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

SDS No. : 326229
V006.0

LOCTITE SF 7900 AE 400ML

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

1.1. Product identifier

LOCTITE SF 7900 AE 400ML
UFI: N88S-XXU6-120R-X2J8

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

Intended use:
Protective coating for welding

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 www.mysds.henkel.com 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.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Flammable aerosols	Category 1
H222 Extremely flammable aerosol.	
H229 Pressurized container: May burst if heated.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Specific target organ toxicity - single exposure	Category 3
H336 May cause drowsiness or dizziness.	
Target organ: Central nervous system	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:	
Contains	acetone Butanone
Signal word:	Danger
Hazard statement:	H222 Extremely flammable aerosol. H229 Pressurized container: May burst if heated. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
Supplemental information	EUH066 Repeated exposure may cause skin dryness or cracking. Contains: maleic anhydride May produce an allergic reaction.
Precautionary statement: Prevention	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. P261 Avoid breathing mist/vapours. P280 Wear eye protection/face protection.
Precautionary statement: Storage	P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

2.3. Other hazards

None if used properly.

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

None

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 No REACH-Reg. No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
acetone 67-64-1 200-662-2 01-2119471330-49	20- < 40 %	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336		EU OEL EUEXPL2D
Butane, n- (< 0.1 % butadiene) 106-97-8 203-448-7 01-2119474691-32	20- < 40 %	Press. Gas Liquef. Gas, H280 Flam. Gas 1A, H220		
Propane 74-98-6 200-827-9 01-2119486944-21	20- < 40 %	Flam. Gas 1A, H220 Press. Gas H280		
Butanone 78-93-3 201-159-0 01-2119457290-43	10- < 20 %	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336		EU OEL
ethyl formate 109-94-4 203-721-0 01-2120115421-74	1- < 5 %	Eye Irrit. 2, H319 Acute Tox. 4, H302 Acute Tox. 4, H332 Flam. Liq. 2, H225 STOT SE 3, H335		
1,3-Dioxolane 646-06-0 211-463-5 01-2119490744-29	1- < 3 %	Flam. Liq. 2, H225 Eye Dam. 1, H318		
maleic anhydride 108-31-6 203-571-6 01-2119472428-31	0,0001- < 0,001 % (1 ppm- < 10 ppm)	STOT RE 1, Inhalation, H372 Acute Tox. 4, H302 Skin Sens. 1A, H317 Resp. Sens. 1, H334 Eye Dam. 1, H318 Skin Corr. 1B, H314	Skin Sens. 1A; H317; C >= 0,001 %	

The product contains synthetic polymer microparticles above the concentration limit, but derogation §4 or §5 apply.
(4a) use at industrial sites

Generic Polymer Name	Concentration range
Amino-resins, phenolic resins and polyurethanes	0,1-10 %

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".

The hazard classification of this product is based solely on the mixture present within the aerosol, excluding the propellant gases. The information provided in Section 3 is based on the combination of the mixture and propellant gases.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Fresh air, oxygen supply, warmth; seek specialist medical attention.

Skin contact:
Immediately wash skin thoroughly with soap and water.

Eye contact:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of adverse health effects seek medical advice.

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.

Vapors may cause drowsiness and dizziness.

Repeated exposure may cause skin dryness or cracking.

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:
Fine water spray
Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:
Water jet (solvent-containing product).

5.2. Special hazards arising from the substance or mixture
Formation of toxic gases is possible during heating or in fires.
Cool pressurized can containers with jet of water. Containers may explode.

5.3. Advice for firefighters
Wear protective equipment.
Wear self-contained breathing apparatus.

Additional information:
Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Avoid contact with skin and eyes.
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
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

Avoid skin and eye contact.
Ensure that workrooms are adequately ventilated.
See advice in section 8
Avoid open flames and sources of ignition.
Ground/bond container and receiving equipment.
Use explosion proof electric equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Take measures to prevent the build-up of electrostatic charges.

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

Take precautionary measures against static discharges during storage and transport.
Keep container in a well ventilated place.
Storage at 5 to 25°C is recommended.

