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Art.-Nr., product name: **7022 PERMAFIX-KOHLER®** Adhesion promoter**1. Identification of the substance / preparation and of the company / undertaking**

1.1 Identification of the substance or preparation:

1.1.1 Commercial Product Name: PERMAFIX-KOHLER® Adhesion promoter

1.2 Application of substance/preparation: commercial  
Adhesive for dental use

1.3 Company / undertaking identification:

Manufacturer / distributor:

Kohdent Roland Kohler Medizintechnik GmbH &amp; Co. KG

Street / POB-No.:

Bodenseeallee 14-16

State / postal code / city:

D-78333 Stockach

Telephone:

+49 7771 / 64999-0      Telefax: +49 7771 / 64999-50

E-Mail:

info@kohler-medizintechnik.de

1.4 Emergency telephone:

+49 7771 / 64999-0

This number is busy only to office hours  
(Mo.- Do 7.00 – 17.30, Fr. 7.00 – 12.30)**2. Hazards identification**

2.1 Classification: R-Phrases: 11-36-66-67

2.2 Critical hazards to man and environment: Highly flammable. Irritation to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

**3. Composition / information on ingredients**

3.1 Chemical characterisation (preparation): Alkyl silicone resin in organic solvent and pigment.

3.2 Hazards ingredient

Description:

Ethyl acetate

CAS-No.:

141-78-6

EG-No.:

205-500-4

Index-No.:

607-022-00-5

Concentration:

60 – 90 %

Hazard symbol:

F Xi

R-Phrases:

11-36-66-67

Additional information:

The wording of the Hazard symbol and the R-Phrases is specified in chapter 16.

**4. First aid measures**

4.1 General information: With accident or indisposition take to medical advice (if possible, label or SDB present). Remove dirty clothes immediately.

4.2 After inhalation: Provide fresh air, if sickness consult doctor. Peace, warmth, lying transport to the physician, with difficulty in breathing in half-sitting position. In the case of danger of the unconsciousness storage and transport in stable side

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4.3 After contact with the skin:

situation, if necessary breath donation.

Immediately with much water and soap thoroughly wash off. Catch up medical advice in the case of visible skin changes or continuous provoking. (if possible, label or SDB present).

4.4 After contact with the eyes::

Eyes with opened eyelid gap immediately 15 minutes with flowing water rinse out. Optician doctor consult.

4.5 After swallowing:

Rinse mouth out immediately and plenty water after-drink. No vomiting cause. With spontaneous vomiting for the fact it ensures that vomit can flow off because of danger of suffocation unhindered.

4.6 Self protection of the first-aiders:

Take to medical advice with illness.

To self protection pay attention (hand guard, foil masks („Life keys “).

## 5. Fire fighting measures

5.1 Suitable extinguishing media:

Water mist, dry powder, foam, carbon dioxide

5.2 Extinguishing media which must not be used for safety reasons:

Jet of water

5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:

Incineration gases do not inhale

5.4 Special protective equipment for fire fighting:

Use self-contained breathing apparatus. Carry chemistry protection suit during substantial pollutant effect. Disposal work with explosion-proof devices would drive through.

5.5 Further Information:

B (Liquid or liquid becoming materials).

## 6. Accidental release measures:

6.1 Personal precautions:

Unprotected contact avoids. Suitable protective clothing wearing. All ignition sources remove.

6.2 Environmental precautions:

Do not leave waste water and into the ground in waters, to arrive. Local official regulations consider.

6.3 Methods for cleaning up:

Take up mechanically or with liquid-binding material (sand, kieselguhr, sawdust) and in suitable, according to characterized container collect; To disposal see point 13

## 7. Handling and storage:

7.1 Handling:

Handling procedures:

The steam air mixture is combustible. Ignition sources avoid. Contact with the eyes, the skin and the clothes avoid. Steams do not inhale.

Recommendation for fire and explosion

Measures against electrostatic loading meet. From open

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7.2	protection:  Storage: technical measures and storage conditions: Requirements at storerooms and containers:  Requirements for storage with other products:  Additional storage conditions: Storage class:	flames, warming or ignition sources keep away - do not smoke. Yet of the fire do not eliminate container concerned. Endangered containers with spray water cool.  Store drying separately in closely closed original bundles coolly and from food. Provide to good room ventilation. With inflammatory or fire-promoting materials do not together-store.  3 (inflammatory liquid substances) Keep at temperature not exceeding 25°C / 77 °F. Protect for moisture
7.3	Specified use:	Adhesion promoter liquid for silicon relining; to the use by trained technical personnel

