

617H46 - Bonding Agent for Silicone

Material number 617H46

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1. Product and company identification**Product identifier**

Trade name: 617H46 - Bonding Agent for Silicone

Relevant identified uses of the substance or mixture and uses advised againstGeneral use: adhesion promotor for orthopedic procedures.
For use in industrial installations and professional treatment only.**Details of the supplier of the safety data sheet**Company name: Otto Bock Health Care
Street/POB-No.: 3820 W. Great Lakes Drive
Postal Code, city: Salt Lake City, UT 84120
USAWWW: www.ottobockus.com

Telephone: +1 (801) 956-2400

Telefax: +1 (801) 956-2401

Dept. responsible for information:

Quality Department,
Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time),
Email: USRegulatory@ottobock.comAdditional information: Corporate headquarters:
Ottobock SE & Co. KGaA
Max-Näder-Straße 15
Duderstadt
Germany**Emergency phone number****CHEMTREC, Telephone: +1 (800) 424-9300****2. Hazards identification****Emergency overview**Appearance: Form: pasty
Color: transparent
Odor: stinging
Classification: This material is classified as not hazardous.**Regulatory status**

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Hazards not otherwise classifiedWith exposure to moisture, product will give off a small amount of acetic acid.
In aqueous solution, a corrosive effect cannot be ruled out because of the pH value.
Potentially explosive mixture may form within partially empty containers.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Polydimethylsiloxane, filler auxiliaries and crosslinking agent based on acetoxysilane

Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 17689-77-9	Triacetoxethylsilane	< 2 %	Acute Toxicity - oral - Category 4. Skin Corrosion - Category 1B.
	impurity: Oligomere Ethyl- und Methylacetosilane	< 2 %	Skin Corrosion - Category 1B.

Hazardous impurities With exposure to moisture, product will give off a small amount of acetic acid.

4. First aid measures

In case of inhalation: Provide fresh air. Seek medical treatment in case of troubles.

Following skin contact: Remove mechanically with cloth or paper. Immediately clean with water and soap followed by thorough rinsing. In case of skin irritation, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.

After swallowing: Let water be drunken in little sips (dilution effect). Seek medical attention. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

In aqueous solution, a corrosive effect cannot be ruled out because of the pH value.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

No data available

Auto-ignition temperature: No data available

Suitable extinguishing media:

Alcohol resistant foam, dry chemical powder, water mist, dry sand, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

Specific hazards arising from the chemical

May form dangerous gases and vapours in case of fire. In case of fire may be liberated: Carbon monoxide, carbon dioxide.

With exposure to moisture, product will give off a small amount of acetic acid.

Measurements taken at temperatures exceeding 302 °F have revealed that a small quantity of formaldehyde splits off through oxidative decomposition.

Protective equipment and precautions for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

6. Accidental release measures

- Personal precautions:** Provide adequate ventilation. Wear appropriate protective equipment.
 Avoid contact with skin, eyes, and clothing.
 Do not breathe vapor or spray. Avoid the formation of aerosol/vapors.
- Environmental precautions:**
 Do not allow to penetrate into soil, waterbodies or drains.
- Methods for clean-up:** Soak up with absorbent materials such as sand, siliceus earth, acid- or universal binder.
 Store in special closed containers and dispose of according to ordinance. Final cleaning.
- Additional information:** Eliminate all ignition sources if safe to do so.

7. Handling and storage

Handling

- Advices on safe handling:** Provide good ventilation and/or an exhaust system in the work area.
 Avoid contact with skin and eyes.
 Do not breathe vapor or spray. Wear appropriate protective equipment.

- Precautions against fire and explosion:**
 Potentially explosive mixture may form within partially empty containers.
 Keep away from sources of ignition - No smoking.
 Take precautionary measures against static discharges.