7.3. Specific end use(s)

Protective coating for welding

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Acetone 67-64-1 [ACETONE]	500	1.210	Time Weighted Average (TWA):	Indicative	ECTLV
Acetone 67-64-1	500	1.200	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
Acetone 67-64-1			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
Butane 106-97-8	1.000	2.400	Exposure limit(s):	4	TRGS 900
Butane 106-97-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Propane 74-98-6	1.000	1.800	Exposure limit(s):	4	TRGS 900
Propane 74-98-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Butanone 78-93-3 [BUTANONE]	200	600	Time Weighted Average (TWA):	Indicative	ECTLV
Butanone 78-93-3 [BUTANONE]	300	900	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Butanone 78-93-3			Skin designation:	Can be absorbed through the skin.	TRGS 900
Butanone 78-93-3	200	600	Exposure limit(s):	1 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Butanone 78-93-3			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
Ethyl formate 109-94-4			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
Ethyl formate 109-94-4			Skin designation:	Can be absorbed through the skin.	TRGS 900
Ethyl formate 109-94-4	100	310	Exposure limit(s):	1 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
1,3-Dioxolane 646-06-0			Skin designation:	Can be absorbed through the skin.	TRGS 900
1,3-Dioxolane 646-06-0			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
1,3-Dioxolane 646-06-0	50	150	Exposure limit(s):	2 Even if the AGW and BGW	TRGS 900

				values are complied with, there still may be a risk of reproductive damage (see Number 2.7).	
Maleic anhydride 108-31-6			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
Maleic anhydride 108-31-6			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
Maleic anhydride 108-31-6	0,02	0,081	Exposure limit(s):	2.5 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
acetone 67-64-1	aqua (intermittent releases)		21 mg/l				
acetone 67-64-1	sewage treatment plant (STP)		100 mg/l				
acetone 67-64-1	sediment (freshwater)				30,4 mg/kg		
acetone 67-64-1	sediment (marine water)				3,04 mg/kg		
acetone 67-64-1	Soil				29,5 mg/kg		
acetone 67-64-1	aqua (freshwater)		10,6 mg/l				
acetone 67-64-1	aqua (marine water)		1,06 mg/l				
Butanone 78-93-3	aqua (freshwater)		55,8 mg/l				
Butanone 78-93-3	aqua (marine water)		55,8 mg/l				
Butanone 78-93-3	aqua (intermittent releases)		55,8 mg/l				
Butanone 78-93-3	sewage treatment plant (STP)		709 mg/l				
Butanone 78-93-3	sediment (freshwater)				284,74 mg/kg		
Butanone 78-93-3	sediment (marine water)				284,7 mg/kg		
Butanone 78-93-3	Soil				22,5 mg/kg		
Butanone 78-93-3	oral				1000 mg/kg		
ethyl formate 109-94-4	aqua (freshwater)		0,184 mg/l				
ethyl formate 109-94-4	aqua (marine water)		0,018 mg/l				
ethyl formate 109-94-4	aqua (intermittent releases)		1,837 mg/l				
ethyl formate 109-94-4	sediment (freshwater)				0,51 mg/kg		
ethyl formate 109-94-4	sediment (marine water)				0,051 mg/kg		
ethyl formate 109-94-4	Soil				0,207 mg/kg		
ethyl formate 109-94-4	sewage treatment plant (STP)		46,003 mg/l				
1,3-Dioxolane 646-06-0	aqua (freshwater)		19,7 mg/l				
1,3-Dioxolane 646-06-0	aqua (intermittent releases)		0,95 mg/l				
1,3-Dioxolane 646-06-0	aqua (marine water)		1,97 mg/l				
1,3-Dioxolane 646-06-0	sewage treatment plant (STP)		100 mg/l				
1,3-Dioxolane 646-06-0	sediment (freshwater)				77,7 mg/kg		
1,3-Dioxolane 646-06-0	sediment (marine water)				7,77 mg/kg		
1,3-Dioxolane 646-06-0	Soil				2,62 mg/kg		

