



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

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Ponal Rapido Expansionskleber (CS)

SDS No. : 367799
V007.0

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

1.1. Product identifier

Ponal Rapido Expansionskleber, Komp. A

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

Intended use:

Foam, 2-component without propellant gas

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

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

1.4. Emergency telephone number

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

Further information is available at Poison Control Centers.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Acute toxicity H332 Harmful if inhaled. Route of Exposure: Inhalation	Category 4
Skin irritation H315 Causes skin irritation.	Category 2
Serious eye irritation H319 Causes serious eye irritation.	Category 2
Respiratory sensitizer H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.	Category 1
Skin sensitizer H317 May cause an allergic skin reaction.	Category 1
Carcinogenicity H351 Suspected of causing cancer.	Category 2
Specific target organ toxicity - single exposure H335 May cause respiratory irritation. Target organ: respiratory tract irritation	Category 3
Specific target organ toxicity - repeated exposure H373 May cause damage to organs through prolonged or repeated exposure.	Category 2

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains

Diphenylmethane diisocyanate, isomers and homologues

Signal word:

Danger

Hazard statement:

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.

Supplemental information

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

Precautionary statement:

P102 Keep out of reach of children.
 P101 If medical advice is needed, have product container or label at hand.
 P260 Do not breathe vapours.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/eye protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P501 Dispose of contents/container in accordance with national regulation.

2.3. Other hazards

Information according to XVII. 56 REACH

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

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Following substances are present in a concentration $\geq 0,1\%$ and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	40- 60 %	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	Eye Irrit. 2; H319; C \geq 5 % Skin Irrit. 2; H315; C \geq 5 % Resp. Sens. 1; H334; C \geq 0,1 % STOT SE 3; H335; C \geq 5 %	
4,4'- methylenediphenyl diisocyanate 101-68-8 202-966-0 01-2119457014-47	40- 60 %	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	Eye Irrit. 2; H319; C \geq 5 % Skin Irrit. 2; H315; C \geq 5 % Resp. Sens. 1; H334; C \geq 0,1 % STOT SE 3; H335; C \geq 5 %	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1 227-534-9 01-2119480143-45	1- < 5 %	STOT RE 2, H373 Carc. 2, H351 Acute Tox. 4, Inhalation, H332 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317 Resp. Sens. 1, H334	Eye Irrit. 2; H319; C \geq 5 % Skin Irrit. 2; H315; C \geq 5 % Resp. Sens. 1; H334; C \geq 0,1 % STOT SE 3; H335; C \geq 5 %	
2,2'-Methylenediphenyl diisocyanate 2536-05-2 219-799-4 01-2119927323-43	0,1- < 1 %	STOT RE 2, H373 Carc. 2, H351 Acute Tox. 4, Inhalation, H332 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317	Eye Irrit. 2; H319; C \geq 5 % Skin Irrit. 2; H315; C \geq 5 % Resp. Sens. 1; H334; C \geq 0,1 % STOT SE 3; H335; C \geq 5 %	

**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:

In case of adverse health effects seek medical advice.

Inhalation:

Move to fresh air, consult doctor if complaint persists.

Skin contact:

Rinse with running water and soap. Skin care. Remove contaminated clothes immediately.

Eye contact:

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

Ingestion:

Rinse mouth and throat. Drink 1-2 glasses of water. Seek medical advice.

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

SKIN: Redness, inflammation.

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

May cause an allergic skin reaction.

Causes serious eye irritation.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media:

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

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

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

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x) 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**

Ensure adequate ventilation.

Avoid contact with skin and eyes.

Wear protective equipment.

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**

Ensure that workrooms are adequately ventilated.

Avoid skin and eye contact.

Hygiene measures:

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

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

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container protected against moisture.

Store in a cool, dry place.

Avoid strictly temperatures below + 2°C and above + 30 °C.

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

Do not store together with oxidants.

Do not store together with flammable solutions.

