BONDERITE L-GP D31A known as PULVEGRAPH D31A (Aerosol)

SDS No.: 369114
V001.2
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
BONDERITE L-GP D31A known as PULVEGRAPH D31A (Aerosol)

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Metal forming product

1.3. Details of the supplier of the safety data sheet
Henkel & Cie. AG
Adhesives
Salinenstrasse 61
4133 Pratteln

Switzerland

Phone: +41 (61) 8257-000
Fax-no.: +41 (61) 8257-446

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

1.4. Emergency telephone number
Tox Info Suisse (24h / 7d): +41 44 251 51 51 or 145 (Switzerland and Liechtenstein).

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.
Precautionary statement: Prevention	P210 Keep away from heat/open flames/hot surfaces. - No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. P260 Do not breathe 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.

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Base substances of preparation:

Pigment

solvent

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
acetone 67-64-1	200-662-2	20- 40 %	Flam. Liq. 2 H225 Eye Irrit. 2 H319 STOT SE 3 H336
Propane 74-98-6	200-827-9	20- 40 %	Flam. Gas 1A H220 Press. Gas H280
Butane, n- (< 0.1 % butadiene) 106-97-8	203-448-7	20- 40 %	Press. Gas H280 Flam. Gas 1A H220
Butanone 78-93-3	201-159-0	10- < 20 %	STOT SE 3 H336 Eye Irrit. 2 H319 Flam. Liq. 2 H225
ethyl formate 109-94-4	203-721-0	1- < 5 %	Flam. Liq. 2 H225 Acute Tox. 4; Inhalation H332 Acute Tox. 4; Oral H302 Eye Irrit. 2 H319 STOT SE 3 H335
1,3-Dioxolane 646-06-0	211-463-5	1- < 5 %	Flam. Liq. 2 H225 Eye Irrit. 2 H319

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

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.

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.
Remove with liquid-absorbing material (sand, peat, sawdust).

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
Take measures to prevent the build-up of electrostatic charges.
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.

Hygiene measures:
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.
The choice of the Personal Protection Equipment must be in compliance with the requirements of the Suisse Occupational Health and Safety Legislation.

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.
Do not store near sources of heat or ignition, or reactive materials.

7.3. Specific end use(s)
Metal forming product

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Switzerland

Ingredient [Regulated substance]	ppm	mg/m^3	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 [Acetone]	1.000	2.400	Short Term Exposure Limit (STEL):		SMAK
Acetone 67-64-1 [Acetone]	500	1.200	Time Weighted Average (TWA):		SMAK
Propane 74-98-6 [Propane]	1.000	1.800	Time Weighted Average (TWA):		SMAK
Propane 74-98-6 [Propane]	4.000	7.200	Short Term Exposure Limit (STEL):		SMAK
Butane 106-97-8 [n-Butane Butane (both isomers): n-Butane]	3.200	7.600	Short Term Exposure Limit (STEL):		SMAK
Butane 106-97-8 [n-Butane Butane (both isomers): n-Butane]	800	1.900	Time Weighted Average (TWA):		SMAK
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 [2-Butanone]	200	590	Time Weighted Average (TWA):		SMAK
Butanone 78-93-3 [2-Butanone]			Skin designation:	Can be absorbed through the skin.	SMAK
Butanone 78-93-3 [2-Butanone]				If in compliance with the OEL and BEL values, then there should be no risk of reproductive damage.	SMAK
Butanone 78-93-3 [2-Butanone]	200	590	Short Term Exposure Limit (STEL):		SMAK
Ethyl formate 109-94-4 [Ethyl formate]	100	310	Short Term Exposure Limit (STEL):		SMAK
Ethyl formate 109-94-4 [Ethyl formate]				If in compliance with the OEL and BEL values, then there should be no risk of reproductive damage.	SMAK
Ethyl formate 109-94-4 [Ethyl formate]			Skin designation:	Can be absorbed through the skin.	SMAK
Ethyl formate 109-94-4 [Ethyl formate]	100	310	Time Weighted Average (TWA):		SMAK
1,3-Dioxolane 646-06-0 [1,3-Dioxolane (Dioxacyclopentane)]	200	600	Short Term Exposure Limit (STEL):		SMAK
1,3-Dioxolane 646-06-0 [1,3-Dioxolane (Dioxacyclopentane)]			Skin designation:	Can be absorbed through the skin.	SMAK
1,3-Dioxolane	100	300	Time Weighted Average		SMAK

