Experimental value
polymethylenpolyphenylisocyanat Biodegradability water:			
[S052] OECD 302C	<60%		[S002] Experimental value

Conclusion:

[S897] Contains biodegradable component (s).

12.3 Bioaccumulative potential:

RALMO - DÄMM fine cell

Log Kow

method	comment	value	temperature	Valuation
		[S257602] Not applicable (mixture)		

Tris (2-chloro-1-methylethyl) phosphate					
BCF fish					
parameter	method	value	Duration	species	Valuation
[S059] BCF		0.8-4.6; Trial duration: 6	6 weeks	[S002] Cyprinus carpio	[S002] Experimental value

Log Kow

method	comment	value	temperature	Valuation
		2.59		[S013] Experimental value

Polymethylenpolyphenylisocyanat					
BCF fish					
parameter	method	value	Duration	species	Valuation
[S059] BCF		1		[S109] Pisces	[S020] Literature study

Log Kow

method	comment	value	temperature	Valuation
	[S23196] No data available			

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Conclusion:

[S112] Does not contain any bioaccumulative component (s).

12.4 Mobility in soil:

[S009] No (experimental) data on the mobility of the components available.

12.5 Results of PBT and vPvB assessment:

[S009] Does not contain any components that meet the PBT and / or vPvB criteria in Annex XIII to Regulation (EC) No. 1907/2006.

12.6 Other adverse effects:

RALMO - DÄMM fine cell

Fluorinated greenhouse gases (Regulation (EU) No. 517/2014)

[S287241] None of the known components are included in the list of fluorinated greenhouse gases (Regulation (EC) No. 517/2014).

Ozone Depletion Potential (ODP)

[S003] Not classified as dangerous for the ozone layer (Regulation (EC) No. 1005/2009)

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, the exposure scenarios are included in the appendix. You must always use relevant exposure scenarios that correspond to their identified uses.

13.1 Waste treatment methods:

13.1.1 Waste regulations:

European Union

[S314004 Hazardous waste according to Directive 2008/98 / EC, as amended by Regulation (EU) No. 1357/2014 and Regulation (EU) No. 2017/997 [S075401] waste code (Directive 2008/98 / EG, Decision 2000/0532 / EG). 08 05 01 * [S004555] (Waste not listed under 08: isocyanate waste). 16 05 04 * [S008205] (gases in pressure vessels and used chemicals: gases in pressure vessels (including halons) containing dangerous substances).

[S111400] Depending on the industry and the production process, other waste codes may also be applicable.

13.1.2 Disposal information:

[S690] Specific waste recycling.

[S063901] Dispose of waste in compliance with local and / or national regulations.

[S994] Hazardous waste should not be mixed with other waste. Different types of hazardous waste should not be mixed if this can lead to pollution or lead to problems in the processing of the waste.

[S995] Hazardous waste must be handled responsibly. All facilities that store, transport or handle hazardous waste must take the necessary measures to reduce the risk of contamination or damage

Page 13 below the header: to avoid people or animals.

[S666] Do not discharge into drains or the environment.

13.1.3 Packaging:

European Union

[S757] Waste code container (Directive 2008/98 / EC). 15 01 10 *

[S007730] (packaging containing residues of dangerous substances or contaminated by dangerous substances).

13.1.4 Disposal of contaminated containers:

Empty the container completely.

Handover to an approved waste disposal company. Recommended cleaning: cleaning by recyclers or specialist company

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SECTION 14: Transport information

Road (ADR) 14.1

UN number:

UN number: 1950

14.2 UN proper shipping name:

Proper shipping name:
Druckgaspackungen

14.3 Transport hazard classes:

Hazard identification number:
Class: [S216289] 2
Classification code: [S216212] 5 F

14.4 Packing group:

Packing group:
Danger label: 2.1

14.5 Environmental hazards:

Label for environmentally hazardous substances:
[S253579] no

14.6 Special precautions for user:

Special provisions: 190
Special provisions: 327 Special provisions: 344
Special provisions: 625
Limited quantities: [S206809]
Composite packaging: up to 1 liter per inner packaging for liquid substances. A package must not be heavier than 30 kg.
(Gross massa)

Railways (RID) 14.1

UN number:

UN number: 1950

14.2 UN proper shipping name:

Proper shipping name: Druckgaspackungen

14.3 Transport hazard classes:

Hazard Identification Number: 23
Class: [S216289] 2
Classification code: [S216212] 5F

14.4 Packing group:

Packing group:
Labels: 2.1

14.5 Environmental hazards:

Label for environmentally hazardous substances: [S253579] no

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14.6 Special precautions for user:

Special provisions: 190
Special provisions: 327
Special provisions: 344
Special provisions: 625

