



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

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LOCTITE CAT 17

SDS No. : 385769

V005.2

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Replaces version from: 23.02.2023

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

#### 1.1. Product identifier

LOCTITE CAT 17

UFI: A0HG-DW1C-W20P-M8P8

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

Intended use:

Hardener

#### 1.3. Details of the supplier of the safety data sheet

Henkel Ltd

Adhesives

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website [www.mysds.henkel.com](http://www.mysds.henkel.com) or [www.henkel-adhesives.com](http://www.henkel-adhesives.com).

#### 1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (CLP):

Serious eye damage

Category 1

H318 Causes serious eye damage.

Respiratory sensitizer

Category 1

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitizer

Category 1

H317 May cause an allergic skin reaction.

#### 2.2. Label elements

##### Label elements (CLP):

##### Hazard pictogram:



##### Contains

benzene-1,2:4,5-tetracarboxylic dianhydride

Cyclohexane-1,2-dicarboxylic anhydride  
phthalic anhydride

maleic anhydride

**Signal word:** Danger

**Hazard statement:** H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Precautionary statement:** P261 Avoid breathing mist/vapours.  
**Prevention** P280 Wear protective gloves/eye protection.

**Precautionary statement:** P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove  
**Response** contact lenses, if present and easy to do. Continue rinsing.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

### 2.3. Other hazards

None if used properly.

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

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

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

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

<b>Hazardous components CAS-No. EC Number REACH-Reg No.</b>	<b>Concentration</b>	<b>Classification</b>	<b>Specific Conc. Limits, M- factors and ATEs</b>	<b>Add. Information</b>
benzene-1,2,4,5-tetracarboxylic dianhydride 89-32-7 201-898-9 01-2120755188-46	25- < 50 %	Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317		
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7 201-604-9 01-2119486666-21	25- < 50 %	Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317		SVHC
phthalic anhydride 85-44-9 201-607-5 01-2119457017-41	1- < 5 %	Eye Dam. 1, H318 Skin Irrit. 2, H315 STOT SE 3, H335 Acute Tox. 4, Oral, H302 Skin Sens. 1, H317 Resp. Sens. 1, H334		
Toluene 108-88-3 203-625-9 01-2119471310-51	0,1- < 1 %	Flam. Liq. 2, H225 Repr. 2, H361d Asp. Tox. 1, H304 STOT RE 2, Inhalation, H373 Skin Irrit. 2, H315 STOT SE 3, Inhalation, H336 Aquatic Chronic 3, H412		EU OEL
maleic anhydride 108-31-6 203-571-6 01-2119472428-31	0,001- < 0,01 % (10 ppm- < 100 ppm)	STOT RE 1, Inhalation, H372 Acute Tox. 4, Oral, H302 Skin Sens. 1A, H317 Resp. Sens. 1, H334 Eye Dam. 1, H318 Skin Corr. 1B, H314	Skin Sens. 1A; H317; C >= 0,001 %	

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

**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation:**

Move to fresh air. If symptoms persist, seek medical advice.

**Skin contact:**

Rinse with running water and soap.

Obtain medical attention if irritation persists.

**Eye contact:**

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

**Ingestion:**

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

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

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

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

After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

SKIN: Rash, Urticaria.

#### **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:**

water, carbon dioxide, foam, powder

**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 (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) can be released.

#### **5.3. Advice for firefighters**

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**Additional information:**

In case of fire, keep containers cool with water spray.

### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

#### **6.2. Environmental precautions**

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

#### **6.3. Methods and material for containment and cleaning up**

Dispose of contaminated material as waste according to Section 13.

For small spills wipe up with paper towel and place in container for disposal.

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

#### **6.4. Reference to other sections**

See advice in section 8

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

Avoid skin and eye contact.

See advice in section 8

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

**7.2. Conditions for safe storage, including any incompatibilities**

Ensure good ventilation/extraction.