7.3. Specific end use(s)

Foam, 2-component without propellant gas

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9			STEL (Short Term Exposure Limit) factor:	1 Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.	TRGS 900
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9			Skin designation:	Can be absorbed through the skin.	TRGS 900
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
Diphenylmethane diisocyanate, isomers and homologs 9016-87-9		0,05	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8			STEL (Short Term Exposure Limit) factor:	1 Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8		0,05	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1			STEL (Short Term Exposure Limit) factor:	1 Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.	TRGS 900
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1		0,05	Exposure limit(s):	2	TRGS 900
2,2'-Methylenediphenyl diisocyanate 2536-05-2			STEL (Short Term Exposure Limit) factor:	1 Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.	TRGS 900
2,2'-Methylenediphenyl diisocyanate 2536-05-2			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
2,2'-Methylenediphenyl diisocyanate 2536-05-2		0,05	Exposure limit(s):	2	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4,4'- methylenediphenyl diisocyanate 101-68-8	aqua (freshwater)		0,0037 mg/l				
4,4'- methylenediphenyl diisocyanate 101-68-8	aqua (intermittent releases)		0,037 mg/l				
4,4'- methylenediphenyl diisocyanate 101-68-8	aqua (marine water)		0,00037 mg/l				
4,4'- methylenediphenyl diisocyanate 101-68-8	sediment (freshwater)				11,7 mg/kg		
4,4'- methylenediphenyl diisocyanate 101-68-8	sediment (freshwater)				1,17 mg/kg		
4,4'- methylenediphenyl diisocyanate 101-68-8	Soil				2,33 mg/kg		
4,4'- methylenediphenyl diisocyanate 101-68-8	Predator						no potential for bioaccumulation
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	aqua (marine water)		0,1 mg/l				
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	sewage treatment plant (STP)		1 mg/l				
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	aqua (intermittent releases)		10 mg/l				
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	aqua (freshwater)		1 mg/l				
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	Soil				1 mg/kg		
2,2'-Methylenediphenyl diisocyanate 2536-05-2	aqua (freshwater)		1 mg/l				
2,2'-Methylenediphenyl diisocyanate 2536-05-2	aqua (marine water)		0,1 mg/l				
2,2'-Methylenediphenyl diisocyanate 2536-05-2	Soil				1 mg/kg		
2,2'-Methylenediphenyl diisocyanate 2536-05-2	sewage treatment plant (STP)		1 mg/l				
2,2'-Methylenediphenyl diisocyanate 2536-05-2	aqua (intermittent releases)		10 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4,4'-methylenediphenyl diisocyanate 101-68-8	Workers	inhalation	Long term exposure - local effects		0,05 mg/m ³	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m ³	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	General population	inhalation	Long term exposure - local effects		0,025 mg/m ³	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m ³	no potential for bioaccumulation
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m ³	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	Workers	inhalation	Long term exposure - local effects		0,05 mg/m ³	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m ³	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	General population	inhalation	Long term exposure - local effects		0,025 mg/m ³	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m ³	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	Workers	inhalation	Long term exposure - local effects		0,05 mg/m ³	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m ³	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	General population	inhalation	Long term exposure - local effects		0,025 mg/m ³	

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
4,4'-Methylenediphenyl diisocyanate 101-68-8	4,4-Diaminodiphenylmethane	Creatinine in urine	Sampling time: End of shift.	10 µg/g	DE BAT	BAT values reflect the total physical load of workplace substances absorbed through inhalation, dermally, etc. With occupational exposure to MDI, parameter 4,4'-Diaminodiphenylmethane (MDA) in the urine covers all components of a complex MDI mixture, since both monomers and oligomers of the MDI are degraded independent of the exposure path of the monomeric MDI. In contrast, the MAK value for MDI takes into account only the monomer MDI portion.	

8.2. Exposure controls:

Respiratory protection:

Suitable breathing mask when there is inadequate ventilation.

Combination filter: ABEKP (EN 14387)

This recommendation should be matched to local conditions.

Hand protection:

Use attached gloves. Perforation time < 5 minutes.