Limited quantities: [S206809] Compound Packaging: up to 1 liter per inner packaging for liquid substances. A package must not be heavier than 30 kg. (Gross massa)

Inland waterways (ADN) 14.1

UN number:

UN number: 1950

14.2 UN proper shipping name: Proper shipping name: Compressed gas packs

14.3 Transport hazard classes: Hazard identification number:

Class: [S216289] 2 Classification code: [S216212] 5F

14.4 Packing group: Packing group:

Labels: 2.1

14.5 Environmental hazards:

Label for environmentally hazardous substances:
[S253579] no

14.6 Special precautions for user:

Special provisions: 190
Special provisions: 327
Special provisions: 344
Special provisions: 625

Limited quantities: [S206809] Compound packaging: up to 1 liter per inner packaging for liquid substances.
A package must not be heavier than 30 kg. (Gross massa)

Lake (IMDG / IMSBC)

14.1 UN number:

UN number: 1950

14.2 UN proper shipping name:

Proper shipping name: Aerosols

14.3 Transport hazard classes:

Hazard identification number:

Class: [S244571] 2.1

Classification code:

14.4 Packing group:

Packing group: Labels: 2.1

14.5 Environmental hazards:

Marine pollutant: -

Label for environmentally hazardous substances: [S253579] no

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14.6 Special precautions for user:

Special provisions: 63
Special provisions: 190
Special provisions: 277
Special provisions: 327
Special provisions: 344
Special provisions: 381
Special provisions: 959
Limited quantities: [S206809] Compound packaging: up to 1 liter per inner packaging for liquid substances.
A package must not be heavier than 30 kg. (Gross massa)

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and according to the IBC code:

Annex of MARPOL 73/78 [S001] 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 classes:

Hazard identification number:
Class: [S244571] 2.1
Classification code:

14.4 Packing group:

Packing group:
Danger label: 2.1

14.5 Environmental hazards:

Label for environmentally hazardous substances: [S253579] no

14.6 Special precautions for user:

Special provisions: A145
Special provisions: A167
Special provisions: A802

Limited quantities: maximum permissible total quantity per package: [S295703] 30 kg G

SECTION 15: Regulatory information

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

European legislation:

FOV content directive 2010/75 / E
FOV content
19.73%
187.435 g / l

REACH Annex XVII - Restriction Contains component (s) which are subject to the restrictions in 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.

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	Name of the substance, groups of substances or preparations	Restriction conditions
Tris (2-chloro-1-methylethyl) phosphate, polymethylene polyphenyl isocyanate	<p>[S003] Liquid substances or mixtures that are considered dangerous according to Directive 1999/45 / EC or that meet the criteria for one of the following hazard classes or categories set out in Annex I to Regulation (EC) No. 1272/2008:</p> <p>a) Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8</p> <p>Types A and B, 2.9, 2.10, 2.12, 2.13 categories</p> <p>1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;</p> <p>b) Hazard classes 3.1 to 3.6, 3.7 Impairment of sexual function and fertility as well as development, 3.8 excluding anesthetic effects, 3.9 and 3.10;</p> <p>c) hazard class 4.1;</p> <p>d) Hazard class 5.1.</p>	<p>[S257773] 1. Must not be used</p> <ul style="list-style-type: none"> - in decorative objects that are used to create light or color effects (due to phase changes), e.g. in mood lamps and ashtrays, are determined; - in prank games; - in games for one or more participants or in products intended for use as such, including for decoration. [S257774] 2. Products that do not comply with paragraph 1 may not be placed on the market. [S257775] 3. May not be placed on the market if they contain a coloring agent and / or a perfume other than for tax reasons, provided that <ul style="list-style-type: none"> - they can be used in decorative oil lamps as fuel intended for supply to the general public and - their aspiration is classified as dangerous and they are marked with R65 or H304. [S257776] 4. Decorative oil lamps intended for distribution to the general public may not be placed on the market unless they meet the European standard for decorative oil lamps (EN 14059) adopted by the European Committee for Standardization (CEN). [S257777] 5. Without prejudice to the implementation of other Community provisions on the classification, packaging and labeling of dangerous substances and mixtures, suppliers ensure before placing on the market that the following requirements are met: <ul style="list-style-type: none"> a) Lamp oils marked with R65 or H304 and intended for distribution to the general public bear the following inscriptions in a clearly visible, legible and indelible manner: <p>„Lamps filled with this liquid are to be kept out of the reach of children’ and from 1 December 2010, Already a small one Sip lamps of oil- or even sucking on a lamp wick - can lead to life-threatening damage to the lungs.’</p> b) From 1 December 2010, liquid grill lighters marked with R65 or H304 and intended for distribution to the general public will have the following inscription legible and indelible: „A small sip of grill lighter can lead to life-threatening damage to the lungs. c) Lamp oils and grill lighters marked with R65 or H304 and intended for distribution to the general public will be packed in black opaque containers with a maximum capacity of 1 liter from 1 December 2010. [S257778] 6. By 1 June 2014 at the latest, the Commission is requesting the European Chemicals Agency to prepare a dossier in accordance with Article 69 of this Regulation, so that a ban on liquid grill lighters and fuels labeled with R65 or H304 and intended for distribution to the general public may apply for decorative lamps. [S257779] 7. Natural or legal persons who place lamp oils and liquid grill lighters marked with R65 or H304 on the market for the first time shall submit data on alternatives to lamp oils marked with R65 or H304 annually to the competent authority of the Member State concerned by 1 December 2011 and thereafter and liquid grill lighters. The Member States shall make this data available to the Commission.,,

