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

Tangit PVC-U Special Adhesive (formerly known as Tangit ALL PRESSURE)

SDS No.: 41762
V006.0
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Tangit PVC-U Special Adhesive (formerly known as Tangit ALL PRESSURE)

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Pipe adhesive

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
Fax-no.: +49 211 798 2009

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

Further information is available at Poison Control Centers.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Flammable liquids	Category 2
H225 Highly flammable liquid and vapor.	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Carcinogenicity	Category 2
H351 Suspected of causing cancer.	
Specific target organ toxicity - single exposure	Category 3
H336 May cause drowsiness or dizziness.	
Target organ: Central nervous system	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:

Contains tetrahydrofuran

Butanone

Cyclohexanone

Signal word: Danger

Hazard statement:
H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.

Precautionary statement:
P102 Keep out of reach of children.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist/vapours.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/eye protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.
P501 Dispose of contents/container in accordance with national regulation.

2.3. Other hazards

Solvents contained in the product evaporate during processing and their vapors can form explosive/highly inflammable air/vapor mixtures.
Pregnant women should absolutely avoid inhalation and skin contact.
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

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

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Butanone 78-93-3 201-159-0 01-2119457290-43	20- 40 %	STOT SE 3, H336 Eye Irrit. 2, H319 Flam. Liq. 2, H225		EU OEL
tetrahydrofuran 109-99-9 203-726-8 01-2119444314-46	20- 30 %	STOT SE 3, H336 Flam. Liq. 2, H225 STOT SE 3, H335 Eye Irrit. 2, H319 Carc. 2, H351 Acute Tox. 4, Oral, H302	Eye Irrit. 2; H319; C >= 25 % STOT SE 3; H335; C >= 25 % ===== inhalation:ATE = > 14,7 mg/l;vapour	EU OEL
Cyclohexanone 108-94-1 203-631-1 01-2119453616-35	10- 25 %	Flam. Liq. 3, H226 Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Acute Tox. 4, Inhalation, H332 Eye Dam. 1, H318 Skin Irrit. 2, H315		EU OEL

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
In case of adverse health effects seek medical advice.

Inhalation:
Move to fresh air, consult doctor if complaint persists.

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

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

Ingestion:
Rinse mouth, do not induce vomiting, consult a doctor.

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

Vapors may cause drowsiness and dizziness.

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

SKIN: Redness, inflammation.

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

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
carbon dioxide, foam, powder, water spray jet, fine water spray

Extinguishing media which must not be used for safety reasons:
High pressure waterjet

5.2. Special hazards arising from the substance or mixture
In the event of a fire, carbon monoxide (CO) and carbon dioxide (CO2) can be released.

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
Ensure adequate ventilation.
Avoid contact with skin and eyes.
Wear protective equipment.
Danger of slipping on spilled product.

6.2. Environmental precautions
Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up
Remove with liquid-absorbing material (sand, peat, sawdust).
Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Ventilate working rooms thoroughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld. Do not empty waste into waste water drains.
During processing and drying after adhesion, ventilate well. Avoid all sources of fire such as stoves and ovens. Switch off all electrical devices such as parabolic heaters, hot plates, storage heaters etc. in good time for them to have cooled down before commencing work. Avoid all sparks, including those occurring at electrical switches and devices.
Avoid skin and eye contact.

Hygiene measures:
Do not eat, drink or smoke while working.
Wash hands before work breaks and after finishing work.

7.2. Conditions for safe storage, including any incompatibilities
Store in sealed original container.
Observe rules and measures for storage of flammable liquids.
Temperatures between + 5 °C and + 35 °C
Store in a cool place in closed original container.
Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

7.3. Specific end use(s)
Pipe adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m^3	Value type	Short term exposure limit category / Remarks	Regulatory list
Tetrahydrofuran 109-99-9 [TETRAHYDROFURAN]	50	150	Time Weighted Average (TWA):	Indicative	ECTLV
Tetrahydrofuran 109-99-9 [TETRAHYDROFURAN]	100	300	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Tetrahydrofuran 109-99-9	50	150	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
Tetrahydrofuran 109-99-9			Skin designation:	Can be absorbed through the skin.	TRGS 900
Tetrahydrofuran 109-99-9			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
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
Cyclohexanone 108-94-1 [CYCLOHEXANONE]			Skin designation:	Can be absorbed through the skin.	ECTLV
Cyclohexanone 108-94-1 [CYCLOHEXANONE]	10	40,8	Time Weighted Average (TWA):	Indicative	ECTLV
Cyclohexanone 108-94-1 [CYCLOHEXANONE]	20	81,6	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Cyclohexanone 108-94-1			Skin designation:	Can be absorbed through the skin.	TRGS 900
Cyclohexanone 108-94-1	20	80	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
Cyclohexanone 108-94-1			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
Polyvinyl chloride 9002-86-2			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900