Eye protection:

Goggles which can be tightly sealed.

Protective eye equipment should conform to EN166.

Skin protection:

Suitable protective clothing

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

Advices to personal protection equipment:

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

Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Delivery form	liquid
Colour	light brown
Odor	little intrinsic odour
Melting point	Not applicable, Product is a liquid
Initial boiling point	Currently under determination
Flammability	Currently under determination
Explosive limits	Not applicable, The product is not flammable.
Flash point	Currently under determination
Auto-ignition temperature	Currently under determination
Decomposition temperature	Currently under determination
pH	Not applicable, Product reacts with water.
Viscosity (kinematic) (20 °C (68 °F);)	25.000 - 30.000 mm ² /s
Viscosity, dynamic (Brookfield; 20 °C (68 °F))	25.000 - 30.000 mPa.s no method
Solubility (qualitative) (23 °C (73.4 °F); Solvent: Water)	Reacts with water: generation of heat.
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure	Mixture
Density (20 °C (68 °F))	Currently under determination
Relative vapour density:	1,05 - 1,15 g/cm ³ no method
Particle characteristics	Currently under determination
	Not applicable
	Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Humidity

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

General toxicological information:

Cross-reactions with other isocyanate compounds are possible.

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

Acute oral toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
4,4'-methylenediphenyl diisocyanate 101-68-8	LD50	> 2.000 mg/kg	rat	other guideline:
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	LD50	> 2.000 mg/kg	rat	other guideline:
2,2'-Methylenediphenyl diisocyanate 2536-05-2	LD50	> 2.000 mg/kg	rat	EU Method B.1 (Acute Toxicity (Oral))

Acute dermal toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	LD50	> 9.400 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
4,4'-methylenediphenyl diisocyanate 101-68-8	LD50	> 9.400 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	LD50	> 9.400 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	LD50	> 9.400 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No substance data available.

No substance data available.

No data available.

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
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
4,4'- methylenediphenyl diisocyanate 101-68-8	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

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
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	sensitising	Skin sensitisation	guinea pig	OECD Guideline 406 (Skin Sensitisation)
4,4'- methylenediphenyl diisocyanate 101-68-8	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
4,4'- methylenediphenyl diisocyanate 101-68-8	sensitising	Respiratory sensitisation	guinea pig	not specified
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	sensitising	Respiratory sensitisation	guinea pig	not specified
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	not sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	sensitising	Respiratory sensitisation	guinea pig	not specified

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
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)
4,4'- methylenediphenyl diisocyanate 101-68-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
4,4'- methylenediphenyl diisocyanate 101-68-8	negative	inhalation		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	negative	inhalation		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	negative	inhalation		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	carcinogenic	inhalation: aerosol	2 y 6 h/d	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	carcinogenic	inhalation: aerosol	2 y 6 h/d, 5 d/w	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	carcinogenic	inhalation: aerosol	2 y 6 h/d, 5 d/w	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity:

No data available.

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
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)
4,4'- methylenediphenyl diisocyanate 101-68-8	NOAEL 0,0002 mg/l	inhalation: aerosol	main: 2 y; satellite:1 y 6 h/d; 5 d/w	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	NOAEL 0,2 mg/m ³	inhalation: aerosol	2 y 6 h/d, 5 d/w	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	NOAEL 0,2 mg/m ³	inhalation: aerosol	2 y 6 h/d, 5 d/w	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:

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

12.1. Toxicity

Toxicity (Fish):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
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)
4,4'-methylenediphenyl diisocyanate 101-68-8	LL50	> 100 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	LC50	Toxicity > Water Solubility	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	LC50	Toxicity > Water solubility	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)

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
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)
4,4'-methylenediphenyl diisocyanate 101-68-8	EC50	> 100 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	EC50	Toxicity > Water Solubility	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	EC50	Toxicity > Water solubility	24 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
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	NOEC	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
4,4'-methylenediphenyl diisocyanate 101-68-8	NOEC	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	NOEC	Toxicity > Water solubility	21 day	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	NOEC	Toxicity > Water solubility	21 day	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

