



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

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Loctite 9480 50ml \_Kit comp. B

SDS No. : 282495  
V005.0

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Replaces version from: 10.07.2014

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

#### 1.1. Product identifier

Loctite 9480 50ml \_Kit comp. B

#### Contains:

Fatty acids, tall-oil, reaction products with diethylenetriamine

Diethylenetriamine

4,4'-Isopropylidenediphenol

4,4'-Isopropylidenediphenol, polymer with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine

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

Intended use:

Epoxy Hardener

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

Henkel Limited

2 Bishop Square Business Park

AL109EY Herfordshire Hatfield

Great Britain

Phone: +44 1606 593933

Fax-no.: +44 1606 863762

ua-productsafety.uk@uk.henkel.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):


Acute toxicity	Category 4
H302 Harmful if swallowed.	
Route of Exposure: Oral	
Skin corrosion	Category 1B
H314 Causes severe skin burns and eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Acute hazards to the aquatic environment	Category 1
H400 Very toxic to aquatic life.	
Chronic hazards to the aquatic environment	Category 1
H410 Very toxic to aquatic life with long lasting effects.	

**Classification (DPD):**

C - Corrosive  
R34 Causes burns.  
Xn - Harmful  
R22 Harmful if swallowed.  
Sensitizing  
R43 May cause sensitisation by skin contact.  
N - Dangerous for the environment  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**2.2. Label elements**

**Label elements (CLP):**

<b>Hazard pictogram:</b>	
<b>Signal word:</b>	Danger
<b>Hazard statement:</b>	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H410 Very toxic to aquatic life with long lasting effects.
<b>Precautionary statement: Prevention</b>	P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary statement: Response</b>	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. P310 Immediately call a POISON CENTER or doctor. P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

**Label elements (DPD):**

C - Corrosive



N - Dangerous for the environment



**Risk phrases:**

R22 Harmful if swallowed.

R34 Causes burns.

R43 May cause sensitisation by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

S24 Avoid contact with skin.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

**Contains:**

Fatty acids, tall-oil, reaction products with diethylenetriamine,

Diethylenetriamine,

4,4'-Isopropylidenediphenol

**2.3. Other hazards**

None if used properly.

**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.	content	Classification
Fatty acids, tall-oil, reaction products with diethylenetriamine 61790-69-0	263-160-2	40- 60 %	Skin corrosion 1B H314 Acute toxicity 4; Oral H302 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
Diethylenetriamine 111-40-0	203-865-4 01-2119473793-27	5- < 10 %	Acute toxicity 4; Dermal H312 Acute toxicity 4; Oral H302 Skin sensitizer 1 H317 Skin corrosion 1B H314
4-Tert-butylphenol 98-54-4	202-679-0 01-2119489419-21	1- < 3 %	Skin irritation 2; Dermal H315 Serious eye damage 1 H318 Toxic to reproduction 2 H361f Chronic hazards to the aquatic environment 2 H411
4,4'-Isopropylidenediphenol 80-05-7	201-245-8 01-2119457856-23	1- < 3 %	Toxic to reproduction 2 H361f Specific target organ toxicity - single exposure 3 H335 Serious eye damage 1 H318 Skin sensitizer 1 H317 Chronic hazards to the aquatic environment 2 H411
Benzyl alcohol 100-51-6	202-859-9 01-2119492630-38	1- < 3 %	Acute toxicity 4; Oral H302 Acute toxicity 4; Inhalation H332 Serious eye irritation 2 H319
4,4'-Isopropylidenediphenol, polymer with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine 31326-29-1	500-072-8	0,1- < 1 %	Acute toxicity 4 H302 Acute toxicity 4 H312 Skin corrosion 1B H314 Skin sensitizer 1 H317

**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.**

**Declaration of ingredients according to DPD (EC) No 1999/45:**

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Fatty acids, tall-oil, reaction products with diethylenetriamine 61790-69-0	263-160-2	40 - 60 %	C - Corrosive; R34 Xn - Harmful; R22 N - Dangerous for the environment; R50/53
Diethylenetriamine 111-40-0	203-865-4 01-2119473793-27	5 - < 10 %	Xn - Harmful; R21/22 C - Corrosive; R34 R43
4-Tert-butylphenol 98-54-4	202-679-0 01-2119489419-21	1 - < 3 %	Xi - Irritant; R38, R41 Xn - Harmful; R62 N - Dangerous for the environment; R51/53
4,4'-Isopropylidenediphenol 80-05-7	201-245-8 01-2119457856-23	1 - < 3 %	Toxic for reproduction - category 3.; R62 Xi - Irritant; R37, R41 R43 R52
Benzyl alcohol 100-51-6	202-859-9 01-2119492630-38	1 - < 3 %	Xn - Harmful; R20/22