Polyvinyl chloride 9002-86-2		10	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
Polyvinyl chloride 9002-86-2		1,25	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silicon dioxide 112945-52-5		4	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silicon dioxide 112945-52-5			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Silicon dioxide 112945-52-5		10	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
Silicon dioxide 112945-52-5		1,25	Exposure limit(s):	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	
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		
tetrahydrofuran 109-99-9	aqua (freshwater)		4,32 mg/l				
tetrahydrofuran 109-99-9	aqua (marine water)		0,432 mg/l				
tetrahydrofuran 109-99-9	aqua (intermittent releases)		21,6 mg/l				
tetrahydrofuran 109-99-9	sewage treatment plant (STP)		4,6 mg/l				
tetrahydrofuran 109-99-9	sediment (freshwater)				23,3 mg/kg		
tetrahydrofuran 109-99-9	sediment (marine water)				2,33 mg/kg		
tetrahydrofuran 109-99-9	Soil				2,13 mg/kg		
tetrahydrofuran 109-99-9	oral				67 mg/kg		
tetrahydrofuran 109-99-9	Air						no hazard identified
Cyclohexanone 108-94-1	aqua (freshwater)		0,0329 mg/l				
Cyclohexanone 108-94-1	aqua (marine water)		0,003 mg/l				
Cyclohexanone 108-94-1	sediment (freshwater)				0,249 mg/kg		
Cyclohexanone 108-94-1	Soil				0,03 mg/kg		
Cyclohexanone 108-94-1	sewage treatment plant (STP)		10 mg/l				
Cyclohexanone 108-94-1	aqua (intermittent releases)		0,329 mg/l				
Cyclohexanone 108-94-1	sediment (marine water)				0,025 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
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	
tetrahydrofuran 109-99-9	Workers	Inhalation	Long term exposure - systemic effects		72,4 mg/m3	no hazard identified
tetrahydrofuran 109-99-9	Workers	dermal	Long term exposure - systemic effects		12,6 mg/kg	no hazard identified
tetrahydrofuran 109-99-9	General population	Inhalation	Long term exposure - systemic effects		13 mg/m3	no hazard identified
tetrahydrofuran 109-99-9	General population	dermal	Long term exposure - systemic effects		1,5 mg/kg	no hazard identified
tetrahydrofuran 109-99-9	General population	Inhalation	Acute/short term exposure - systemic effects		52 mg/m3	no hazard identified
tetrahydrofuran 109-99-9	General population	Inhalation	Acute/short term exposure - local effects		150 mg/m3	no hazard identified
tetrahydrofuran 109-99-9	Workers	Inhalation	Acute/short term exposure - systemic effects		96 mg/m3	no hazard identified
tetrahydrofuran 109-99-9	Workers	Inhalation	Acute/short term exposure - local effects		300 mg/m3	no hazard identified
tetrahydrofuran 109-99-9	Workers	inhalation	Long term exposure - local effects		150 mg/m3	no hazard identified
tetrahydrofuran 109-99-9	General population	inhalation	Long term exposure - local effects		75 mg/m3	no hazard identified
tetrahydrofuran 109-99-9	General population	oral	Long term exposure - systemic effects		1,5 mg/kg	no hazard identified
Cyclohexanone 108-94-1	Workers	Inhalation	Acute/short term exposure - systemic effects		80 mg/m3	
Cyclohexanone 108-94-1	Workers	dermal	Acute/short term exposure - systemic effects		4 mg/kg	
Cyclohexanone 108-94-1	Workers	Inhalation	Acute/short term exposure - local effects		80 mg/m3	
Cyclohexanone 108-94-1	Workers	dermal	Long term exposure - systemic effects		4 mg/kg	
Cyclohexanone 108-94-1	Workers	Inhalation	Long term exposure - systemic effects		40 mg/m3	
Cyclohexanone 108-94-1	Workers	Inhalation	Long term exposure - local effects		40 mg/m3	
Cyclohexanone 108-94-1	General population	dermal	Acute/short term exposure - systemic effects		1 mg/kg	