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
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	EC50	> 1.640 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-methylenediphenyl diisocyanate 101-68-8	EL50	> 100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-methylenediphenyl diisocyanate 101-68-8	NOELR	100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	EC50	Toxicity > Water Solubility	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	NOELR	Toxicity > Water Solubility	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	EC50	Toxicity > Water solubility	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	NOELR	Toxicity > Water solubility	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)

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
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	EC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
4,4'-methylenediphenyl diisocyanate 101-68-8	EC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
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))
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	not readily biodegradable.	not specified	0 %	28 d	OECD 301 A - F
4,4'-methylenediphenyl diisocyanate 101-68-8	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	not inherently biodegradable	aerobic	0 %	28 d	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))
2,2'-Methylenediphenyl diisocyanate 2536-05-2	not inherently biodegradable	aerobic	0 %	28 day	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Diphenylmethane diisocyanate, isomers and homologues 9016-87-9	200			Cyprinus carpio	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
4,4'-methylenediphenyl diisocyanate 101-68-8	92 - 200	28 d		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	200	28 day		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	200	28 day		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	4,51	22 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	5,22		QSAR (Quantitative Structure Activity Relationship)
2,2'-Methylenediphenyl diisocyanate 2536-05-2	5,22		QSAR (Quantitative Structure Activity Relationship)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
4,4'-methylenediphenyl diisocyanate 101-68-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2,2'-Methylenediphenyl diisocyanate 2536-05-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

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

Disposal of uncleaned packages:

Use packages for recycling only when totally empty.

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

Waste code

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

SECTION 14: Transport information

- 14.1. UN number or ID number**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.2. UN proper shipping name**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.3. Transport hazard class(es)**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.4. Packing group**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.5. Environmental hazards**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.6. Special precautions for user**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.7. Maritime transport in bulk according to IMO instruments**
not applicable

SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
- | | |
|---|----------------|
| Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009): | Not applicable |
| Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): | Not applicable |
| Persistent organic pollutants (Regulation (EU) 2019/1021): | Not applicable |

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

National regulations/information (Germany):

WGK:	WGK 1: slightly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2)
BG regulations, rules, infos:	BG regulation: BGV B 1 Handling hazardous substances
Storage class according to TRGS 510:	10

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:

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.

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

Further information:

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel's Product Safety and Regulatory Affairs Department (SDSinfo.Adhesive@henkel.com) prior to export to other territories than the European Union.

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Dear Customer,

Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.



Safety Data Sheet according to (EC) No 1907/2006 as amended Page 1 of 16

Ponal Rapido Expansionskleber (CS)

SDS No. : 367801
V007.0
Revision: 01.11.2022
printing date: 19.05.2025
Replaces version from: 02.05.2022

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

1.1. Product identifier

Ponal Rapido Expansionskleber, Komp. B

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

Intended use:

Foam, 2-component without propellant gas

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0

ua-productsafety.de@henkel.com

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

1.4. Emergency telephone number

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

Further information is available at Poison Control Centers.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin irritation	Category 2
H315 Causes skin irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:**Contains**

Ethylenediamine, ethoxylated and propoxylated MW <930

Signal word:

Warning

Hazard statement:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement:

P102 Keep out of reach of children.
P101 If medical advice is needed, have product container or label at hand.
P271 Use only outdoors or in a well-ventilated area.
P260 Do not breathe vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves/eye protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container in accordance with national regulation.

2.3. Other hazards

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Following substances are present in a concentration $\geq 0,1\%$ and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):This mixture does not contain any substances in concentration \geq the concentration limit that are assessed to be a PBT, vPvB or ED.**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5 237-158-7 01-2119486772-26	25- < 50 %	Acute Tox. 4, Oral, H302 Aquatic Chronic 3, H412		
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5 500-047-1 01-2119471488-26	5- < 10 %	Eye Irrit. 2, H319 Skin Sens. 1, H317		
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7 225-306-3 01-2119454390-44	1- < 5 %	Eye Irrit. 2, H319 STOT SE 3, H335		
1-methylimidazole 616-47-7 210-484-7 01-2119979544-23	1- < 3 %	Acute Tox. 4, Oral, H302 Acute Tox. 3, Dermal, H311 Skin Corr. 1B, H314	dermal:ATE = 400 mg/kg	

**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:

In case of adverse health effects seek medical advice.