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
acetone 67-64-1	Workers	Inhalation	Acute/short term exposure - local effects		2420 mg/m3	
acetone 67-64-1	Workers	dermal	Long term exposure - systemic effects		186 mg/kg	
acetone 67-64-1	Workers	Inhalation	Long term exposure - systemic effects		1210 mg/m3	
acetone 67-64-1	General population	dermal	Long term exposure - systemic effects		62 mg/kg	
acetone 67-64-1	General population	Inhalation	Long term exposure - systemic effects		200 mg/m3	
acetone 67-64-1	General population	oral	Long term exposure - systemic effects		62 mg/kg	
Butanone 78-93-3	Workers	dermal	Long term exposure - systemic effects		1161 mg/kg	
Butanone 78-93-3	Workers	inhalation	Long term exposure - systemic effects		600 mg/m3	
Butanone 78-93-3	General population	dermal	Long term exposure - systemic effects		412 mg/kg	
Butanone 78-93-3	General population	inhalation	Long term exposure - systemic effects		106 mg/m3	
Butanone 78-93-3	General population	oral	Long term exposure - systemic effects		31 mg/kg	
ethyl formate 109-94-4	Workers	inhalation	Acute/short term exposure - systemic effects		157,5 mg/m3	
ethyl formate 109-94-4	Workers	inhalation	Long term exposure - systemic effects		52,508 mg/m3	
ethyl formate 109-94-4	Workers	dermal	Acute/short term exposure - systemic effects		11,25 mg/kg	
ethyl formate 109-94-4	Workers	dermal	Long term exposure - systemic effects		3,75 mg/kg	
ethyl formate 109-94-4	General population	inhalation	Acute/short term exposure - systemic effects		18,75 mg/m3	
ethyl formate 109-94-4	General population	inhalation	Long term exposure - systemic effects		6,252 mg/m3	
ethyl formate 109-94-4	General population	oral	Acute/short term exposure - systemic effects		15 mg/kg	
ethyl formate 109-94-4	General population	oral	Long term exposure - systemic effects		5 mg/kg	
ethyl formate 109-94-4	General population	dermal	Acute/short term exposure - systemic effects		1,338 mg/kg	
ethyl formate 109-94-4	General population	dermal	Long term exposure - systemic effects		0,466 mg/kg	
1,3-Dioxolane 646-06-0	Workers	inhalation	Long term exposure - systemic effects		3,26 mg/m3	
1,3-Dioxolane 646-06-0	Workers	dermal	Long term exposure -		0,93 mg/kg	

			systemic effects			
1,3-Dioxolane 646-06-0	General population	inhalation	Long term exposure - systemic effects		1,48 mg/m3	
1,3-Dioxolane 646-06-0	General population	oral	Long term exposure - systemic effects		0,33 mg/kg	
1,3-Dioxolane 646-06-0	General population	dermal	Long term exposure - systemic effects		0,33 mg/kg	
maleic anhydride 108-31-6	Workers	inhalation	Acute/short term exposure - systemic effects		0,2 mg/m3	
maleic anhydride 108-31-6	Workers	inhalation	Acute/short term exposure - local effects		0,2 mg/m3	
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:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Acetone 67-64-1 [Acetone]	acetone	Urine	Sampling time: End of shift.	50 mg/l	DE BGW		
Butanone 78-93-3 [2-Butanone; Methylethylketone]	2-butanone	Urine	Sampling time: End of shift.	2 mg/l	DE BGW		

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/suction at the workplace.

Respiratory protection:
In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).
This recommendation should be matched to local conditions.

