

KERAFOL Keramische Folien GmbH

92676 Eschenbach

Date printed 04.10.2016, Revision 04.10.2016

Version 04. Supersedes version: 03

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****KERATHERM® TYP Wärmeleitpasten - Silikonfrei (Keratherm® KP12)****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**Company**
 KERAFOL Keramische Folien GmbH
 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**Technical information**info@kerafol.com**Safety Data Sheet**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**

No classification.

2.2 Label elements

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

Hazard pictograms

none

Signal word

none

Hazard statements

none

Precautionary statements

none

2.3 Other hazards**Human health dangers**

Frequent persistent contact with the skin can cause skin irritation.

Environmental hazards

Does not contain any PBT or vPvB substances.

Other hazards

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
20 - < 30	Boron nitride CAS: 10043-11-5, EINECS/ELINCS: 233-136-6, Reg-No.: 01-2119947399-20-XXXX
10 - < 20	Aluminium oxide CAS: 1344-28-1, EINECS/ELINCS: 215-691-6, Reg-No.: 01-2119529248-35-XXXX
10 - < 20	Aluminium CAS: 7429-90-5, EINECS/ELINCS: 231-072-3, EU-INDEX: 013-002-00-1, Reg-No.: 01-2119529243-45-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.
In the event of symptoms seek medical treatment.

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

Seek medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed

none

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

Dry powder.
Water spray jet.
Carbon dioxide.
Foam.

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.

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

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

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6.2 Environmental precautions

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

In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

6.3 Methods and material for containment and cleaning up

Take up mechanically.

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.

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.

Prevent penetration into the ground.

Do not store together with food and animal food/diet.

Keep container tightly closed.

Protect from heat/overheating.

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
CAS: 7429-90-5, EINECS/ELINCS: 231-072-3, EU-INDEX: 013-002-00-1, Reg-No.: 01-2119529243-45-XXXX
Long-term exposure: 10 mg/m ³ , inhalable dust (respirable dust: 4 mg/m ³)
Aluminium oxide
CAS: 1344-28-1, EINECS/ELINCS: 215-691-6, Reg-No.: 01-2119529248-35-XXXX
Long-term exposure: 10 mg/m ³ , inhalable dust (respirable dust: 4 mg/m ³)

DNEL

Substance
Aluminium oxide, CAS: 1344-28-1
Industrial, inhalative (dust), Long-term - local effects: 15,63 mg/m ³ (AF=3).
general population, oral, Long-term - systemic effects: 3,29 mg/kg bw/d (AF= 40).

PNEC

Substance
Aluminium oxide, CAS: 1344-28-1
sewage treatment plants (STP), 20 mg/l (AF=10).

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8.2 Exposure controls

Additional advice on system design	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.
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	0,4mm Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Protective clothing.
Other	Avoid contact with eyes and skin.
Respiratory protection	Not required under normal conditions.
Thermal hazards	not determined
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Form	pasty
Color	silver-grey
Odor	characteristic
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	No information available.
Bulk density [kg/m³]	not applicable
Solubility in water	insoluble
Partition coefficient [n-octanol/water]	No information available.
Viscosity	not applicable
Relative vapour density determined in air	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Autoignition temperature [°C]	not self-igniting
Decomposition temperature [°C]	No information available.

9.2 Other information

none

SECTION 10: Stability and reactivity**10.1 Reactivity**

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

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10.3 Possibility of hazardous reactions

If product is heated above decomposition temperature toxic vapours may be released.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

Oxidizing agent

10.6 Hazardous decomposition products

No dangerous reactions known if used as directed.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Substance
Aluminium, CAS: 7429-90-5
LD50, oral, Rat: 2000 mg/kg.
LC50, inhalative, Rat: 888 mg/l/4h.
NOAEC, inhalative, Rat: 10 mg/m³.
Boron nitride, CAS: 10043-11-5
LD50, dermal, Rabbit: > 45 000 mg/kg RTECS.
LD50, oral, Rat: > 50 000 mg/kg RTECS.

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

Toxicological data of complete product are not available.

SECTION 12: Ecological information**12.1 Toxicity****12.2 Persistence and degradability**

Behaviour in environment compartments	No information available.
Behaviour in sewage plant	No information available.
Biological degradability	No information available.

12.3 Bioaccumulative potential

No information available.

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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

Ecological data of complete product are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. 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)

160509
060399

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

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"

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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

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 (2008/47/EC); 453/2010/EC; (EU) 2015/830

TRANSPORT-REGULATIONS DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2016).

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4

- Observe employment restrictions for people none

- VOC (2010/75/CE) 0 %

15.2 Chemical safety assessment

not applicable

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SECTION 16: Other information**16.1 Hazard statements
(SECTION 03)****16.2 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
 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
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 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

16.3 Other information

Classification procedure

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Modified position

SECTION 3 deleted: Zinc oxide

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 2 deleted: environment

SECTION 2 deleted: H411 Toxic to aquatic life with long lasting effects.

SECTION 2 deleted: Aquatic Chronic 2

SECTION 2 deleted: P273 Avoid release to the environment.

SECTION 2 deleted: P391 Collect spillage.

SECTION 2 been added: none

SECTION 2 been added: none

SECTION 2 been added: none

SECTION 2 been added: none

SECTION 2 deleted: P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

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

SECTION 3 been added: No dangerous components.

SECTION 7 been added: Avoid contact with eyes and skin. Use personal protective equipment.

SECTION 8 been added: 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.

SECTION 12 deleted: not determined

SECTION 12 been added: No information available.

SECTION 14 been added: not classified as "Dangerous Goods"

SECTION 14 deleted: Environmentally hazardous substance, liquid, n.o.s. (contains Zinc oxide)

SECTION 14 been added: no dangerous goods

SECTION 14 deleted: Environmentally hazardous substance, liquid, n.o.s. (contains Zinc oxide)

SECTION 14 been added: not classified as "Dangerous Goods"

SECTION 14 deleted: Environmentally hazardous substance, liquid, n.o.s. (contains Zinc oxide)

SECTION 14 deleted: Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide)

SECTION 14 been added: not classified as "Dangerous Goods"

SECTION 15 deleted: yes

SECTION 15 been added: 1 (self-classification)

SECTION 15 been added: no

SECTION 15 deleted: 2, gem. VwVwS vom 27.07.2005

SECTION 16 deleted: Calculation method

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