Keep container tightly sealed.

Refer to Technical Data Sheet.

**7.3. Specific end use(s)**

Hardener

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**Valid for  
Great Britain

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Phthalic anhydride 85-44-9 [PHTHALIC ANHYDRIDE]		4	Time Weighted Average (TWA):		EH40 WEL
Phthalic anhydride 85-44-9 [PHTHALIC ANHYDRIDE]		12	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Toluene 108-88-3 [TOLUENE]	50	191	Time Weighted Average (TWA):		EH40 WEL
Toluene 108-88-3 [TOLUENE]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Toluene 108-88-3 [TOLUENE]	100	384	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Toluene 108-88-3 [Toluene]	50	192	Time Weighted Average (TWA):	Indicative	ECTLV
Toluene 108-88-3 [Toluene]	100	384	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Toluene 108-88-3 [Toluene]			Skin designation:	Can be absorbed through the skin.	ECTLV
Maleic anhydride 108-31-6 [MALEIC ANHYDRIDE]		1	Time Weighted Average (TWA):		EH40 WEL
Maleic anhydride 108-31-6 [MALEIC ANHYDRIDE]		3	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL

**Occupational Exposure Limits**Valid for  
Ireland

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7 [HEXAHYDROPHthalic ANHYDRIDE]		0,005	Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
Phthalic anhydride 85-44-9 [PHTHALIC ANHYDRIDE]	1		Time Weighted Average (TWA):		IR_OEL
Phthalic anhydride 85-44-9 [PHTHALIC ANHYDRIDE]		12	Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
Toluene 108-88-3 [Toluene]	50	192	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Toluene 108-88-3 [Toluene]	100	384	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL
Toluene 108-88-3 [Toluene]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Toluene 108-88-3	50	192	Time Weighted Average (TWA):	Indicative	ECTLV

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[Toluene]					
Toluene 108-88-3 [Toluene]	100	384	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Toluene 108-88-3 [Toluene]			Skin designation:	Can be absorbed through the skin.	ECTLV
Maleic anhydride 108-31-6 [MALEIC ANHYDRIDE]	0,01		Time Weighted Average (TWA):		IR_OEL

**Predicted No-Effect Concentration (PNEC):**

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	aqua (freshwater)		0,0079 mg/l				
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	aqua (marine water)		0,00079 mg/l				
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	aqua (intermittent releases)		0,079 mg/l				
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	sewage treatment plant (STP)		23 mg/l				
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	sediment (freshwater)				0,0292 mg/kg		
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	sediment (marine water)				0,00292 mg/kg		
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	Air						no hazard identified
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	soil				0,00121 mg/kg		
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	Predator						no potential for bioaccumulation
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	aqua (freshwater)		90,5 µg/l				
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	aqua (marine water)		9,05 µg/l				
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	aqua (intermittent releases)		905 µg/l				
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	sediment (freshwater)				0,445 mg/kg		
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	sediment (marine water)				0,044 mg/kg		
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	Soil				0,801 mg/kg		
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	sewage treatment plant (STP)		10000 µg/l				
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	oral				20 mg/kg		
phthalic anhydride 85-44-9	Soil				0,173 mg/kg		
phthalic anhydride 85-44-9	sewage treatment plant (STP)		10 mg/l				
phthalic anhydride 85-44-9	sediment (freshwater)				3,8 mg/kg		
phthalic anhydride 85-44-9	sediment (marine water)				0,38 mg/kg		
phthalic anhydride 85-44-9	aqua (marine water)		0,1 mg/l				
phthalic anhydride 85-44-9	aqua (intermittent releases)		5,6 mg/l				
phthalic anhydride 85-44-9	aqua (freshwater)		1 mg/l				
Toluene 108-88-3	aqua (freshwater)		0,68 mg/l				
Toluene 108-88-3	sediment (freshwater)				16,39 mg/kg		
Toluene 108-88-3	sediment (marine water)				16,39 mg/kg		
Toluene 108-88-3	Soil				2,89 mg/kg		
Toluene 108-88-3	sewage treatment plant (STP)		13,61 mg/l				
Toluene	aqua (marine		0,68 mg/l				