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): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 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:
Protective goggles
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

Delivery form	aerosol
Colour	Off white
Odor	Acetone
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< -187 °C (< -304.6 °F)
Initial boiling point	< -42 °C (< -43.6 °F)
Flammability	Extremely flammable
Explosive limits	
lower	1,5 %(V);
upper	8,5 %(V);
	Upper/lower explosion limit
Flash point	< -104 °C (< -155.2 °F) Solvent Mixtures
Auto-ignition temperature	> 200 °C (> 392 °F)
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 is non-soluble (in water).
Viscosity (kinematic) (40 °C (104 °F);)	< 20,5 mm2/s
Viscosity, dynamic ()	Not determined
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Soluble
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (55 °C (131 °F))	961 mbar;no method / method unknown
Vapour pressure (20 °C (68 °F))	> 4000 hPa
Vapour pressure (50 °C (122 °F))	> 8000 hPa
Density (20 °C (68 °F))	0,8 g/cm3 no method / method unknown
Relative vapour density: (20 °C)	> 1
Particle characteristics	Not applicable Product is a liquid

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Aerosols:	Classified as Aerosol category 1 because it contains more than 1 % (by mass) flammable components or has a heat of combustion of at least 20 kJ/g and is not submitted to the flammability classification procedures

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
No decomposition if used according to specifications.

10.5. Incompatible materials
None if used properly.

10.6. Hazardous decomposition products
None if used for intended purpose.
In case of fire toxic gases can be released.

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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
acetone 67-64-1	LD50	5.800 mg/kg	rat	not specified
Butanone 78-93-3	LD50	2.193 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
ethyl formate 109-94-4	LD50	1.850 mg/kg	rat	not specified
1,3-Dioxolane 646-06-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
acetone 67-64-1	LD50	> 15.688 mg/kg	rabbit	Draize Test
Butanone 78-93-3	LD50	> 6.400 mg/kg	rabbit	not specified
1,3-Dioxolane 646-06-0	LD50	> 2.000 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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
acetone 67-64-1	LC50	76 mg/l	vapour	4 h	rat	not specified
Butane, n- (< 0.1 % butadiene) 106-97-8	LC50	274200 ppm	gas	4 h	rat	not specified
Propane 74-98-6	LC50	> 800000 ppm	gas	15 min	rat	not specified
Butanone 78-93-3	LC50	34,5 mg/l	vapour	4 h	rat	not specified
1,3-Dioxolane 646-06-0	LC50	68,4 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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
acetone 67-64-1	not irritating		guinea pig	not specified
Butanone 78-93-3	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
1,3-Dioxolane 646-06-0	not irritating	24 h	rabbit	not specified
1,3-Dioxolane 646-06-0	not irritating		Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
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
acetone 67-64-1	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Butanone 78-93-3	irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
1,3-Dioxolane 646-06-0	Category 1 (irreversible effects on the eye)		Bovine, cornea, in vitro test	OECD Guideline 437 (BCOP)
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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Test type	Species	Method
acetone 67-64-1	not sensitising	Guinea pig maximisation test	guinea pig	not specified
Butanone 78-93-3	not sensitising	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
acetone 67-64-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
acetone 67-64-1	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
acetone 67-64-1	negative	mammalian cell gene mutation assay	without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Butane, n- (< 0.1 % butadiene) 106-97-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Butane, n- (< 0.1 % butadiene) 106-97-8	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Propane 74-98-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Propane 74-98-6	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Butanone 78-93-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Butanone 78-93-3	negative	in vitro mammalian chromosome aberration test	not applicable		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Butanone 78-93-3	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)
acetone 67-64-1	negative	oral: drinking water		mouse	not specified
Butane, n- (< 0.1 % butadiene) 106-97-8	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Propane 74-98-6	negative			Drosophila melanogaster	not specified
Propane 74-98-6	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Butanone 78-93-3	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus 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.

Based on available data, the classification criteria are not met.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
acetone 67-64-1	not carcinogenic	dermal	424 d 3 times per week	mouse	female	not specified

Reproductive toxicity:

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

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	NOAEL P 21,4 mg/l NOAEL F1 21,4 mg/l	screening	inhalation: gas	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Propane 74-98-6	NOAEL P 21,6 mg/l NOAEL F1 21,6 mg/l	screening	inhalation: gas	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Butanone 78-93-3	NOAEL P 10.000 mg/l NOAEL F1 10.000 mg/l	two-generation study	oral: drinking water	rat	equivalent or similar to OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
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:

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

Hazardous substances CAS-No.	Assessment	Route of exposure	Target Organs	Remarks
acetone 67-64-1	May cause drowsiness or dizziness.			
Butanone 78-93-3	May cause drowsiness or dizziness.			
ethyl formate 109-94-4	May cause respiratory irritation.			

