

Conrad Electronic SE  
92240 Hirschau

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

### 1.1 Product identifier

**Wärmeleitpaste CTCM78**

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

#### 1.2.1 Relevant uses

Heatled paste

#### 1.2.2 Uses advised against

None known.

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

<b>Company</b>	Conrad Electronic SE Klaus-Conrad-Str. 1 92240 Hirschau / GERMANY Phone 0180-5312111 Fax 0180-5312110 Homepage www.conrad.de
<b>Manufacturer</b>	KERAFOL Keramische Folien GmbH & Co. KG Koppe-Platz 1 92676 Eschenbach / GERMANY Phone +49 (0) 9645 88-300 Fax +49 (0) 9645 88-390 Homepage www.kerafol.com E-mail info@kerafol.com

#### Address enquiries to

<b>Technical information</b>	info@kerafol.com
<b>Safety Data Sheet</b>	sdb@chemiebuero.de

### 1.4 Emergency telephone number

**Advisory body** +49 (0)89-19240 (24h) (English)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

No classification.

### 2.2 Label elements

The product does not require a hazard warning label in accordance with GHS/CLP-directives.

<b>Hazard pictograms</b>	none
<b>Signal word</b>	none
<b>Hazard statements</b>	none
<b>Precautionary statements</b>	none

### 2.3 Other hazards

<b>Environmental hazards</b>	Does not contain any PBT or vPvB substances.
<b>Other hazards</b>	Further hazards were not determined with the current level of knowledge.

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### SECTION 3: Composition / Information on ingredients

**Product-type:**

The product is a mixture.

Range [%]	Substance
40 - < 60	Aluminium oxide
	CAS: 1344-28-1, EINECS/ELINCS: 215-691-6, Reg-No.: 01-2119529248-35-XXXX

**Comment on component parts**

No dangerous components.  
Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**General information**

Take off contaminated clothing and wash before reuse.

**Inhalation**

Ensure supply of fresh air.

**Skin contact**

When in contact with the skin, clean with soap and water.  
Consult a doctor if skin irritation persists.

**Eye contact**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

**Ingestion**

In the event of symptoms seek medical treatment.

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

None known.

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

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing media**

foam, dry powder, water spray jet, carbon dioxide

**Extinguishing media that must not be used**

Full water jet

#### 5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.  
Silicon compounds

#### 5.3 Advice for firefighters

Use self-contained breathing apparatus.  
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.  
Ensure adequate ventilation.  
High risk of slipping due to leakage/spillage of product.

#### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

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### 6.3 Methods and material for containment and cleaning up

Take up mechanically.  
Take up residues with absorbent material (e.g. sand, sawdust, general-purpose binder).  
Dispose of absorbed material in accordance within the regulations.

### 6.4 Reference to other sections

See SECTION 8+13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

The normal safety precautions for handling chemicals must be observed.  
Avoid contact with eyes and skin. Use personal protective equipment.

Do not eat, drink, smoke or take drugs at work.  
Wash hands before breaks and after work.  
Use barrier skin cream.  
Take off contaminated clothing and wash before reuse.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.  
Do not store together with food and animal food/diet.  
Keep container tightly closed.  
Store in a dry place.

### 7.3 Specific end use(s)

See product use, SECTION 1.2

## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

#### Ingredients with occupational exposure limits to be monitored (GB)

Substance
Aluminium oxide
CAS: 1344-28-1, EINECS/ELINCS: 215-691-6, Reg-No.: 01-2119529248-35-XXXX
Long-term exposure: 10 mg/m <sup>3</sup> , inhalable dust (respirable dust: 4 mg/m <sup>3</sup> )
Graphite
CAS: 7782-42-5, EINECS/ELINCS: 231-955-3, Reg-No.: 01-2119486977-12-XXXX
Long-term exposure: 10 mg/m <sup>3</sup> , (inhalable dust)

#### DNEL

Substance
Aluminium oxide, CAS: 1344-28-1
Industrial, inhalative, Long-term - local effects: 15,63 mg/m <sup>3</sup> .
general population, oral, Long-term - systemic effects: 3,29 mg/kg bw/day.

#### PNEC

Substance
Aluminium oxide, CAS: 1344-28-1
sewage treatment plants (STP), 20 mg/l.
freshwater, 74,9 µg/l.

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## 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
<b>Eye protection</b>	safety glasses (EN 166:2001)
<b>Hand protection</b>	> 0,1 mm, butyl rubber, > 120 min (EN 374) The details concerned are recommendations. Please contact the glove supplier for further information.
<b>Skin protection</b>	Protective clothing (EN 340)
<b>Other</b>	Avoid contact with eyes and skin. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
<b>Respiratory protection</b>	Not required under normal conditions.
<b>Thermal hazards</b>	none
<b>Delimitation and monitoring of the environmental exposition</b>	Comply with applicable environmental regulations limiting discharge to air, water and soil.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Form</b>	pasty
<b>Color</b>	grey black
<b>Odor</b>	characteristic
<b>Odour threshold</b>	not applicable
<b>pH-value</b>	not applicable
<b>pH-value [1%]</b>	not applicable
<b>Boiling point [°C]</b>	not applicable
<b>Flash point [°C]</b>	not applicable
<b>Flammability (solid, gas) [°C]</b>	No information available.
<b>Lower explosion limit</b>	not applicable
<b>Upper explosion limit</b>	not applicable
<b>Oxidising properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	No information available.
<b>Density [g/ml]</b>	1,9 - 2,1
<b>Bulk density [kg/m<sup>3</sup>]</b>	not applicable
<b>Solubility in water</b>	virtually insoluble
<b>Partition coefficient [n-octanol/water]</b>	No information available.
<b>Viscosity</b>	90-140 Pas (4s-1 / 25°C)
<b>Relative vapour density determined in air</b>	No information available.
<b>Evaporation speed</b>	No information available.
<b>Melting point [°C]</b>	No information available.
<b>Autoignition temperature [°C]</b>	No information available.
<b>Decomposition temperature [°C]</b>	> 350

### 9.2 Other information

Operation temperature: -60 →+200 °C

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reactions known if used as directed.

