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

1.1. Product identifier

BEST-PU 1504_1507_1516_1517 Komponente A

Further trade names

This SDS covers the following products:
BEST-PU 1504 Komponente A

BEST-PU 1507 Komponente A

BEST-PU 1516 Komponente A

BEST-PU 1517 Komponente A

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

Use of the substance/mixture

Adhesives, sealants

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name: Best Klebstoffe GmbH & Co. KG
Street: Gewerbestraße 10-14
Place: D-86981 Kinsau
Telephone: +49 (0)8869 91384-0 Telefax: +49 (0)8869 91384-15
e-mail: info@bestklebstoffe.de
Internet: www.bestklebstoffe.de
Responsible Department: Dr. Gans-Eichler Chemieberatung GmbH Raesfeldstr. 22 48149 Münster
e-mail: info@tge-consult.de
Tel.: +49(0)251/394868-69
www.tge-consult.de

1.4. Emergency telephone number:

+49 (0)8869 91384-0 (08:00 - 17:00)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Serious eye damage/eye irritation: Eye Irrit. 2
Hazard Statements:
Causes serious eye irritation.

2.2. Label elements

Regulation (EC) No. 1272/2008

Signal word: Warning

Pictograms:

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face 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.
P337+P313	If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
102-60-3	1,1',1",1'''-ethylenedinitrilotetrapropan-2-ol			10 - 50 %
	203-041-4		01-2119552434-41	
	Eye Irrit. 2; H319			
64852-22-8	Glyceryl poly(oxypropylene)triamine			1 - 3 %
	Skin Irrit. 2, Eye Dam. 1, Aquatic Chronic 3; H315 H318 H412			
1185-81-5	Dibutylbis(dodecylthio)zinn			0 - < 0,1 %
	214-688-7		01-2119841260-50	
	Muta. 2, Repr. 1B, Acute Tox. 4, Skin Irrit. 2, Resp. Sens. 1, STOT RE 1, Aquatic Chronic 1; H341 H360FD H312 H315 H334 H372 H410			

Full text of H and EUH statements: see section 16.

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse cautiously with water for several minutes. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2). Dry extinguishing powder. alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO2).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Safe handling: see section 7
Personal protection equipment: see section 8

6.2. Environmental precautions

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the recovered material as prescribed in the section on waste disposal.
Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. See section 8.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Further information on handling

General protection and hygiene measures: See section 8.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity.
Recommended storage temperature: 20°C
Protect against: frost. UV-radiation/sunlight. heat. Humidity

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
102-60-3	1,1',1",1'''-ethylenedinitrilotetrapropan-2-ol			
Consumer DNEL, long-term		dermal	systemic	2,5 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
102-60-3	1,1',1",1'''-ethylenedinitrilotetrapropan-2-ol	
Freshwater (intermittent releases)		1,51 mg/l

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.
Provide adequate ventilation.

Protective and hygiene measures

Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). DIN EN 166

Hand protection

Wear suitable gloves.
Suitable material:
FKM (fluororubber). - Thickness of glove material: 0,4 mm
Breakthrough time >= 8 h
Butyl rubber. - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm
Breakthrough time >= 8 h
PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Check leak tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Lab apron.
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection necessary at:
-exceeding exposure limit values
-insufficient ventilation and aerosol or mist formation
Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Type: P1-3
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

No special precautionary measures are necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	black
Odour:	characteristic
pH-Value:	not determined
Changes in the physical state	
Melting point:	not determined
Initial boiling point and boiling range:	>200 °C
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	182 °C
Sustaining combustion:	Not sustaining combustion
Explosive properties	
none	
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined
Auto-ignition temperature	
Gas:	not determined
Decomposition temperature:	not determined
Oxidizing properties	
none	
Vapour pressure:	not determined
Density:	0,98 - 1,0 g/cm³
Water solubility:	not determined
Solubility in other solvents	
not determined	
Partition coefficient:	not determined
Viscosity / dynamic:	1300 -3500 mPa·s
Viscosity / kinematic:	not determined
Flow time:	not determined
Vapour density:	not determined

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined

9.2. Other information

Solid content:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Refer to chapter 10.5.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

10.6. Hazardous decomposition products

Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicocinetics, metabolism and distribution

No data available.