646-06-0 [1,3-Dioxolane (Dioxacyclopentane)]			(TWA):		

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		
1,3-Dioxolane 646-06-0	aqua (freshwater)		19,7 mg/l				
1,3-Dioxolane 646-06-0	aqua (marine water)		1,97 mg/l				
1,3-Dioxolane 646-06-0	aqua (intermittent releases)		0,95 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		
1,3-Dioxolane 646-06-0	Sewage treatment plant		1 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	
1,3-Dioxolane 646-06-0	Workers	dermal	Long term exposure - systemic effects		1,18 mg/kg	
1,3-Dioxolane 646-06-0	Workers	inhalation	Long term exposure - systemic effects		3,306 mg/m3	

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 exposure / end of shift.	80 mg/l	CH BAT	Unspecified parameter	
Butanone 78-93-3 [2-BUTANONE; METHYL ETHYL KETONE]	MEK	Urine	Sampling time: End of exposure / end of shift.	2 mg/l	CH BAT		

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 choice of the Personal Protection Equipment must be in compliance with the requirements of the Suisse Occupational Health and Safety Legislation.
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

Appearance	aerosol aerosol black
Odor	Solvent
Odour threshold	No data available / Not applicable
pH	Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	Solvent Mixtures
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	
lower	1,8 %(V)
upper	13,0 %(V)
Vapour pressure (50 °C (122 °F))	764 mbar
Vapour pressure (55 °C (131 °F))	961 mbar
Relative vapour density:	No data available / Not applicable
Density (20 °C (68 °F))	0,82 g/cm3
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Partially miscible
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	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

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 oxidants.

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
See section reactivity.

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 toxicological effects

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
acetone 67-64-1	LD50	5.800 mg/kg	rat	not specified
Butanone 78-93-3	LD50	2.737 mg/kg	rat	not specified
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)

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
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

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
acetone 67-64-1	LC50	76 mg/l	vapour	4 h	rat	not specified
Propane 74-98-6	LC50	> 800000 ppm	gas	15 min	rat	not specified
Butane, n- (< 0.1 % butadiene) 106-97-8	LC50	274200 ppm	gas	4 h	rat	not specified
Butanone 78-93-3	LC50	> 20 mg/l	vapour	4 h	rat	not specified

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
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)

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)

Respiratory or skin sensitization:

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
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)

Germ cell mutagenicity:

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
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)
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)
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)
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)

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
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.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
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)
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)
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)

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
acetone 67-64-1	NOAEL 900 mg/kg	oral: drinking water	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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)
Butane, n- (< 0.1 % butadiene) 106-97-8		inhalation: gas	28 d	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 days 6 hours/day, 5 days/week	rat	not specified

Aspiration hazard:

The mixture is classified based on Viscosity data.

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

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.

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		not specified
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)

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
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		not specified
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)

Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
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.

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		not specified
Butanone 78-93-3	EC50	2.029 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Butanone 78-93-3	EC10	1.289 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	ErC50	> 877 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
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)

12.2. Persistence and degradability

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" Biodegradability Closed Bottle Test)
Propane 74-98-6	readily biodegradable	aerobic	> 60 %	28 d	OECD 301 A - F
Butane, n- (< 0.1 % butadiene) 106-97-8	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		aerobic	20 %		OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
acetone 67-64-1	-0,24		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
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		not specified

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT/ vPvB
acetone 67-64-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Propane 74-98-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Butane, n- (< 0.1 % butadiene) 106-97-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Butanone 78-93-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
1,3-Dioxolane 646-06-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. 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.
The requirements of the Suisse Technical Directive about Waste (TVA; SR814.600) and the Suisse Directive for Waste Transport (VeVA; SR814.610) shall be met.

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

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. Transport in bulk according to Annex II of Marpol 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 (2010/75/EU)	93,1 %
VOC content (VOCV 814.018 VOC regulation CH)	91,3 %

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.

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Switzerland):

General Advices (CH): This product must not be delivered to the general public (private persons).

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 vapor.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

Further information:

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

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

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