For full text of the R-Phrases indicated by codes 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****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**

Causes burns.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

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:**

Carbon dioxide, foam, powder

**Extinguishing media which must not be used for safety reasons:**

None known

**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 skin and eye contact.

**6.2. Environmental precautions**

Do not let product enter drains.

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

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.

Wash spillage site thoroughly with soap and water or detergent solution.

**6.4. Reference to other sections**

See advice in section 8

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Use only in well-ventilated areas.

Avoid skin and eye contact.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

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**

Store in a cool, well-ventilated place.

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

Epoxy Hardener

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

Ingredient	ppm	mg/m <sup>3</sup>	Type	Category	Remarks
KAOLIN, RESPIRABLE DUST 1332-58-7		2	Time Weighted Average (TWA):		EH40 WEL
MICA, RESPIRABLE 12001-26-2		0,8	Time Weighted Average (TWA):		EH40 WEL
MICA, TOTAL INHALABLE 12001-26-2		10	Time Weighted Average (TWA):		EH40 WEL
2,2'-IMINODI(ETHYLAMINE) 111-40-0			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'-IMINODI(ETHYLAMINE) 111-40-0	1	4,3	Time Weighted Average (TWA):		EH40 WEL
BISPHENOL A, INHALABLE DUST 80-05-7		10	Time Weighted Average (TWA):		EH40 WEL
BISPHENOL A (INHALABLE DUST) 80-05-7		10	Time Weighted Average (TWA):	Indicative	ECLTV
TITANIUM DIOXIDE, TOTAL INHALABLE 13463-67-7		10	Time Weighted Average (TWA):		EH40 WEL
TITANIUM DIOXIDE, RESPIRABLE 13463-67-7		4	Time Weighted Average (TWA):		EH40 WEL

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
2,2'-Iminodi(ethylamine) 111-40-0	aqua (freshwater)					0,56 mg/L	
2,2'-Iminodi(ethylamine) 111-40-0	aqua (marine water)					0,056 mg/L	
2,2'-Iminodi(ethylamine) 111-40-0	aqua (intermittent releases)					0,32 mg/L	
2,2'-Iminodi(ethylamine) 111-40-0	sediment (freshwater)				1072 mg/kg		
2,2'-Iminodi(ethylamine) 111-40-0	sediment (marine water)				107,2 mg/kg		
2,2'-Iminodi(ethylamine) 111-40-0	STP					6 mg/L	
2,2'-Iminodi(ethylamine) 111-40-0	soil				214 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	aqua (freshwater)					0,018 mg/L	
4,4'-Isopropylidenediphenol 80-05-7	aqua (marine water)					0,016 mg/L	
4,4'-Isopropylidenediphenol 80-05-7	aqua (intermittent releases)					0,01 mg/L	
4,4'-Isopropylidenediphenol 80-05-7	STP					320 mg/L	
4,4'-Isopropylidenediphenol 80-05-7	sediment (freshwater)				2,2 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	sediment (marine water)				0,44 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	soil				3,7 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	oral					13,8 mg/kg food	
Benzyl alcohol 100-51-6	soil				0,456 mg/kg		
Benzyl alcohol 100-51-6	STP					39 mg/L	
Benzyl alcohol 100-51-6	sediment (freshwater)				5,27 mg/kg		
Benzyl alcohol 100-51-6	sediment (marine water)				0,527 mg/kg		
Benzyl alcohol 100-51-6	aqua (marine water)					0,1 mg/L	
Benzyl alcohol 100-51-6	aqua (intermittent releases)					2,3 mg/L	
Benzyl alcohol 100-51-6	aqua (freshwater)					1 mg/L	