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National legislation Belgium:

RALMO - DÄMM fine cell

No data available.

National legislation The Netherlands:

RALMO - DÄMM fine cell

Waste identification (the Netherlands)

Waterbezwaarlijkheid

LWCA (the Netherlands): KGA category 06

Insufficient data available

National legislation in France:

RALMO - DÄMM fine cell

No data available.

National legislation in Germany:

RALMO - DÄMM fine cell

WGK

1; [S004] Classification of water-hazardous on a component basis according to the administrative regulation of water-hazardous substances (VwVwS) from July 27, 2005 (Appendix 4)

Polymethylene polyphenyl isocyanate

TA-Luft: 5.2.5; I.

TRGS900- Risk of Fruit Damage

pMDI (calculated as MDI); Y; [S004] There is no need to fear the risk of fruit damage if the workplace limit value and the biological limit value are observed.

Sensitizing substances

pMDI (calculated as MDI); Sa; [S007] Respiratory sensitizing substances

TRGS905 - Carcinogenic

Techn. („Polymeres“) MDI (pMDI) (in the form of breathable aerosols, A fraction); 2nd

TRGS905 - Mutagenic

Techn. („Polymeres“) MDI (pMDI) (in the form of breathable aerosols, A fraction)

TRGS905 - Fertile hazard

Techn. („Polymeres“) MDI (pMDI) (in the form of breathable aerosols, A fraction)

TRGS905 - Fruit damaging

Techn. („Polymeres“) MDI (pMDI) (in the form of breathable aerosols, A fraction)

Skin absorptive substances

pMDI (calculated as MDI); H; [S005] Skin absorptive

National legislation in UK:

RALMO - DÄMM fine cell

No data available.

Polymethylenpolyphenylisocyanat

Skin Sensitisation

Isocyanates, all (as-NCO) Except methyl isocyanate; Sen

Respiratory sensitisation

Isocyanates, all (as-NCO) Except methyl isocyanate; Sen

Other relevant data:

RALMO - DÄMM fine cell

No data available.

15.2 Chemical safety assessment:

[S294643] No chemical safety assessment has been carried out for the mixture.

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SECTION 16: Other information

Complete wording of all H-phrases listed under points 2 and 3:

H220 [S022000] Extremely flammable gas.
H222 [S022200] Extremely flammable aerosol.
H229 [S269810] Pressurized container: May burst if heated.
H280 [S208000] Contains gas under pressure; can explode when heated.
H302 [S030200] Harmful if swallowed.
H315 [S031500] Causes skin irritation.
H317 [S031700] May cause an allergic skin reaction.
H319 [S031900] Causes serious eye irritation.
H332 [S033200] Harmful if inhaled.
H334 [S033400] May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 [S033500] May cause respiratory irritation.
H351 [S351000] Suspected of causing cancer.
H373 [S373000] May cause damage to organs through prolonged or repeated exposure.
H373 [S037302] May cause damage to organs through prolonged or repeated exposure if inhaled.

(*) = BIG'S SELF-CLASSIFICATION

CLP (EU-GHS)	Classification, labeling and packaging (Globally Harmonized System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50%
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50%
LD50	lethal can 50%
NOAEL	No Observed Adverse Effect level
NOEC	No Observed Effect Concentration
OECD	Organization for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

Specific concentration limits CLP

polymethylene polyphenyl isocyanate	C ≥ 5%	Eye Irrit 2; H319	[S293684] analogous to Annex VI
	C ≥ 5%	Skin Irrit 2; H315	[S293684] analogous to Annex VI
	C ≥ 0.1%	Resp Sens 1; H334	[S293684] analogous to Annex VI
	C ≥ 5%	STOT SE; H335	[S293684] analogous to Appendix V

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(The data of the dangerous ingredients were taken from the latest safety data sheet of the supplier.)