108-88-3	water)						
Toluene 108-88-3	aqua (intermittent releases)		0,68 mg/l				
maleic anhydride 108-31-6	aqua (freshwater)		0,038 mg/l				
maleic anhydride 108-31-6	aqua (marine water)		0,004 mg/l				
maleic anhydride 108-31-6	Soil				0,037 mg/kg		
maleic anhydride 108-31-6	sediment (freshwater)				0,296 mg/kg		
maleic anhydride 108-31-6	sediment (marine water)				0,03 mg/kg		
maleic anhydride 108-31-6	sewage treatment plant (STP)		44,6 mg/l				
maleic anhydride 108-31-6	Freshwater - intermittent		0,379 mg/l				
maleic anhydride 108-31-6	Marine water - intermittent		0,038 mg/l				

**Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	Workers	inhalation	Long term exposure - systemic effects		70,4 mg/m <sup>3</sup>	no hazard identified
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	Workers	dermal	Long term exposure - systemic effects		10 mg/kg	no hazard identified
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	General population	inhalation	Long term exposure - systemic effects		17,4 mg/m <sup>3</sup>	no hazard identified
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	General population	dermal	Long term exposure - systemic effects		5 mg/kg	no hazard identified
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	General population	oral	Long term exposure - systemic effects		5 mg/kg	no hazard identified
phthalic anhydride 85-44-9	Workers	inhalation	Long term exposure - systemic effects		32,2 mg/m <sup>3</sup>	
phthalic anhydride 85-44-9	Workers	dermal	Long term exposure - systemic effects		10 mg/kg	
phthalic anhydride 85-44-9	General population	inhalation	Long term exposure - systemic effects		8,6 mg/m <sup>3</sup>	
phthalic anhydride 85-44-9	General population	dermal	Long term exposure - systemic effects		5 mg/kg	
phthalic anhydride 85-44-9	General population	oral	Long term exposure - systemic effects		5 mg/kg	
Toluene 108-88-3	Workers	Inhalation	Acute/short term exposure - local effects		384 mg/m <sup>3</sup>	
Toluene 108-88-3	Workers	Inhalation	Acute/short term exposure - systemic effects		384 mg/m <sup>3</sup>	
Toluene 108-88-3	Workers	Inhalation	Long term exposure - local effects		192 mg/m <sup>3</sup>	
Toluene 108-88-3	Workers	Inhalation	Long term exposure - systemic effects		192 mg/m <sup>3</sup>	
Toluene 108-88-3	Workers	dermal	Long term exposure - systemic effects		384 mg/kg	
Toluene 108-88-3	General population	Inhalation	Acute/short term exposure - local effects		226 mg/m <sup>3</sup>	
Toluene 108-88-3	General population	Inhalation	Acute/short term exposure - systemic effects		226 mg/m <sup>3</sup>	
Toluene 108-88-3	General population	Inhalation	Long term exposure - systemic effects		56,5 mg/m <sup>3</sup>	
Toluene 108-88-3	General population	dermal	Long term exposure - systemic effects		226 mg/kg	
Toluene 108-88-3	General population	oral	Long term exposure - systemic effects		8,13 mg/kg	
Toluene 108-88-3	General population	inhalation	Long term exposure - local effects		56,5 mg/m <sup>3</sup>	
maleic anhydride 108-31-6	Workers	inhalation	Acute/short term exposure - systemic effects		0,2 mg/m <sup>3</sup>	
maleic anhydride 108-31-6	Workers	inhalation	Acute/short term exposure - local		0,2 mg/m <sup>3</sup>	

			effects			
maleic anhydride 108-31-6	Workers	inhalation	Long term exposure - systemic effects		0,081 mg/m3	
maleic anhydride 108-31-6	Workers	inhalation	Long term exposure - local effects		0,081 mg/m3	
maleic anhydride 108-31-6	Workers	dermal	Acute/short term exposure - systemic effects			
maleic anhydride 108-31-6	Workers	dermal	Acute/short term exposure - local effects			
maleic anhydride 108-31-6	Workers	dermal	Long term exposure - systemic effects			
maleic anhydride 108-31-6	Workers	dermal	Long term exposure - local effects			