Cyclohexanone 108-94-1	General population	Inhalation	Acute/short term exposure - systemic effects		20 mg/m3	
Cyclohexanone 108-94-1	General population	oral	Acute/short term exposure - systemic effects		1,5 mg/kg	
Cyclohexanone 108-94-1	General population	Inhalation	Acute/short term exposure - local effects		40 mg/m3	
Cyclohexanone 108-94-1	General population	dermal	Long term exposure - systemic effects		1 mg/kg	
Cyclohexanone 108-94-1	General population	Inhalation	Long term exposure - systemic effects		10 mg/m3	
Cyclohexanone 108-94-1	General population	oral	Long term exposure - systemic effects		1,5 mg/kg	
Cyclohexanone 108-94-1	General population	Inhalation	Long term exposure - local effects		20 mg/m3	
Cyclohexanone 108-94-1	Workers	dermal	Acute/short term exposure - local effects		10 mg/kg	

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Tetrahydrofuran 109-99-9	tetrahydrofuran	Urine	Sampling time: End of shift.	2 mg/l	DE BAT		
Tetrahydrofuran 109-99-9	tetrahydrofuran	Urine	Sampling time: End of shift.	2 mg/l	DE BGW		
Butanone 78-93-3 [2-Butanone; Methylethylketone]	2-butanone	Urine	Sampling time: End of shift.	150 mg/l	DE BGW		

8.2. Exposure controls:

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

Hand protection:
Recommended are gloves made from Nitril rubber (Material thickness >0,1 mm, Perforation time < 30s).Gloves should be replaced after each short time contact or contamination. Available at laboratory specialized trade or at pharmacies / chemist's shops.
In the case of longer contact protective gloves made from butyl rubber are recommended according to EN 374.
material thickness > 0,3 mm
Perforation time > 10 minutes
In the case of longer and repeated contact please note that in practice the penetration times may be considerably shorter than those determined according to EN 374. The protective gloves must always be checked for their suitability for use at the specific workplace (e.g. mechanical and thermal stress, product compatibility, antistatic effects, etc.). The gloves must be replaced immediately at the first signs of wear and tear. The information provided by the manufacturers and given in the relevant trade association regulations for industrial safety must always be observed. We recommend that a hand care plan is drawn up in cooperation with a glove manufacturer and the trade association in accordance with the local operating conditions.

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

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Delivery form	liquid
Colour	colourless, slightly, turbid
Odor	strong, of solvent
Solidification temperature	-31 °C (-23.8 °F)
Initial boiling point	66 °C (150.8 °F)no method
Flammability	flammable
Explosive limits	
lower	1,3 %(V);
upper	12,6 %(V); Upper/lower explosion limit
Flash point	-4 °C (24.8 °F); no method
Auto-ignition temperature	215 °C (419 °F)
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic) (40 °C (104 °F);)	7.300 - 15.600 mm2/s
Viscosity, dynamic (Brookfield; 20 °C (68 °F))	7.000 - 15.000 mPa.s no method
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Partially soluble
Solubility (qualitative) (20 °C (68 °F); Solvent: ketones)	Partially soluble
Solubility (qualitative) (20 °C (68 °F); Solvent: other organic solvents)	Partially soluble
Vapour pressure (50 °C (122 °F))	360 mbar
Density (23 °C (73.4 °F))	0,960 g/cm3 no method

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

None if used for intended purpose.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

None if used for intended purpose.

10.5. Incompatible materials
None if used properly.

10.6. Hazardous decomposition products
None known

SECTION 11: Toxicological information

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

Acute oral toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Butanone 78-93-3	LD50	2.737 mg/kg	rat	not specified
tetrahydrofuran 109-99-9	LD50	1.650 mg/kg	rat	not specified
Cyclohexanone 108-94-1	LD50	800 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
Butanone 78-93-3	LD50	> 6.400 mg/kg	rabbit	not specified
tetrahydrofuran 109-99-9	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Cyclohexanone 108-94-1	LD50	1.100 mg/kg	rabbit	not specified

Acute inhalative toxicity:

