

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

### 1.1 Product identifier

· Trade name: **Metallkontakkleber**

· Article number: 8503.00

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

No further relevant information available.

· Application of the substance / the preparation: Adhesives

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

· Manufacturer/Supplier:

Geistlich Ligamenta AG  
Engstringerstr. 5  
CH-8952 Schlieren  
Tel.: +41 44 7338833  
Fax: +41 44 7338877

· Further information obtainable from:

R&D  
safety@geistlich.ch

· **1.4 Emergency telephone number:** +41 44 733 88 33 (Mo-Fr 07:00-12:00;13:00-16:00)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008



flame

Flam. Liq. 2      H225      Highly flammable liquid and vapour.



health hazard

Repr. 2      H361d      Suspected of damaging the unborn child.

STOT RE 2      H373      May cause damage to organs through prolonged or repeated exposure.



environment

Aquatic Chronic 2      H411      Toxic to aquatic life with long lasting effects.



Skin Irrit. 2      H315      Causes skin irritation.

Eye Irrit. 2      H319      Causes serious eye irritation.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC




Xn; Harmful

R48/20-63:      Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child.

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 Xi; Irritant

R36/38: Irritating to eyes and skin.

 F; Highly flammable

R11: Highly flammable.

 N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

- Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Has a narcotising effect.

- Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

## · 2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

- Hazard pictograms



GHS02 GHS07 GHS08 GHS09

- Signal word Danger

- Hazard-determining components of labelling:

toluene

- Hazard statements

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

- Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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- Additional information:  
Contains Isothiazolinone. May produce an allergic reaction.
- **2.3 Other hazards**
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

## SECTION 3: Composition/information on ingredients

**3.2 Chemical characterisation: Mixtures**

- Description: Solvent mixture

- Dangerous components:

CAS: 108-88-3 EINECS: 203-625-9	toluene ☒ Xn R48/20-63-65; ☒ Xi R38; ☒ F R11 R67 Repr. Cat. 3 ----- ☠ Flam. Liq. 2, H225; ☠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ☠ Skin Irrit. 2, H315; STOT SE 3, H336	10-25%
EC number: 926-605-8	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane ☒ Xn R65; ☒ Xi R36; ☒ F R11; ☠ N R51/53 R66-67 ----- ☠ Flam. Liq. 2, H225; ☠ Asp. Tox. 1, H304; ☠ Aquatic Chronic 2, H411; ☠ Eye Irrit. 2, H319; STOT SE 3, H336	10-25%
CAS: 78-93-3 EINECS: 201-159-0	butanone ☒ Xi R36; ☒ F R11 R66-67 ----- ☠ Flam. Liq. 2, H225; ☠ Eye Irrit. 2, H319; STOT SE 3, H336	10-25%
CAS: 107-83-5 EINECS: 203-523-4	2-methylpentane ☒ Xn R65; ☒ Xi R38; ☒ F R11; ☠ N R51/53 R67 ----- ☠ Flam. Liq. 2, H225; ☠ Asp. Tox. 1, H304; ☠ Aquatic Chronic 2, H411; ☠ Skin Irrit. 2, H315; STOT SE 3, H336	10-25%
CAS: 8050-09-7 EINECS: 232-475-7	Rosin ☒ Xi R43 ----- ☠ Skin Sens. 1, H317	≤2,5%

- Additional information: For the wording of the listed risk phrases refer to section 16.

## SECTION 4: First aid measures

**4.1 Description of first aid measures**

- General information: Immediately remove any clothing soiled by the product.
- After inhalation:  
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact:  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Call for a doctor immediately.