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## 10.2 Chemical stability

The product is stable under standard conditions.

## 10.3 Possibility of hazardous reactions

Avoid temperatures above 200°C.

## 10.4 Conditions to avoid

Excessive heating

## 10.5 Incompatible materials

not applicable

## 10.6 Hazardous decomposition products

In the case of heating (> 200°C) following modest (decomposition) products may occur:  
Formaldehyde.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Substance
Aluminium oxide, CAS: 1344-28-1
LD50, oral, Rat: > 2000 mg/kg.

<b>Serious eye damage/irritation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Skin corrosion/irritation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Respiratory or skin sensitisation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — single exposure</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — repeated exposure</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Mutagenicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Reproduction toxicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Carcinogenicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Aspiration hazard</b>	Based on the available information, the classification criteria are not fulfilled.
<b>General remarks</b>	

Toxicological data of complete product are not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Substance
Aluminium oxide, CAS: 1344-28-1
EC50, (72h), Selenastrum capricornutum: > 100 mg/l (OECD 201).
EC50, (48h), Daphnia magna: > 100 mg/l (OECD 202).
EC50, (96h), Salmo trutta: > 100 mg/l (OECD 203).

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## 12.2 Persistence and degradability

<b>Behaviour in environment compartments</b>	No information available.
<b>Behaviour in sewage plant</b>	No information available.
<b>Biological degradability</b>	The methods for determining the biological degradability are not applicable to inorganic substances. The organic component of the product is non biodegradable.

## 12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

## 12.4 Mobility in soil

No information available.

## 12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

## 12.6 Other adverse effects

No classification on the basis of the calculation procedure of the preparation directive.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Waste material c It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

#### Product

In according to RoHS!  
Disposal in an incineration plant in accordance with the regulations of the local authorities.

**Waste no. (recommended)** 070217

#### Contaminated packaging

Uncontaminated packaging may be taken for recycling.

**Waste no. (recommended)** 150102

## SECTION 14: Transport information

### 14.1 UN number

**Transport by land according to ADR/RID** not applicable

**Inland navigation (ADN)** not applicable

**Marine transport in accordance with IMDG** not applicable

**Air transport in accordance with IATA** not applicable

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**14.2 UN proper shipping name**

Transport by land according to ADR/RID NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with IMDG NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

**14.3 Transport hazard class(es)**

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

**14.4 Packing group**

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

**14.5 Environmental hazards**

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

**14.6 Special precautions for user**

Relevant information under SECTION 6 to 8.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

not applicable

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## SECTION 15: Regulatory information

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

EEC-REGULATIONS	1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2016/2037/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2019)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	no
- VOC (2010/75/CE)	0%

### 15.2 Chemical safety assessment

not applicable

## SECTION 16: Other information

### 16.1 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
ATE = acute toxicity estimate  
CAS = Chemical Abstracts Service  
CLP = Classification, Labelling and Packaging  
DMEL = Derived Minimum Effect Level  
DNEL = Derived No Effect Level  
EC50 = Median effective concentration  
ECB = European Chemicals Bureau  
EEC = European Economic Community  
EINECS = European Inventory of Existing Commercial Chemical Substances  
ELINCS = European List of Notified Chemical Substances  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
IC50 = Inhibition concentration, 50%  
IMDG = International Maritime Code for Dangerous Goods  
IUCLID = International Uniform Chemical Information Database  
LC50 = Lethal concentration, 50%  
LD50 = Median lethal dose  
LC0 = lethal concentration, 0%  
LOAEL = lowest-observed-adverse-effect level  
MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
NOAEL = No Observed Adverse Effect Level  
NOEC = No Observed Effect Concentration  
PBT = Persistent, Bioaccumulative and Toxic substance  
PNEC = Predicted No-Effect Concentration  
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
STP = Sewage Treatment Plant  
TLV@TWA = Threshold limit value – time-weighted average  
TLV@STEL = Threshold limit value – short-time exposure limit  
VOC = Volatile Organic Compounds  
vPvB = very Persistent and very Bioaccumulative

### 16.2 Other information

Classification procedure

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**Modified position**

SECTION 3 deleted: Diboron trioxide

SECTION 15 deleted: EUH210 Safety data sheet available on request.

SECTION 2 been added: The product does not require a hazard warning label in accordance with GHS/CLP-directives.

SECTION 2 deleted: The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

SECTION 3 been added: No dangerous components.

SECTION 3 deleted: For full text of H-statements: see SECTION 16.

SECTION 7 been added: Take off contaminated clothing and wash before reuse.

SECTION 10 deleted: Benzene

SECTION 10 been added: In the case of heating (> 200°C) following modest (decomposition) products may occur:

SECTION 10 deleted: In the case of heating (150-180°C) following modest (decomposition) products may occur:

SECTION 11 been added: Based on the available information, the classification criteria are not fulfilled.

SECTION 11 deleted: No classification due to substance-specific concentration limits.

SECTION 11 deleted: This product contains one or more substances of categorie Repr. 1B (CLP).

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