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
102-60-3	1,1',1",1'"-ethylenedinitrilotetrapropan-2-ol				
	oral	LD50 2890 mg/kg	Rat	REACH Dossier	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	REACH Dossier	OECD Guideline 402
64852-22-8	Glyceryl poly(oxypropylene)triamine				
	oral	LD50 2690 mg/kg	Rat.		
	dermal	LD50 12500 mg/kg	Rabbit.		
1185-81-5	Dibutylbis(dodecylthio)zinn				
	oral	LD50 > 2000 mg/kg	Rat	ECHA Dossier	OECD Guideline 423
	dermal	LD50 > 1000 - < 2000 mg/kg	Rabbit	ECHA Dossier	OECD Guideline 402

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.
1,1',1",1'''-ethylenedinitrilotetrapropan-2-ol:
Developmental toxicity/teratogenicity/Subchronic oral toxicity/Reproductive toxicity:
Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Species: Rat
Results: NOAEL(P) = 300 mg/kg bw/day.; NOAEL (F1) = 1000 mg/kg bw/day
Literature information: ECHA Dossier
In-vitro mutagenicity:
Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Result: negative. Literature information: ECHA Dossier

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Specific effects in experiment on an animal

No data available.

SECTION 12: Ecological information

12.1. Toxicity

The product has not been tested.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
102-60-3	1,1',1",1'''-ethylenedinitrilotetrapropan-2-ol						
	Acute fish toxicity	LC50 mg/l	ca. 4600	96 h	Leuciscus idus	REACH Dossier	DIN 38 412, Part 15
	Acute algae toxicity	ErC50 mg/l	150,67	72 h	Desmodesmus subspicatus	REACH Dossier	EU Method C.3
	Crustacea toxicity	NOEC mg/l	>= 10	21 d	Daphnia magna	REACH Dossier	OECD Guideline 211
	Acute bacteria toxicity	(> 10000 mg/l)		3 h	Activated sludge	REACH Dossier	EU Method C.11
64852-22-8	Glyceryl poly(oxypropylene)triamine						
	Acute fish toxicity	LC50	68 mg/l	96 h	Fish		
1185-81-5	Dibutylbis(dodecylthio)zinn						
	Acute algae toxicity	ErC50 mg/l	>= 1,6	72 h	Desmodesmus subspicatus	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50	0,11 mg/l	48 h	Daphnia magna	ECHA Dossier	OECD Guideline 202

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
102-60-3	1,1',1",1'''-ethylenedinitrilotetrapropan-2-ol			

	READ ACROSS	< 10%	28	READ ACROSS
	Not easily bio-degradable (according to OECD-criteria).			

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
102-60-3	1,1',1",1'"-ethylenedinitrilotetrapropan-2-ol	-2,08
1185-81-5	Dibutylbis(dodecylthio)zinn	3,11

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.
Non-contaminated packages may be recycled.
According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.
Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Refer to section 6-8

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not relevant

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 20: Dibutylbis(dodecylthio)zinn

2010/75/EU (VOC):	0%
2004/42/EC (VOC):	0 g/L
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2019/957)
The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].
REACH 1907/2006 Appendix XVII, No (mixture): 3, 20

National regulatory information

Employment restrictions:	Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	1 - slightly hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
1,1',1",1'''-ethylenedinitrilotetrapropan-2-ol

SECTION 16: Other information

Changes

Rev. 1.0; Initial release: 22.01.2020

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
AGW: Arbeitsplatzgrenzwert
AVV: Abfallverzeichnisverordnung
CAS Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
DNEL: Derived No Effect Level
d: day(s)
EAKV: Europäisches Abfallverzeichnis gemäß Entwurf Abfallverzeichnisverordnung
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European LIst of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NLP: No-Longer Polymers
N/A: not applicable
OECD: Organisation for Economic Co-operation and Development
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
REACH: Registration, Evaluation, Authorisation of Chemicals
SVHC: substance of very high concern
TRGS Technische Regeln fuer Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds
VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe
WGK: Wassergefaehrdungsklasse

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Eye Irrit. 2; H319	Calculation method

Relevant H and EUH statements (number and full text)

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)