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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Dermal	Long term exposure - systemic effects		11,4 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Dermal	Long term exposure - local effects		1,1 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Inhalation	Acute/short term exposure - systemic effects		92,1 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Inhalation	Acute/short term exposure - local effects		2,6 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Inhalation	Long term exposure - systemic effects		15,4 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Inhalation	Long term exposure - local effects		0,87 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	general population	oral	Acute/short term exposure - local effects		4,88 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	general population	Inhalation	Acute/short term exposure - systemic effects		27,5 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	general population	Dermal	Long term exposure - systemic effects		4,88 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	general population	Inhalation	Long term exposure - systemic effects		4,6 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	Workers	Dermal	Acute/short term exposure - systemic effects		1,4 mg/kg bw/day	
4,4'-Isopropylidenediphenol 80-05-7	Workers	Inhalation	Acute/short term exposure - local effects		10 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	Workers	Dermal	Long term exposure - systemic effects		1,4 mg/kg bw/day	
4,4'-Isopropylidenediphenol 80-05-7	Workers	Inhalation	Long term exposure - local effects		10 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	Workers	Inhalation	Acute/short term exposure - systemic effects		10 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	Workers	Inhalation	Long term exposure - systemic effects		10 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	general population	Dermal	Acute/short term exposure - systemic effects		0,7 mg/kg bw/day	
4,4'-Isopropylidenediphenol 80-05-7	general population	Inhalation	Acute/short term exposure - systemic effects		5,0 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	general population	oral	Acute/short term exposure - systemic effects		0,05 mg/kg bw/day	
4,4'-Isopropylidenediphenol 80-05-7	general population	Dermal	Long term exposure - systemic effects		0,7 mg/kg bw/day	
4,4'-Isopropylidenediphenol 80-05-7	general population	Inhalation	Long term exposure - systemic effects		0,25 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	general population	oral	Long term exposure - systemic effects		0,05 mg/kg bw/day	
4,4'-Isopropylidenediphenol 80-05-7	general population	Inhalation	Long term exposure - local effects		5 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	general population	Inhalation	Acute/short term exposure - local effects		5 mg/m <sup>3</sup>	

			effects		
Benzyl alcohol 100-51-6	general population	oral	Acute/short term exposure - systemic effects		25 mg/kg bw/day
Benzyl alcohol 100-51-6	general population	oral	Long term exposure - systemic effects		5 mg/kg bw/day
Benzyl alcohol 100-51-6	Workers	Inhalation	Acute/short term exposure - systemic effects		450 mg/m <sup>3</sup>
Benzyl alcohol 100-51-6	Workers	Inhalation	Long term exposure - systemic effects		90 mg/m <sup>3</sup>
Benzyl alcohol 100-51-6	general population	Inhalation	Acute/short term exposure - systemic effects		40 mg/m <sup>3</sup>
Benzyl alcohol 100-51-6	general population	Inhalation	Long term exposure - systemic effects		8,11 mg/m <sup>3</sup>
Benzyl alcohol 100-51-6	Workers	Dermal	Acute/short term exposure - systemic effects		47 mg/kg bw/day
Benzyl alcohol 100-51-6	Workers	Dermal	Long term exposure - systemic effects		9,5 mg/kg bw/day
Benzyl alcohol 100-51-6	general population	Dermal	Acute/short term exposure - systemic effects		28,5 mg/kg bw/day
Benzyl alcohol 100-51-6	general population	Dermal	Long term exposure - systemic effects		5,7 mg/kg bw/day

**Biological Exposure Indices:**

None

**8.2. Exposure controls:****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

**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:**

Wear protective glasses.

**Skin protection:**

Wear suitable protective clothing.

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

Appearance	liquid white
Odor	ammoniacal
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Initial boiling point	180 °C (356 °F)
Flash point	130 °C (266 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density ( $\rho$ )	1,32 g/cm <sup>3</sup>
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative)	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable

**9.2. Other information**

No data available / Not applicable

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Reaction with strong acids.  
Reacts with strong oxidants.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

See section reactivity

**10.4. Conditions to avoid**

Stable under normal conditions of storage and use.

**10.5. Incompatible materials**

See section reactivity

**10.6. Hazardous decomposition products**

carbon oxides.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****General toxicological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**Oral toxicity:**

Harmful if swallowed.

**Skin irritation:**

Causes severe skin burns and eye damage.

**Eye irritation:**Corrosive  
Avoid eye contact.**Sensitizing:**

May cause an allergic skin reaction.