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to &gt; 30 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq 0.4$  mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to &gt; 480 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq 0.4$  mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Protective eye equipment should conform to EN166.

Skin protection:

Wear suitable protective clothing.

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

Advices to personal protection equipment:

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

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Delivery form	liquid
Colour	purple
Odor	mild
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< 10 °C (< 50 °F)
Initial boiling point	Decomposes > 140°C (284°F).
Flammability	The product is not flammable.
Explosive limits	Not applicable, The product is not flammable.
Flash point	> 150 °C (> 302 °F)
Auto-ignition temperature	Not applicable, The product is not flammable.
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Not applicable, Product reacts with water.
Viscosity (kinematic) (20 °C (68 °F); )	> 20 mm <sup>2</sup> /s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (20 °C (68 °F))	Mixture < 1 mm hg
Density (25 °C (77 °F))	1,3 - 1,5 g/cm <sup>3</sup>
Relative vapour density: (20 °C)	> 1
Particle characteristics	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**

Reacts with alcohols and amines.

Reacts with oxidants, acids and lyes

Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

See section reactivity

**10.4. Conditions to avoid**

No decomposition if stored and applied as directed.

**10.5. Incompatible materials**

See section reactivity.

**10.6. Hazardous decomposition products**

Hydrocarbons

carbon oxides.

nitrogen oxides

Rapid polymerisation may generate excessive heat and pressure.

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Cyclohexane-1,2- dicarboxylic anhydride 85-42-7	LD50	4.040 mg/kg	rat	not specified
phthalic anhydride 85-44-9	LD50	1.530 mg/kg	rat	not specified
Toluene 108-88-3	LD50	5.580 mg/kg	rat	EU Method B.1 (Acute Toxicity (Oral))
maleic anhydride 108-31-6	LD50	1.090 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
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Cyclohexane-1,2- dicarboxylic anhydride 85-42-7	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
phthalic anhydride 85-44-9	LD50	> 3.160 mg/kg	rabbit	not specified
Toluene 108-88-3	LD50	> 5.000 mg/kg	rabbit	not specified
maleic anhydride 108-31-6	LD50	2.620 mg/kg	rabbit	not specified

**Acute inhalative toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
phthalic anhydride 85-44-9	LC50	> 2,14 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Toluene 108-88-3	LC50	28,1 mg/l	vapour	4 h	rat	equivalent or similar to 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
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	not irritating		Human, SkinEthic™ RHE, Reconstructed Human Epidermis	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
phthalic anhydride 85-44-9	moderately irritating	24 h	rabbit	not specified
Toluene 108-88-3	irritating	4 h	rabbit	EU Method B.4 (Acute Toxicity: Dermal Irritation / Corrosion)
maleic anhydride 108-31-6	highly 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
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
phthalic anhydride 85-44-9	Category 1 (irreversible effects on the eye)		rabbit	not specified
Toluene 108-88-3	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
maleic anhydride 108-31-6	corrosive		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.