## 8. Exposure controls / personal protection

8.1	Exposition limit values  Air limit value after TRGS900/recommendation of the MAK commission:	Assigned material with workstation-furnished, to supervising limit values. CAS-No. 141-78-6 Ethyl acetat 400 ppm = 1500 mg/m <sup>3</sup> Top limit: crossing faktor 2; period 15 min, midpoint; 4 times per layer; distance 1 h. Categorie I – Materials, with those the local effect is limit value-determining or breath-way-sensitizing materials. Pregnancy: Group of C.
8.2	Components with limits of values:	Tin-organic connections 0.1 mg/m <sup>3</sup>
8.2.1	Components with limits of values to be supervised at the workplace: General protection and hygiene measures:	Exposition limit values must be supervised with suitable analytic equipment. General hygiene measures while handling chemical materials consider. Do not eat with the work and drink. Soiled or impregnated clothes change. Inhale from steams avoids. For sufficient ventilation and/or exhaust provide.
	Personal protective equipment: Respiration:	In exceptional cases (e.g. unintentional free of the product setting, job limit value excess) carrying of respiratory protection is indicated (respirator: Gas filter A, identification colour code: brown). Stretcher time delimitations consider.
	Hands:	Protective gloves wear. Examine tightness before use. Gloves before taking off prepurify, afterwards well

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ventilated keep.

Been suitable: are protective gloves from the following materials: (Break-through time  $\geq 1$  hours): Butyl rubber - Butyl (0.5 mm)

The following glove materials are not suitable:

Nitrile rubber/Nitrilatex - NBR (0.35 mm)

Naturkautschuh/Naturalatex - NR; Fluorocarbon rubber - FKM (0.4 mm); (Break-through time  $\geq 4$  hours)

Polychloropren - CR (0.5 mm). Polyvinyl chloride - PVC

completely suitable:

Material or leather gloves

The numerical data are approximate values from measurements with 22 °C / 69°F and permanent contact. Increased temperatures by warmed up substances, body warmth etc. and a reduction of the effective layer strength by stretch can lead to a substantial decrease of the break-through time. Ask manufacturers in the case of doubt.

Eye protector/face protector carry

Work clothes wearing

Eyes:

Personal:

8.2.2 Delimitation and monitoring of the environmental exposition:

In waters and into the ground to arrive do not leave.

## 9. Physical and chemical properties

### 9.1 Appearance

Form: Liquid

Colour: Reddish

Odour: Esters like

9.2 Important information to the health and environmental protection as well as for security Method (67/548/EWG)

Boiling point: = 72°C / 162 °F

Flashpoint: = > 3 °C / 37 °F DIN 51755

Ignition temperature: = > 460 °C / 860 °F DIN 51794

Oxidizing properties: n.a.

Explosive properties: n.a.

Explosive limits: = lower: approx. 2,1 vol.-%, upper: approx: 11,5 vol.-%

Vapour pressure: = < 97 hPa bei 20 °C / 68 °F DIN 51757

Density: = approx. 0,90 g/cm<sup>3</sup> bei 20 °C / 68 °F

Solubility in water: = soluble in parts

pH-value: n.a.

Distribution coefficient octanol / water: n.a.

Viscosity (dynamic): = ca. 100 mPa-s bei 23 °C/73 °F Brookfield

9.3 Further information:

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Thermal decomposition:

No tested

**10 Stability and reactivity**

- 10.1 Incompatibility with other substances: Product not increased temperatures suspend, since the education of inflammatory steams is possible.
- 10.2 Avoiding materails Reacted violently with inflammatory and fire-promoting materials
- 10.3 Hazardous discomposition products: During correct storage and handling none admits. For the silicone portion available in substance is valid: Measurements at temperatures starting from approx. 150 °C/ 302°F resulted in that by oxidative dismantling a small quantity formaldehyde becomes.

**11 Toxicological information**

- 11.1 General information The product can provoke the skin and the mucous membranes of eyes and breath ways and work narcotics. To effect it can burn the eyes, cough stimulus, breath complaints and come with high concentrations to the lung damage.
- 11.2 Toxicological Test  
Acute toxicity:  
Akute inhalative toxicity(LC<sub>Lo</sub>):  
  
(LC<sub>50</sub>)  
  
Mutagenicity/Kanzerogenität/Reproduktionstoxität  
Mutagenicity:  
  
Kanzerogenität:  
Reproduktionstoxizität/Teratorgenität:
- Species mouse 31 g/m<sup>3</sup> (2 h)  
Species cat 61 g/m<sup>3</sup>  
Origin: Literature  
The data refer to the component Ethyl acetat.  
Species rat 1 600 ppm (8h)  
Origin: Literature  
The data refer to the component Ethyl acetat.
- The data available for ethyl acetate are not sufficient. Two in-vitro-testing had positive results, on the other hand two cytogenetic tests ran negatively in vivo.  
There is not available data to ethyl acetate.  
Note DFG: A risk of the fruit damage needs on adherence to the job limit values (MAK values) and the biological limit values (asking values) not to be feared (material purchase: Ethyl acetate).

**12. Ecological information**

- 12.1 Ökotoxität:  
Behaviour in sewage plants (bacteria toxicity:  
Breathing/increase inhibition) Do not bring larger quantities into sewage plants.
- 12.2 Mobilität: None data
- 12.3 Persistence and degradableness

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Biological attack/ further informaiton:	The solvent component is biologically easily degradable. The silicone portion is biologically not degradable.
12.4 Bio accumulation potential:	A bio accumulation is not to be expected.
12.5 Other harmful effects:	Poison effect on fish and Plankton.
12.6 Further ökologische behavior:	In waste water to arrive do not leave. In soil and waters to arrive do not leave.