**Acute oral toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Diethylenetriamine 111-40-0	LD50	1.553 mg/kg	oral		rat	
4-Tert-butylphenol 98-54-4	LD50	5.660 mg/kg	oral		rat	
4,4'-Isopropylidenediphenol 80-05-7	LD50	5.000 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)
Benzyl alcohol 100-51-6	LD50	1.620 mg/kg	oral		rat	

**Acute inhalative toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Benzyl alcohol 100-51-6	Acute toxicity estimate (ATE)	4,17 mg/l	inhalation			Expert judgement
Benzyl alcohol 100-51-6	LC50	> 4,178 mg/l		4 h	rat	

**Acute dermal toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Diethylenetriamine 111-40-0	LD50	1.045 mg/kg	dermal		rabbit	
4-Tert-butylphenol 98-54-4	LD50	2.520 mg/kg	dermal		rabbit	
4,4'-Isopropylidenediphenol 80-05-7	LD50	3.600 mg/kg	dermal		rabbit	

**Skin corrosion/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Diethylenetriamine 111-40-0	corrosive	15 min	rabbit	BASF Test
4-Tert-butylphenol 98-54-4	irritating	5 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Benzyl alcohol 100-51-6	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious eye damage/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Diethylenetriamine 111-40-0	corrosive	30 s	rabbit	
4-Tert-butylphenol 98-54-4	Category 1 (irreversible effects on the eye)	1 s	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Benzyl alcohol 100-51-6	Category II	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

Hazardous components CAS-No.	Result	Test type	Species	Method
Diethylenetriamine 111-40-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
4-Tert-butylphenol 98-54-4	sensitising			
Benzyl alcohol 100-51-6	not sensitising	Guinea pig maximisation test	guinea pig	Magnusson and Kligman Method

**Germ cell mutagenicity:**

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
4-Tert-butylphenol 98-54-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
4-Tert-butylphenol 98-54-4	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
4,4'- Isopropylidenediphenol 80-05-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		
Benzyl alcohol 100-51-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		

**Repeated dose toxicity**

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
4-Tert-butylphenol 98-54-4	LOAEL=>= 200 mg/kg	oral: gavage	daily	rat	

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

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**12.1. Toxicity****Ecotoxicity:**

Very toxic to aquatic life with long lasting effects.  
Do not empty into drains / surface water / ground water.

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Fatty acids, tall-oil, reaction products with diethylenetriamine 61790-69-0	LC50	0,63 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Diethylenetriamine 111-40-0	LC50	430 mg/l	Fish	96 h	Poecilia reticulata	EU Method C.1 (Acute Toxicity for Fish)
Diethylenetriamine 111-40-0	EC50	64,6 mg/l	Daphnia	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Diethylenetriamine 111-40-0	EC50	187 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	EU Method C.3 (Algal Inhibition test)
	NOEC	10,2 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	EU Method C.3 (Algal Inhibition test)
4-Tert-butylphenol 98-54-4	LC50	5,14 mg/l	Fish	96 h	Pimephales promelas	EU Method C.1 (Acute Toxicity for Fish)
	LC50	> 10.000 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	ISO 7346-1 (Determination of the Acute Lethal Toxicity of Substances to a Freshwater Fish [Brachydanio rerio Hamilton- Buchanan (Teleostei, Cyprinidae)])
	NOEC	> 0,01 - 0,1 mg/l	Fish	128 d	Pimephales promelas	OECD 210 (fish early lite stage toxicity test)
4-Tert-butylphenol 98-54-4	EC50	4,8 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4-Tert-butylphenol 98-54-4	EC50	11,2 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
4-Tert-butylphenol 98-54-4	NOEC	0,73 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
4,4'-Isopropylidenediphenol 80-05-7	LC50	9,9 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
	NOEC	16 µg/l	Fish	444 d	Pimephales promelas	EPA OPP 72-5 (Fish Life Cycle Toxicity)
4,4'-Isopropylidenediphenol 80-05-7	EC50	3,9 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4,4'-Isopropylidenediphenol 80-05-7	EC50	2,5 mg/l	Algae	96 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-Isopropylidenediphenol 80-05-7	NOEC	> 3,146 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Benzyl alcohol 100-51-6	LC50	646 mg/l	Fish	48 h	Leuciscus idus	DIN 38412-15
Benzyl alcohol 100-51-6	EC50	360 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Benzyl alcohol 100-51-6	EC50	640 mg/l	Algae	96 h	Scenedesmus quadricauda	OECD Guideline 201 (Alga, Growth Inhibition Test)