<b>Hazardous substances CAS-No.</b>	<b>Result</b>	<b>Test type</b>	<b>Species</b>	<b>Method</b>
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Cyclohexane-1,2- dicarboxylic anhydride 85-42-7	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
phthalic anhydride 85-44-9	sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
phthalic anhydride 85-44-9	sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Toluene 108-88-3	not sensitising	Guinea pig maximisation test	guinea pig	EU Method B.6 (Skin Sensitisation)
maleic anhydride 108-31-6	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

**Germ cell mutagenicity:**

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

<b>Hazardous substances CAS-No.</b>	<b>Result</b>	<b>Type of study / Route of administration</b>	<b>Metabolic activation / Exposure time</b>	<b>Species</b>	<b>Method</b>
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	negative	in vitro mammalian cell transformation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Cyclohexane-1,2- dicarboxylic anhydride 85-42-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		Ames Test
phthalic anhydride 85-44-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
phthalic anhydride 85-44-9	negative	in vitro mammalian chromosome aberration test	with and without		Chromosome Aberration Test
phthalic anhydride 85-44-9	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
phthalic anhydride 85-44-9	negative	sister chromatid exchange assay in mammalian cells	with and without		DNA damage and repair assay, UDS in mammalian cells
Toluene 108-88-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
Toluene 108-88-3	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
maleic anhydride 108-31-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
phthalic anhydride 85-44-9	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Toluene 108-88-3	negative	intraperitoneal		rat	not specified
Toluene 108-88-3	negative	inhalation: vapour		mouse	OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
maleic anhydride 108-31-6	negative	inhalation		rat	OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration 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
phthalic anhydride 85-44-9	not carcinogenic	oral: feed	105 w daily	rat	male/female	not specified
Toluene 108-88-3	not carcinogenic	inhalation: vapour	103 w 6.5 h/d, 5 d/w	rat	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

**Reproductive toxicity:**

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	NOAEL P 250 mg/kg NOAEL F1 750 mg/kg		oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
Toluene 108-88-3	NOAEL P 7500 mg/m3 NOAEL F1 1875 mg/m3 NOAEL F2 1875 mg/m3	Two generation study	inhalation: vapour	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Toluene 108-88-3	NOAEL P 2261 mg/m3 NOAEL F1 2261 mg/m3	fertility	inhalation: vapour	rat	not specified
maleic anhydride 108-31-6	NOAEL P 55 mg/kg NOAEL F1 55 mg/kg	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)

**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
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	NOAEL >= 250 mg/kg	oral: feed	14 d daily	rat	not specified
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	NOAEL >= 1.000 mg/kg	oral: feed	14 d daily	rat	not specified
phthalic anhydride 85-44-9	NOAEL 500 mg/kg	oral: feed	105 w daily	rat	not specified
Toluene 108-88-3	NOAEL 625 mg/kg	oral: gavage	13 w daily, 5 d/w	rat	EU Method B.26 (Sub- Chronic Oral Toxicity Test: Repeated Dose 90- Day Oral Toxicity Study in Rodents)
Toluene 108-88-3	NOAEL 1131 mg/m3	inhalation: vapour	24 m 6.5 h/d, 5 d/w	rat	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Toluene 108-88-3	NOAEL 2355 mg/m3	inhalation: vapour	15 w 6.5 h/d, 5 d/w	rat	EU Method B.29 (Sub- Chronic Inhalation Toxicity Test:90-Day Repeated Inhalation Dose Study Using Rodent Species)
maleic anhydride 108-31-6	NOAEL 40 mg/kg	oral: feed	90 d daily	rat	not specified

**Aspiration hazard:**

The mixture is classified based on Viscosity data.

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
Toluene 108-88-3	0,57 mm2/s	40 °C	not specified	

**11.2 Information on other hazards**

not applicable

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

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

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

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	LC50	> 100 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	LC50	660 mg/l	48 h	Leuciscus idus	DIN 38412-15
phthalic anhydride 85-44-9	LC50	313 mg/l	48 h	Leuciscus idus	DIN 38412-15
phthalic anhydride 85-44-9	NOEC	10 mg/l	60 d	no data	OECD Guideline 210 (fish early lite stage toxicity test)
Toluene 108-88-3	NOEC	3,2 mg/l	28 d	Cyprinodon variegatus	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
Toluene 108-88-3	LC50	5,5 mg/l	96 h	Oncorhynchus kisutch	OECD Guideline 203 (Fish, Acute Toxicity Test)
maleic anhydride 108-31-6	LC50	75 mg/l	96 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)

