



Safety Data Sheet

acc. to OSHA HCS

Printing date 07/21/2017

Reviewed on 07/21/2017

1 Identification

- **Product identifier**
- **Trade name: Hardener paste**
- **Application of the substance / the mixture**
Hardener paste for all condensation-vulcanising silicones
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Dreve Dentamid GmbH
Max-Planck-Straße 31
59423 Unna / Germany
Tel.: + 49 2303 / 8807-0
Fax.: +49 2303 / 8807-55
- **Information department:**
Department Research & Development
Fax.: +49 2303 8807-562
Email: sicherheitsdatenblatt@dreve.de
- **Emergency telephone number:**
+49 211 797-3350
Plant Fire Department Henkel

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

STOT SE 2 H371 May cause damage to organs.

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



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**

Diocetylacetylacetonate
dioctyltin oxide

- **Hazard statements**

Causes skin irritation.

May cause an allergic skin reaction.

May cause damage to organs.

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May cause damage to organs through prolonged or repeated exposure.

• **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

IF INHALED: Call a POISON CENTER/doctor if you feel unwell.

Take off contaminated clothing.

Store locked up.

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

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**



Health = *1

Fire = 0

Reactivity = 0

• **Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Dangerous components:**

8002-74-2	Paraffin waxes and Hydrocarbon waxes	25-50%
18765-38-3	tetrakis (2-butoxyethoxy) silane	10-25%
870-08-6	dioctyltin oxide	10-25%
11099-06-2	Silicic acid, tetraethylester, hydrolysed	2.5-10%
54068-28-9	Dioctyltinacetylacetonate	2.5-10%
2768-02-7	trimethoxyvinylsilane	2.5-10%

• **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

• **Description of first aid measures**

• **General information:** Immediately remove any clothing soiled by the product.

• **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

• **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

• **After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

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- **After swallowing:**
Do not induce vomiting.
Call a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid contact with skin and eyes.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **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.
- **Protective Action Criteria for Chemicals**

• PAC-1:

11099-06-2	Silicic acid, tetraethylester, hydrolysed	30 mg/m ³
2768-02-7	trimethoxyvinylsilane	9.5 ppm
78-10-4	tetraethyl silicate	25 ppm
65-85-0	Benzoic acid	13 mg/m ³
111-76-2	2-butoxyethanol	60 ppm

• PAC-2:

11099-06-2	Silicic acid, tetraethylester, hydrolysed	330 mg/m ³
2768-02-7	trimethoxyvinylsilane	100 ppm
78-10-4	tetraethyl silicate	100 ppm
65-85-0	Benzoic acid	140 mg/m ³
111-76-2	2-butoxyethanol	120 ppm

• PAC-3:

11099-06-2	Silicic acid, tetraethylester, hydrolysed	2,000 mg/m ³
2768-02-7	trimethoxyvinylsilane	120 ppm

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78-10-4	tetraethyl silicate	300 ppm
65-85-0	Benzoic acid	830 mg/m ³
111-76-2	2-butoxyethanol	700 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Avoid contact with skin and eyes.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Keep receptacle tightly sealed.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

8002-74-2 Paraffin waxes and Hydrocarbon waxes

REL Long-term value: 2 mg/m³TLV Long-term value: 2 mg/m³

870-08-6 dioctyltin oxide

REL Long-term value: 0.1 mg/m³
as SnREL Long-term value: 0.1 mg/m³
as Sn, SkinTLV Short-term value: 0.2 mg/m³
Long-term value: 0.1 mg/m³
as Sn; Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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- **Protection of hands:**



Protective gloves

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

- **Material of gloves**

Butyl rubber, BR

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.

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Solid
Color: Different according to coloring

• **Odor:** Characteristic
• **Odor threshold:** Not determined.

• **pH-value:** Not applicable.

- **Change in condition**

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 160 °C (320 °F)

• **Flash point:** Not applicable.

• **Flammability (solid, gaseous):** „not highly flammable" according UN-Method N.1, EG-A10

• **Ignition temperature:** 400 °C (752 °F)

• **Decomposition temperature:** Not determined.

• **Auto igniting:** Product is not selfigniting.

• **Danger of explosion:** Product does not present an explosion hazard.

• **Explosion limits:**
Lower: Not determined.

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Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	1 hPa (1 mm Hg)
· Density at 20 °C (68 °F):	1.02 g/cm ³ (8.512 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

870-08-6 dioctyltin oxide

Oral | LD50 | 2500 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **Sensitization:** Sensitization possible through skin contact.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

111-76-2 | 2-butoxyethanol

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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
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.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|--|-----------------|
| · UN-Number | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | No |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |

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· UN "Model Regulation":	Void
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15 Regulatory information

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

- Sara

- **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

- **Section 313 (Specific toxic chemical listings):**

111-76-2 | 2-butoxyethanol

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogen categories**

- **EPA (Environmental Protection Agency)**

65-85-0	Benzoic acid	D
111-76-2	2-butoxyethanol	NL

- **TLV (Threshold Limit Value established by ACGIH)**

870-08-6	diocetyl tin oxide	A4
111-76-2	2-butoxyethanol	A3

- **MAK (German Maximum Workplace Concentration)**

111-76-2	2-butoxyethanol	4
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- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**

Diocetyl tinacetate

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dioctyltin oxide

- **Hazard statements**

Causes skin irritation.

May cause an allergic skin reaction.

May cause damage to organs.

May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

IF INHALED: Call a POISON CENTER/doctor if you feel unwell.

Take off contaminated clothing.

Store locked up.

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

- **National regulations:**

- **Technical instructions (air):**

Class	Share in %
NK	≤ 2,5

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

- **Department issuing SDS:** Department Research & Development

- **Contact:** Dr. Thomas Veit, Lothar Sutor

- **Date of preparation / last revision** 07/21/2017 / 3

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2