**12.2. Persistence and degradability****Persistence and Biodegradability:**

The product is not biodegradable.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Fatty acids, tall-oil, reaction products with diethylenetriamine 61790-69-0		aerobic	21 %	ISO 10708 (BODIS-Test)
Diethylenetriamine 111-40-0	readily biodegradable	aerobic	87 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
4-Tert-butylphenol 98-54-4	readily biodegradable	aerobic	98 %	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)
4,4'-Isopropylidenediphenol 80-05-7	readily biodegradable	aerobic	89 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Benzyl alcohol 100-51-6	readily biodegradable	aerobic	92 - 96 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

**12.3. Bioaccumulative potential / 12.4. Mobility in soil****Mobility:**

Cured adhesives are immobile.

**Bioaccumulative potential:**

No data available.

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

Hazardous components CAS-No.	PBT/vPvB
Fatty acids, tall-oil, reaction products with diethylenetriamine 61790-69-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Diethylenetriamine 111-40-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
4-Tert-butylphenol 98-54-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
4,4'-Isopropylidenediphenol 80-05-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Benzyl alcohol 100-51-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**12.6. Other adverse effects**

No data available.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Product disposal:**

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.

Disposal must be made according to official regulations.

**Waste code**

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

**SECTION 14: Transport information****14.1. UN number**

ADR	2735
RID	2735
ADNR	2735
IMDG	2735
IATA	2735

**14.2. UN proper shipping name**

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (Fatty acids, tall-oil, reaction products with diethylenetriamine,Diethylenetriamine)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (Fatty acids, tall-oil, reaction products with diethylenetriamine,Diethylenetriamine)
ADNR	AMINES, LIQUID, CORROSIVE, N.O.S. (Fatty acids, tall-oil, reaction products with diethylenetriamine,Diethylenetriamine)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (Fatty acids, tall-oil, reaction products with diethylenetriamine,Diethylenetriamine)
IATA	Amines, liquid, corrosive, n.o.s. (Fatty acids, tall-oil, reaction products with diethylenetriamine,Diethylenetriamine)

**14.3. Transport hazard class(es)**

ADR	8
RID	8
ADNR	8
IMDG	8
IATA	8

**14.4. Packaging group**

ADR	II
RID	II
ADNR	II
IMDG	II
IATA	II

**14.5. Environmental hazards**

ADR	Environmentally Hazardous
RID	Environmentally Hazardous
ADNR	Environmentally Hazardous
IMDG	Environmentally Hazardous
IATA	not applicable

**14.6. Special precautions for user**

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADNR	not applicable
IMDG	not applicable
IATA	not applicable

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

VOC content &lt; 3,00 %



(1999/13/EC)

#### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

### SECTION 16: Other information

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

- R20/22 Harmful by inhalation and if swallowed.
- R21/22 Harmful in contact with skin and if swallowed.
- R22 Harmful if swallowed.
- R34 Causes burns.
- R37 Irritating to respiratory system.
- R38 Irritating to skin.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R52 Harmful to aquatic organisms.
- R62 Possible risk of impaired fertility.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H361f Suspected of damaging fertility.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.

#### Further information:

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.

**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

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LOCTITE 4090 PART B

SDS No. : 470228  
V003.0

Revision: 10.02.2015  
printing date: 24.03.2015

Replaces version from: 27.05.2014

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

#### 1.1. Product identifier

LOCTITE 4090 PART B

#### Contains:

Bis[(3,4-epoxycyclohexyl)methyl] adipate

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

Intended use:  
Epoxy adhesive

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

Henkel Limited  
2 Bishop Square Business Park  
AL109EY Herfordshire Hatfield

Great Britain

Phone: +44 1606 593933  
Fax-no.: +44 1606 863762

ua-productsafety.uk@uk.henkel.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):

Acute toxicity Category 4

H302 Harmful if swallowed.

Route of Exposure: Oral

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.**

**Classification (DPD):**

- Xn - Harmful
- R22 Harmful if swallowed.
- Xi - Irritant
- R36 Irritating to eyes.
- Dangerous for the environment
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**2.2. Label elements**

**Label elements (CLP):**

<b>Hazard pictogram:</b>	
<b>Signal word:</b>	Warning
<b>Hazard statement:</b>	H302 Harmful if swallowed. H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.
<b>Precautionary statement: Prevention</b>	P273 Avoid release to the environment.
<b>Precautionary statement: Response</b>	P337+P313 If eye irritation persists: Get medical advice/attention.