The toxicity of the product is due to its narcotic effect after inhalation.
In the event of protracted or repeated exposure, damage to health cannot be excluded.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Butanone 78-93-3	LC50	> 20 mg/l	vapour	4 h	rat	not specified
tetrahydrofuran 109-99-9	LC50	> 14,7 mg/l	vapour	6 h	rat	EPA Guideline
tetrahydrofuran 109-99-9	Acute toxicity estimate (ATE)	> 14,7 mg/l	vapour	4 h		Expert judgement
Cyclohexanone 108-94-1	LC50	11 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
Butanone 78-93-3	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
tetrahydrofuran 109-99-9	not irritating	72 h	rabbit	Draize Test
Cyclohexanone 108-94-1	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
Butanone 78-93-3	irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Cyclohexanone 108-94-1	corrosive	24 h	rabbit	BASF Test
Cyclohexanone 108-94-1	corrosive	3,5 min	Chicken, egg, in vitro assay	Hen's Egg Test – Chorioallantoic Membrane (HET-CAM)

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
Butanone 78-93-3	not sensitising	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
tetrahydrofuran 109-99-9	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
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)
tetrahydrofuran 109-99-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
tetrahydrofuran 109-99-9	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
tetrahydrofuran 109-99-9	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Cyclohexanone 108-94-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified
Butanone 78-93-3	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
tetrahydrofuran 109-99-9	negative	inhalation: vapour		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
tetrahydrofuran 109-99-9	carcinogenic	inhalation: vapour	105 w 6 h/d, 5 d/w	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
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)
tetrahydrofuran 109-99-9	NOAEL P 9000 ppm NOAEL F1 3000 ppm NOAEL F2 3000 ppm	Two generation study	oral: drinking water	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure:

No data available.

STOT-repeated exposure::

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Butanone 78-93-3	NOAEL 2500 ppm	inhalation	90 days 6 hours/day, 5 days/week	rat	not specified
tetrahydrofuran 109-99-9	NOAEL 1.000 mg/l	oral: drinking water	4 w daily	rat	equivalent or similar to OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

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	

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:
Do not empty into drains, soil or bodies of water.

12.1. Toxicity

Toxicity (Fish):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Butanone 78-93-3	LC50	3.220 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
tetrahydrofuran 109-99-9	NOEC	216 mg/l	33 d	Pimephales promelas	OECD Guideline 210 (fish early lite stage toxicity test)
tetrahydrofuran 109-99-9	LC50	2.160 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cyclohexanone 108-94-1	LC50	527 - 732 mg/l	96 h	Pimephales promelas	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
Butanone 78-93-3	EC50	5.091 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
tetrahydrofuran 109-99-9	EC50	3.485 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cyclohexanone 108-94-1	EC50	820 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

No data available.

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
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)
tetrahydrofuran 109-99-9	NOEC	3.700 mg/l		Scenedesmus quadricauda	other guideline:
Cyclohexanone 108-94-1	EC50	> 100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cyclohexanone 108-94-1	NOEC	100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Butanone 78-93-3	EC50	1.150 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
tetrahydrofuran 109-99-9	IC50	460 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Cyclohexanone 108-94-1	EC50	> 1.000 mg/l	30 min	activated sludge, domestic	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Butanone 78-93-3	readily biodegradable	aerobic	98 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
tetrahydrofuran 109-99-9	inherently biodegradable	aerobic	61 %	52 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Cyclohexanone 108-94-1	readily biodegradable	aerobic	90 - 100 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
Butanone 78-93-3	0,3	40 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
tetrahydrofuran 109-99-9	0,45	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Cyclohexanone 108-94-1	0,86	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT/ vPvB
Butanone 78-93-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
tetrahydrofuran 109-99-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Cyclohexanone 108-94-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

Disposal of uncleaned packages:
Use packages for recycling only when totally empty.

Waste code
080409

SECTION 14: Transport information

14.1. UN number

ADR	1133
RID	1133
ADN	1133
IMDG	1133
IATA	1133

14.2. UN proper shipping name

ADR	ADHESIVES
RID	ADHESIVES
ADN	ADHESIVES
IMDG	ADHESIVES
IATA	Adhesives

14.3. Transport hazard class(es)

ADR	3
RID	3
ADN	3
IMDG	3
IATA	3

14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

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	Special provision 640D Tunnelcode: (D/E)
RID	Special provision 640D
ADN	Special provision 640D
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 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

WGK:	WGK 1: slightly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2)
Storage class according to TRGS 510:	3

SECTION 16: Other information

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

H225 Highly flammable liquid and vapor.
H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.

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

Further information:

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