### 13 Disposal consideration

13.1 Disposal/waste (product):	Recommendation: Correct removal by burning in a special refuse combustion plant. Local official regulations are to be considered.
EAK/AWW-Waste-key:	The allocation of a waste key number in accordance with European refuse catalogue is to be made in arrangement with the official regulator.
13.2 Uncleaned packaging:	Recommendation: Packing is completely to empty (drip-free, free of material, putty clean). Packing is considering the valid in each case local/national regulations prefers a re-use and/or an utilization supplying.

### 14 Transport Information

14.1 Land transport ADR/RID and GGVS/GGVE (Germany):	3 Kl.Code F1
GGVS/GGVE class.:	3 Kl.Code F1
ADR/RID class:	33 Material-No. 1866 VG:II
Warning sign – hazard no.:	Resin solution (Vapour pressure 50°C/ 122 °F maxim. 110 kPa)
Identication product:	flammable liquid substance
Notice:	Harzard label 3
Shipping symbol:	D/E
LQ	LQ 6 (5L / 30kg)
14.2 Binnenschifftransport ADN/ADNR:	
Note:	No data
14.3 Sea transport IMDG/GGVSee:	
IMDG/GGVSee-class;	3 Label 3 UN-Nr. 1866 PG: II
EmS-No.	F-E, <u>S-E</u>
Marine pollutant:	no
Proper shipping Name	Resin solution
Technical name:	Flammable liquid
LTD. QTY:	5 L / 30 kg
14.4 Air transport ICAO-TI and IATA-DGR:	
ICAO/IATA-class:	3 Label 3 UN-Nr. 1866 PG: II page: 234 (50. Ausg.)
Proper shipping name:	Resin solution
Technical name:	Flammable liquid
Packing instruction:	PAC: 305 Max.net.: 5 L

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Excepted Quantities:

LTD.QTY:

Air post:

CAO: 307 Max.net.: 60 L

30 mL / 500 mL

1 L / 30 kg (Y305)

Not permitted

**15 Regulatory information:**

## 15.1 Classification according to EEC-guidelines:

Hazardous material symbols and hazardous name:

Hazardous material symbols

hazardous name:

hazardous-determining components for labelling:

**F Xi**

Highly flammable, Irritation

Contains: Ethyl acetate.

R-Phrase: 11-36-66-67

High flammable. Provokes the eyes. Repetitive contact can lead to brittle or cracked skin. Steams can cause sleepness and behaviourness.

S-Phrase: 16-26-33

From ignition sources keep away - do not smoke. Rinse off immediately during contact with the eyes thoroughly with water and doctor consult. Measures against electrostatic loading meet.

## 15.2 National Prescription (Germany)

References to the restriction of occupation:

Restrictions of occupation for young people after the law for the protection of young workers consider. Restrictions of occupation for becoming and satisfying mothers after the maternity protection guideline consider.

Incident regulation (12. BImSchV):

Appendix I - No. 7b (area of application: easy-inflammatory liquids).

Water hazard class:

WGK 1 = light water-endangering (classification in accordance with appendix 4 VwVwS of 17.05.1999 in the current version).

Technic instruction air (TA-air)

Chapter 5.2.5 (organic materials, excluded powdery materials).

Classification after vbf (waived)

AI

**16 Other information**

## 16.1 Wording of the R-sentences under section 3:

Look at section 15.

## 16.2 Further Information:

Explanation of the abbreviations:

n.a. = not applicable

n.u. = not subject to:

## 16.3 Data original:

Guideline 1999/45/EG for the classification, packing and marking of dangerous preparations.

Guideline 67/548/EWG for the classification, packing and marking of dangerous materials, appendix I.

New data sheets for dangerous working materials after the dangerous material regulation, WEKA publishing house, collection of sheets and auxiliary supplies

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Characteristic data in terms of safety of chemical materials, exomed publishing house, collection of sheets with auxiliary supplies.

Manual of the refuse disposal, exomed publishing house, collection of sheets with auxiliary supplies.

First general administrative regulation to the federal immission control law (technical guidance for the keeping clean of air - TA air).

VCI: Manual for the clustering of chemicals.

DFG German research council: MAK and asking values - list 2007

General administrative regulation to the change of the administrative regulation of water-endangering materials - VwVwS from 27 July 2005

Safety data sheets and further data of suppliers/manufacturers.

BGIA GESTIS Material data bank, on-line search Addr 2009, traffic publishing house, Fischer Duesseldorf

IMDG code, Amdt 34-08, Storck publishing house Hamburg IATA hazardous materials regulations, 50.

Edition, internationally air transport Association Montreal.

Data the given the product describe excluding the safety requirements of the Product/the products and support themselves on the today's conditions of our knowledge. They do not represent a warranty of characteristics of the descriptive product/the descriptive products in the sense of the legal guarantee regulations.