Inhalation:

Move to fresh air, consult doctor if complaint persists.

Skin contact:

Rinse with running water and soap. Skin care. Remove contaminated clothes immediately.

Eye contact:

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

Ingestion:

Rinse mouth and throat. Drink 1-2 glasses of water. Seek medical advice.

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

May cause an allergic skin reaction.

Causes serious eye irritation.

SKIN: Redness, inflammation.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media**Suitable extinguishing media:**

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

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

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

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**

Ensure adequate ventilation.

Avoid contact with skin and eyes.

Wear protective equipment.

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**

Ensure that workrooms are adequately ventilated.

Avoid skin and eye contact.

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container protected against moisture.

Store in a cool, dry place.

Avoid strictly temperatures below + 2°C and above + 30 °C.

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

Do not store together with oxidants.

Do not store together with flammable solutions.

7.3. Specific end use(s)

Foam, 2-component without propellant gas

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

None

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		
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	aqua (freshwater)		0,085 mg/l				
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	aqua (marine water)		0,0085 mg/l				
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	aqua (intermittent releases)		1,03 mg/l				
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	sewage treatment plant (STP)		1000 mg/l				
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	sediment (freshwater)				0,211 mg/kg		
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	sediment (marine water)				0,0211 mg/kg		
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	Soil				0,025 mg/kg		
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	sewage treatment plant (STP)		10 mg/l				
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	aqua (freshwater)		0,1 mg/l				
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	aqua (intermittent releases)		1 mg/l				
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	aqua (marine water)		0,01 mg/l				
1-Methylimidazole 616-47-7	aqua (freshwater)		0,1 mg/l				
1-Methylimidazole 616-47-7	aqua (marine water)		0,01 mg/l				
1-Methylimidazole 616-47-7	aqua (intermittent releases)		1 mg/l				
1-Methylimidazole 616-47-7	sediment (freshwater)				6,95 mg/kg		
1-Methylimidazole 616-47-7	sediment (marine water)				0,695 mg/kg		
1-Methylimidazole 616-47-7	Soil				1,26 mg/kg		
1-Methylimidazole 616-47-7	Sewage treatment plant		590 mg/l				

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/m ³	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	Workers	Inhalation	Long term exposure - systemic effects		8,2 mg/m ³	
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/m ³	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	General population	Inhalation	Long term exposure - systemic effects		1,45 mg/m ³	
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	General population	oral	Acute/short term exposure - systemic effects		2 mg/kg	
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	Workers	dermal	Long term exposure - systemic effects		5 mg/kg	
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	Workers	inhalation	Long term exposure - systemic effects		35,2 mg/m ³	
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	General population	dermal	Long term exposure - systemic effects		3 mg/kg	
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	General population	inhalation	Long term exposure - systemic effects		10,4 mg/m ³	
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	General population	oral	Long term exposure - systemic effects		3 mg/kg	
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	Workers	inhalation	Long term exposure - systemic effects		14 mg/m ³	
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	Workers	dermal	Long term exposure - systemic effects		4 mg/kg	
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	General population	inhalation	Long term exposure - systemic effects		3,5 mg/m ³	
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	General population	dermal	Long term exposure - systemic effects		2 mg/kg	
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	General population	oral	Long term exposure - systemic effects		2 mg/kg	
1-Methylimidazole 616-47-7	worker	inhalation	Long term exposure - systemic effects		6,3 mg/m ³	
1-Methylimidazole 616-47-7	worker	dermal	Long term exposure - systemic effects		1,8 mg/kg	

Biological Exposure Indices:

None

8.2. Exposure controls:

Respiratory protection:
 Suitable breathing mask when there is inadequate ventilation.
 Combination filter: ABEKP (EN 14387)
 This recommendation should be matched to local conditions.