**Label elements (DPD):**

<b>Xn - Harmful</b>


**Risk phrases:**

R22 Harmful if swallowed. R36 Irritating to eyes. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
--

**Safety phrases:**

S23 Do not breathe vapour. S24/25 Avoid contact with skin and eyes. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
--

**Contains:**

Bis[(3,4-epoxycyclohexyl)methyl] adipate

**2.3. Other hazards**

None if used properly.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****General chemical description:**

Part B of a two part adhesive

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Bis[(3,4-epoxycyclohexyl)methyl] adipate 3130-19-6	221-518-5	25- 50 %	Acute toxicity 4; Oral H302 Serious eye irritation 2 H319 Chronic hazards to the aquatic environment 3 H412

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.

**Declaration of ingredients according to DPD (EC) No 1999/45:**

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Bis[(3,4-epoxycyclohexyl)methyl] adipate 3130-19-6	221-518-5	25 - 50 %	Xn - Harmful; R22 Xi - Irritant; R36 R52/53

For full text of the R-Phrases indicated by codes 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****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**

EYE: Irritation, conjunctivitis.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

Prolonged or repeated contact may cause skin 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:

water, carbon dioxide, foam, powder

#### Extinguishing media which must not be used for safety reasons:

None known

### 5.2. Special hazards arising from the substance or mixture

Oxides of carbon.

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

#### 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 skin and eye contact.

### 6.2. Environmental precautions

Do not let product enter drains.

Waste disposal with the approval of the responsible local authority.

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

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.

Wash spillage site thoroughly with soap and water or detergent solution.

### 6.4. Reference to other sections

See advice in section 8

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Use only in well-ventilated areas.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

#### 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.

< + 8°C

Store in sealed original container.

### 7.3. Specific end use(s)

Epoxy adhesive

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**

Valid for  
Great Britain

None

**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

**Hand protection:**

Chemical-resistant protective gloves (EN 374).

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

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

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 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.

**Skin protection:**

Wear suitable protective clothing.

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

Appearance	gel gel colourless to yellowish
Odor	characteristic
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	> 110 °C (> 230 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density	No data available / Not applicable
Bulk density	No data available / Not applicable
Viscosity	25.000 - 40.000 mPa.s

(Cone and plate; 25 °C (77 °F); Shear gradient: 20 s-1)	
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable

## 9.2. Other information

No data available / Not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Peroxides.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

Stable under normal conditions of storage and use.

### 10.5. Incompatible materials

None if used properly.

### 10.6. Hazardous decomposition products

carbon oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### General toxicological information:

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

#### Oral toxicity:

Harmful if swallowed.

#### Skin irritation:

Prolonged or repeated contact may cause skin irritation.

#### Eye irritation:

Causes serious eye irritation.

**Acute dermal toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Bis[(3,4-epoxycyclohexyl)methyl] adipate 3130-19-6	LD50	> 2.000 mg/kg	dermal		rabbit	

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

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**12.1. Toxicity****Ecotoxicity:**

Do not empty into drains / surface water / ground water.  
Harmful to aquatic life with long lasting effects.

**12.2. Persistence and degradability****Persistence and Biodegradability:**

No data available for the product.

**12.3. Bioaccumulative potential / 12.4. Mobility in soil****Mobility:**

Cured adhesives are immobile.

**Bioaccumulative potential:**

No data available for the product.

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

No data available.

**12.6. Other adverse effects**

No data available.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Product disposal:**

Dispose of in accordance with local and national regulations.  
Contribution of this product to waste is very insignificant in comparison to article in which it is used

**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.  
Disposal must be made according to official regulations.

**Waste code**

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



### SECTION 14: Transport information

- 14.1. UN 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. Packaging 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. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
not applicable

### SECTION 15: Regulatory information

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

VOC content < 3 %  
(1999/13/EC)

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

### SECTION 16: Other information

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

- R22 Harmful if swallowed.
- R36 Irritating to eyes.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H412 Harmful to aquatic life with long lasting effects.

**Further information:**

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.

**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.**