STOT-repeated exposure:

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

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
acetone 67-64-1	NOAEL 900 mg/kg	oral: drinking water	90 d	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Butane, n- (< 0.1 % butadiene) 106-97-8		inhalation: gas	28 d 6 h/d	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Propane 74-98-6		inhalation: gas	28 d 6 h/d, 7 d/w	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Butanone 78-93-3	NOAEL 2500 ppm	inhalation	90 d	rat	not specified
maleic anhydride 108-31-6	NOAEL 40 mg/kg	oral: feed	90 d	rat	not specified

Aspiration hazard:

The mixture is classified based on Viscosity data.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
Butanone 78-93-3	0,51 mm2/s	20 °C	ASTM Standard D7042	

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

No data available.

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
acetone 67-64-1	LC50	8.120 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Butane, n- (< 0.1 % butadiene) 106-97-8	LC50	27,98 mg/l	96 h		QSAR (Quantitative Structure Activity Relationship)
Butanone 78-93-3	LC50	3.220 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
1,3-Dioxolane 646-06-0	LC50	> 95,4 mg/l	96 h	Lepomis macrochirus	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
acetone 67-64-1	EC50	8.800 mg/l	48 h	Daphnia pulex	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Butane, n- (< 0.1 % butadiene) 106-97-8	EC50	14,22 mg/l	48 h		QSAR (Quantitative Structure Activity Relationship)
Butanone 78-93-3	EC50	5.091 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
ethyl formate 109-94-4	EC50	120 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,3-Dioxolane 646-06-0	EC50	> 772 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
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 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
acetone 67-64-1	NOEC	2.212 mg/l	28 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.

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
acetone 67-64-1	NOEC	530 mg/l	8 d	Microcystis aeruginosa	DIN 38412-09
Butane, n- (< 0.1 % butadiene) 106-97-8	EC50	7,71 mg/l	96 h		QSAR (Quantitative Structure Activity Relationship)
Butanone 78-93-3	EC50	1.240 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Butanone 78-93-3	EC10	1.010 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,3-Dioxolane 646-06-0	NOEC	877 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,3-Dioxolane 646-06-0	EC50	> 877 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
acetone 67-64-1	EC10	1.000 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27 (Bacterial oxygen consumption test)
Butanone 78-93-3	EC50	1.150 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
1,3-Dioxolane 646-06-0	EC50	> 100 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition 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

Biodegradability (Screening Tests):
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
acetone 67-64-1	readily biodegradable	aerobic	81 - 92 %	30 d	EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle Test)
Butane, n- (< 0.1 % butadiene) 106-97-8	readily biodegradable	aerobic	> 60 %	28 d	OECD 301 A - F
Propane 74-98-6	readily biodegradable	aerobic	> 60 %	28 d	OECD 301 A - F
Butanone 78-93-3	readily biodegradable	aerobic	98 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
ethyl formate 109-94-4	readily biodegradable		77,48 %	28 day	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
1,3-Dioxolane 646-06-0	not readily biodegradable.	aerobic	3,7 %	35 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)

(Bio)degradability (Simulation Tests):
No data available.

12.3. Bioaccumulative potential

Partition Coefficient (octanol/water)
The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
acetone 67-64-1	-0,24		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Butane, n- (< 0.1 % butadiene) 106-97-8	2,31	20 °C	other (measured)
Butanone 78-93-3	0,3	40 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
ethyl formate 109-94-4	0,23		not specified
1,3-Dioxolane 646-06-0	-0,35	20 °C	QSAR (Quantitative Structure Activity Relationship)
maleic anhydride 108-31-6	-2,61	19,8 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

Bioconcentration factor (BCF)
No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT / vPvB / PMT / vPvM assessment

PBT/vPvB
This mixture does not contain any substances that are assessed to be a PBT or vPvB.
Based on available data, the classification criteria are not met.

PMT/vPvM
This mixture does not contain any substances that are assessed to be a PMT or vPvM.
Based on available data, the classification criteria are not met.