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

No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
  - Suitable extinguishing agents: CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
  - For safety reasons unsuitable extinguishing agents:
    - Water
    - Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
No further relevant information available.
- **5.3 Advice for firefighters**
  - Protective equipment: No special measures required.
  - Additional information Cool endangered receptacles with water spray.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Prevent seepage into sewage system, workpits and cellars.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
  - Information about fire - and explosion protection:
    - Keep ignition sources away - Do not smoke.
    - Protect from heat.
    - Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
  - Storage:
    - Requirements to be met by storerooms and receptacles: Store in a cool location.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions:
      - Keep container tightly sealed.
      - Store in cool, dry conditions in well sealed receptacles.
      - Protect from heat and direct sunlight.

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· **7.3 Specific end use(s)** No further relevant information available.

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## SECTION 8: Exposure controls/personal protection

· Additional information about design of technical facilities: No further data; see item 7.

### · 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

#### 108-88-3 toluene (15-<20%)

MAK (Switzerland)	Short-term value: 760 mg/m <sup>3</sup> , 200 ppm Long-term value: 190 mg/m <sup>3</sup> , 50 ppm H OI B Rf <sub>3</sub> Re <sub>3</sub> SSc;
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#### 78-93-3 butanone (15-<20%)

MAK (Switzerland)	Short-term value: 590 mg/m <sup>3</sup> , 200 ppm Long-term value: 590 mg/m <sup>3</sup> , 200 ppm H B SSc;
IOELV (European Union)	Short-term value: 900 mg/m <sup>3</sup> , 300 ppm Long-term value: 600 mg/m <sup>3</sup> , 200 ppm

#### 107-83-5 2-methylpentane (15-<20%)

MAK (Switzerland)	Short-term value: 3600 mg/m <sup>3</sup> , 1000 ppm Long-term value: 1800 mg/m <sup>3</sup> , 500 ppm B;
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· Ingredients with biological limit values:

#### 108-88-3 toluene (15-<20%)

BAT (Switzerland)	600 µg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: Expositionsende bzw. Schichtende Biol. Parameter: Toluol
	2 g/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: bei Langzeitexposition: Nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende Biol. Parameter: Hippursäure
	0,5 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende, bei Langzeitexposition: Nach mehreren vorangegangenen Schichten Biol. Parameter: o-Kresol

#### 78-93-3 butanone (15-<20%)

BAT (Switzerland)	5 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Biol. Parameter: 2-Butanon (MEK)
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· Additional information: The lists valid during the making were used as basis.

### · 8.2 Exposure controls

- Personal protective equipment:
  - General protective and hygienic measures:
    - Keep away from foodstuffs, beverages and feed.
    - Immediately remove all soiled and contaminated clothing

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Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

ABEK Filter

· Protection of hands:



Protective gloves

Neoprene gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

· Body protection: Protective work clothing

## SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· General Information

· Appearance:

· Form:

Liquid

· Colour:

Amber coloured

· Odour:

Characteristic

· Odour threshold:

Not determined.

· pH-value:

Not determined.

· Change in condition

· Melting point/Melting range:

Undetermined.

· Boiling point/Boiling range:

Undetermined.

· Flash point:

< 0 °C

· Flammability (solid, gaseous):

Not applicable.

· Ignition temperature:

> 200 °C

· Decomposition temperature:

Not determined.

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· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
· Lower:	1,2 Vol %
· Upper:	11,5 Vol %
· Vapour pressure at 20 °C:	133 hPa
· Density at 20 °C:	0,88 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
· water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· Dynamic at 20 °C:	2900 mPas
· Kinematic:	Not determined.
· Solvent content:	
· Organic solvents:	57,0 %
· Water:	0,0 %
· Solids content:	28,0 %
· <b>9.2 Other information</b>	No further relevant information available.

## SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
  - Thermal decomposition / conditions to be avoided:  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological information

### · 11.1 Information on toxicological effects

- Acute toxicity:

· LD/LC50 values relevant for classification:

#### **108-88-3 toluene**

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mus)

- Primary irritant effect:

- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.