**Toxicity (aquatic invertebrates):**

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	EC50	63 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	EC50	103 mg/l	24 h	Daphnia magna	not specified
phthalic anhydride 85-44-9	EC50	> 640 mg/l	48 h	Daphnia magna	other guideline:
Toluene 108-88-3	EC50	3,78 mg/l	48 h	Ceriodaphnia dubia	other guideline:
maleic anhydride 108-31-6	EC50	77 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

**Chronic toxicity (aquatic invertebrates):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
phthalic anhydride 85-44-9	NOEC	16 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Toluene 108-88-3	NOEC	0,74 mg/l	7 d	Ceriodaphnia dubia	other guideline:

**Toxicity (Algae):**

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	EC50	8,1 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	NOEC	6,25 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	EC10	54 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	EC50	95,6 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
phthalic anhydride 85-44-9	EC50	> 100 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
phthalic anhydride 85-44-9	NOEC	100 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
Toluene 108-88-3	IC50	12 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
maleic anhydride 108-31-6	EC50	29 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
maleic anhydride 108-31-6	EC10	23 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)

**Toxicity (microorganisms):**

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	EC10	23 mg/l	18 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	EC10	85 mg/l	18 h		not specified
phthalic anhydride 85-44-9	EC50	> 1.000 mg/l	3 h	activated sludge	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
Toluene 108-88-3	NOEC	29 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
maleic anhydride 108-31-6	EC10	44,6 mg/l		Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)

**12.2. Persistence and degradability**

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

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
benzene-1,2:4,5- tetracarboxylic dianhydride 89-32-7	readily biodegradable	aerobic	100 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	readily biodegradable	aerobic	98 %	28 d	EU Method C.4-A (Determination of the "Ready" Biodegradability Dissolved Organic Carbon (DOC) Die-Away Test)
phthalic anhydride 85-44-9	readily biodegradable	aerobic	85,2 %	14 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Toluene 108-88-3	readily biodegradable	aerobic	80 %	20 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
maleic anhydride 108-31-6	readily biodegradable	aerobic	98 %	7 d	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)

### 12.3. Bioaccumulative potential

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

Hazardous substances CAS-No.	Bioconcentratio n factor (BCF)	Exposure time	Temperature	Species	Method
Toluene 108-88-3	90	3 d		Leuciscus idus melanotus	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

#### 12.4. Mobility in soil

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

Hazardous substances CAS-No.	LogPow	Temperature	Method
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	-2,03	21,5 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	2,17		not specified
phthalic anhydride 85-44-9	1,6		EU Method A.8 (Partition Coefficient)
Toluene 108-88-3	2,73	20 °C	EU Method A.8 (Partition Coefficient)
maleic anhydride 108-31-6	-2,61	19,8 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

#### 12.5. Results of PBT and vPvB assessment

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

Hazardous substances CAS-No.	PBT / vPvB
benzene-1,2:4,5-tetracarboxylic dianhydride 89-32-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Cyclohexane-1,2-dicarboxylic anhydride 85-42-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
phthalic anhydride 85-44-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Toluene 108-88-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
maleic anhydride 108-31-6	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:

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

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

08 04 09\* waste adhesives and sealants containing organic solvents and other dangerous substances

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

## 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 2024/590):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EC)	< 3 %

### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

## SECTION 16: Other information

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

H225 Highly flammable liquid and vapour.  
H302 Harmful if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.  
H361d Suspected of damaging the unborn child.  
H372 Causes damage to organs through prolonged or repeated exposure.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H412 Harmful to aquatic life with long lasting effects.

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

### Further information:

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