12.6. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

The product contains organic solvents which are insoluble in water. According to the requirements of the ATV regulations for the dis charge of wastewater from commercial and industrial plant, organic solvents which are immiscible with water can only be dis charged to an extent which corresponds to their solubility in water. The local discharge regulations take precedence.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
In consultation with the responsible local authority, must be subjected to special treatment.

Do not spill substance/product and prevent environmental releases.
Do not rinse packaging before disposal.

Waste code

080111

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

ADR	1950
RID	1950
ADN	1950
IMDG	1950
IATA	1950

14.2. UN proper shipping name

ADR	AEROSOLS
RID	AEROSOLS
ADN	AEROSOLS
IMDG	AEROSOLS
IATA	Aerosols, flammable

14.3. Transport hazard class(es)

ADR	2.1
RID	2.1
ADN	2.1
IMDG	2.1
IATA	2.1

14.4. Packing group

ADR	
RID	
ADN	
IMDG	
IATA	

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (D)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

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

The synthetic polymer microparticles supplied is subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council

VOC content (2010/75/EU)	92,7 %
VOC content (2010/75/EC)	92 %
Seveso III (2012/18/EU):	P3a, Flammable aerosols

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see https://ec.europa.eu/home-affairs/what-we-do/policies/counter-terrorism/protection/implementation-explosives-precursors-legislation_en.

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)
Storage class according to TRGS 510:	2B

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:

H220 Extremely flammable gas.
H225 Highly flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
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.
H336 May cause drowsiness or dizziness.
H372 Causes damage to organs through prolonged or repeated exposure.

Abbreviations and acronyms:

ADG(-Code): Australian Dangerous Goods (Code)
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: acute toxicity estimate
AS: Australian Standard
AwSV: Ordinance on Installations for the Handling of Substances Hazardous to Water
CAS: Chemical Abstract Service
CLP: Regulation (EC) No 1272/2008
CMR: cancerogenic, mutagenic or reprotoxic
DIN: German Institute for Standardization
ECx: Effective concentration (x% effective level)
ECHA: European Chemicals Agency
EC-Nummer: Substance number in the EU-inventories EINECS/ELINCS
ECTLV: European community threshold limit value
ED:Substance identified as having endocrine disrupting properties
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EN : European Standard
ENCS: Japanese chemical inventory
EPA: US Environmental Protection Agency
EU: European Union
EU EXPLD1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD2: Substance listed in Annex II, Reg (EC) No. 2019/1148
EWC: European Waste Catalogue
GHS: Globally Harmonised System for Classification and Labelling of Chemicals
GLP: Good Laboratory Practice
HSNO: Hazardous Substances and New Organisms
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization
IMDG-Code: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
ISO: International Standardization Organisation
LC50: Median lethal concentration
LD50: Median lethal dose
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
n.o.s.: not otherwise specified
NO(A)EC: No (adverse) effect concentration
NO(A)EL: No (adverse) effect level
NZS: New Zealand Standard
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational Exposure Limit

OPPT: US EPA Office of Pollution Prevention and Toxics
OPPTS: US EPA Office of Prevention, Pesticides and Toxic Substances
PBT: Persistent, bioaccumulative, toxic
PMT: Persistent, mobile and toxic
(Q)SAR: (Quantitative) structure–activity relationship
REACH: Regulation (EC) No. 1907/2006
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
SADT: Self Accelerating Decomposition Temperature
SDS: Safety Data Sheet
STOT: Specific Target Organ Toxicity
STOT SE: Specific Target Organ Toxicity - single exposure
STOT RE: Specific Target Organ Toxicity - repeated exposure
SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons
SVHC: Substance of very high concern (REACH Candidate List)
TRGS: German Technical Rules for hazardous substances
UN: United Nations
VOC: Volatile Organic Compound
814.018 VOC Reg CH: Swiss Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds
vPvB: Very persistent, very bioaccumulative
vPvM: Very persistent and very mobile
VwVwS: Administrative Regulation on Substances Hazardous to Waters
WGK: Water hazard class

Further information:

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