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- Sensitisation: No sensitising effects known.
- Additional toxicological information:  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
  - CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)  
Repr. 2

## SECTION 12: Ecological information

- **12.1 Toxicity**
  - Aquatic toxicity: No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
  - Ecotoxicological effects:
    - Remark: Toxic for fish
  - Additional ecological information:
    - General notes:  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
  - PBT: Not applicable.
  - vPvB: Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
    - Recommendation  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- |           |  |
|-----------|--|
| 08 04 09* | waste adhesives and sealants containing organic solvents or other dangerous substances |
|-----------|--|
- European waste catalogue
  - Uncleaned packaging:
    - Recommendation:  
Dispose of packaging according to regulations on the disposal of packagings.

## SECTION 14: Transport information

- **14.1 UN-Number**
  - ADR, IMDG, IATA UN1133
- **14.2 UN proper shipping name**

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<ul style="list-style-type: none"> <li>· ADR</li> <li>· IMDG</li> <li>· IATA</li> <li>· IMDG</li> </ul>	<p>1133 ADHESIVES (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa), ENVIRONMENTALLY HAZARDOUS ADHESIVES (Hydrocarbons, C6-C7, isoalkanes, cyclics, &lt;5% n-hexane, HEXANES), MARINE POLLUTANT ADHESIVES</p>	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	<p>3 Flammable liquids. 3</p>	
<ul style="list-style-type: none"> <li>· IATA</li> </ul>	<div style="display: flex; justify-content: center; align-items: center;">  </div> <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	<p>3 Flammable liquids. 3</p>
<ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· ADR, IMDG, IATA</li> </ul>	<p>III</p>	
<ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> <li>· Marine pollutant:</li> <li>· Special marking (ADR):</li> </ul>	<p>Product contains environmentally hazardous substances: Hydrocarbons, C6-C7, isoalkanes, cyclics, &lt;5% n-hexane</p> <p>Yes Symbol (fish and tree)</p> <p>Symbol (fish and tree)</p>	
<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> <li>· Danger code (Kemler):</li> <li>· EMS Number:</li> </ul>	<p>Warning: Flammable liquids. 33 F-E,S-D</p>	
<ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	<p>Not applicable.</p>	
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> </ul>		
<ul style="list-style-type: none"> <li>· ADR</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> <li>· Transport category</li> <li>· Tunnel restriction code</li> </ul>	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml 3 D/E</p>	
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml</p>	

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	Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1133, ADHESIVES (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa), 3, III, ENVIRONMENTALLY HAZARDOUS

### SECTION 15: Regulatory information

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

- National regulations:
- Technical instructions (air):

Class	Share in %
NK	50-100

- Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases
  - H225 Highly flammable liquid and vapour.
  - H304 May be fatal if swallowed and enters airways.
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H319 Causes serious eye irritation.
  - H336 May cause drowsiness or dizziness.
  - H361d Suspected of damaging the unborn child.
  - H373 May cause damage to organs through prolonged or repeated exposure.
  - H411 Toxic to aquatic life with long lasting effects.
- R-phrases
  - R11 Highly flammable.
  - R36 Irritating to eyes.
  - R38 Irritating to skin.
  - R43 May cause sensitisation by skin contact.
  - R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
  - R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
  - R63 Possible risk of harm to the unborn child.
  - R65 Harmful: may cause lung damage if swallowed.
  - R66 Repeated exposure may cause skin dryness or cracking.
  - R67 Vapours may cause drowsiness and dizziness.
- Department issuing MSDS: R&D
- Contact: Tel: +41 44 733 88 33; Email: [safety@geistlich.ch](mailto:safety@geistlich.ch)
- Abbreviations and acronyms:
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods

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IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
Flam. Liq. 2: Flammable liquids, Hazard Category 2  
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2  
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1  
Repr. 2: Reproductive toxicity, Hazard Category 2  
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3  
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2  
Asp. Tox. 1: Aspiration hazard, Hazard Category 1  
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

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