Hand protection:
 Use attached gloves. Perforation time < 5 minutes.

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

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Delivery form	liquid
Colour	green, up to, blue
Odor	slightly, amine-like
Melting point	Not applicable, Product is a liquid
Initial boiling point	Currently under determination
Flammability	Currently under determination
Explosive limits	Not applicable, The product is not flammable.
Flash point	Currently under determination
Auto-ignition temperature	Currently under determination
Decomposition temperature	Currently under determination
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic) (20 °C (68 °F);)	25.000 - 40.000 mm ² /s
Viscosity, dynamic (Brookfield; 20 °C (68 °F))	25.000 - 40.000 mPa.s no method
Solubility (qualitative) (23 °C (73.4 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure	Mixture
Density (20 °C (68 °F))	Currently under determination
Relative vapour density:	1,05 - 1,15 g/cm ³ no method
Particle characteristics	Currently under determination
	Not applicable
	Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

None if used for intended purpose.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

None if used for intended purpose.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

None known.

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

Cross-reactions with other amine compounds are possible.

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

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Tris(2-chloro-1-methylethyl) phosphate 13674-84-5	LD50	1.150 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	LD50	> 5.000 mg/kg	rat	not specified
2,2- Bis(hydroxymethyl)propi onic acid 4767-03-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
1-methylimidazole 616-47-7	LD50	1.144 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

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)
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	LD50	> 5.000 mg/kg	rabbit	not specified
2,2- Bis(hydroxymethyl)propi onic acid 4767-03-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
1-methylimidazole 616-47-7	LD50	400 - 640 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
1-methylimidazole 616-47-7	Acute toxicity estimate (ATE)	400 mg/kg		Expert judgement

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)

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)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
1-methylimidazole 616-47-7	corrosive		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)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	irritating	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

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
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

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)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

Carcinogenicity

No data available.

Reproductive toxicity:

No data available.

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)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	NOAEL 1.000 mg/kg	oral: gavage	91 days single, daily oral gavage dose	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:

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

12.1. Toxicity

Toxicity (Fish):

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

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)
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	LC50	25.600 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	LC50	> 1.000 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
1-methylimidazole 616-47-7	LC50	> 100 - 220 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)

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)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1-methylimidazole 616-47-7	EC50	268 mg/l	48 h	Daphnia sp.	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)

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)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	EC50	750 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
1-methylimidazole 616-47-7	EC50	180 mg/l	72 h		OECD Guideline 201 (Alga, Growth Inhibition Test)

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)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	EC50	> 1.000 mg/l	30 min	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
1-methylimidazole 616-47-7	EC 50	1.100 mg/l	17 h		not specified

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))
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	readily biodegradable	aerobic	90 - 100 %	28 d	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)
1-methylimidazole 616-47-7			< 30 %		OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA 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)

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)
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	-1,1	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.
Ethylenediamine, ethoxylated and propoxylated MW <930 26316-40-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2,2-Bis(hydroxymethyl)propionic acid 4767-03-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
1-methylimidazole 616-47-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

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

Disposal of uncleaned packages:

Use packages for recycling only when totally empty.

Waste code

080409

SECTION 14: Transport information

- 14.1. UN number or ID number**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.2. UN proper shipping name**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.3. Transport hazard class(es)**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.4. Packing group**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.5. Environmental hazards**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.6. Special precautions for user**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.7. Maritime transport in bulk according to IMO instruments**
not applicable

SECTION 15: Regulatory information

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

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

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

WGK: WGK 1: slightly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV))
Classification according to AwSV, Annex 1 (5.2)

BG regulations, rules, infos:

Note the German BG-Chemie data sheet: M044 - Polyurethane-fabrication / Isocyanates

Storage class according to TRGS 510: 10

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:

H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H412 Harmful to aquatic life with long lasting effects.

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

Further information:

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