Storage

- Requirements for storerooms and containers:**
 Keep container tightly closed and in a well-ventilated place.
 Do not store in open areas or outside. Protect from moisture contamination. Protect from:
 heat
- Hints on joint storage:** Reacts with water, bases, and alcohols.
 With exposure to moisture, product will give off a small amount of acetic acid.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
64-19-7	Acetic acid	USA: ACGIH: STEL	37 mg/m ³ ; 15 ppm
		USA: ACGIH: TWA	25 mg/m ³ ; 10 ppm
		USA: NIOSH: STEL	37 mg/m ³ ; 15 ppm
		USA: NIOSH: TWA	25 mg/m ³ ; 10 ppm
		USA: OSHA: TWA	25 mg/m ³ ; 10 ppm

- Additional information:** With exposure to moisture, product will give off a small amount of acetic acid.

Engineering controls

- Provide good ventilation and/or an exhaust system in the work area.
 See also information in chapter 7, section storage.

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Personal protection equipment (PPE)

- Eye/face protection** Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.
- Skin protection** Wear suitable protective clothing.
 Protective gloves according to OSHA Standard - 29 CFR: 1910.138
 Glove material: Nitrile rubber - Layer thickness: > 0,1 mm
 Breakthrough time: 60 - 120 min.
 Glove material: Butyl caoutchouc (butyl rubber) - Layer thickness: > 0,3 mm
 Breakthrough time: > 480 min.
 Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
- Respiratory protection:** Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. Use filter type ABEK according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.
- General hygiene considerations:**
 Avoid contact with skin, eyes, and clothing. Change contaminated clothing.
 Do not breathe vapor or spray.
 When using do not eat, drink or smoke.
 Wash hands before breaks and after work.
 Avoid the formation of aerosol/vapors.

9. Physical and chemical properties

Information on basic physical and chemical properties

- Appearance:** Form: pasty
 Color: transparent
- Odor:** stinging
- Odor threshold:** No data available
- pH value:** no data available
- Melting point/freezing point:** No data available
- Initial boiling point and boiling range:** No data available
- Flash point/flash point range:** No data available
- Evaporation rate:** No data available
- Flammability:** No data available
- Explosion limits:** LEL (Lower Explosion Limit): Acetic acid 4.00 Vol-%
 UEL (Upper Explosive Limit): Acetic acid 17.00 Vol-%
- Vapor pressure:** No data available
- Vapor density:** No data available
- Density:** at 68 °F: 1 g/cm³ (DIN 51757)
- Water solubility:** Practically insoluble. The product can hydrolyse.
- Partition coefficient: n-octanol/water:** No data available
- Auto-ignition temperature:** No data available
- Thermal decomposition:** no data available
- Viscosity, dynamic:** Acetic acid 1000000 mPa*s
- Explosive properties:** Potentially explosive mixture may form within partially empty containers.
- Ignition temperature:** 860 °F
- Additional information:** With exposure to moisture, product will give off a small amount of acetic acid.

10. Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions	Potentially explosive mixture may form within partially empty containers.
Conditions to avoid:	Protect from moisture contamination. Keep container tightly closed and in a well-ventilated place. Protect from: heat. Keep away from sources of ignition - No smoking.
Incompatible materials:	Reacts with water, bases, and alcohols.
Hazardous decomposition products:	Carbon monoxide and carbon dioxide Measurements taken at temperatures exceeding 302 °F have revealed that a small quantity of formaldehyde splits off through oxidative decomposition. With exposure to moisture, product will give off a small amount of acetic acid.
Thermal decomposition:	no data available

11. Toxicological information

Toxicological tests

Toxicological effects:	The statements are derived from the properties of the single components. No toxicological data is available for the product as such. Acute toxicity (oral): Based on available data, the classification criteria are not met. ATEmix > 2000 mg/kg Acute toxicity (dermal): Lack of data. Acute toxicity (inhalative): Lack of data. Skin corrosion/irritation: Based on available data, the classification criteria are not met. Not an irritant. Evaluation in analogy to a similar product. Serious eye damage/irritation: Based on available data, the classification criteria are not met. Not an irritant. Evaluation in analogy to a similar product. Sensitisation to the respiratory tract: Lack of data. Skin sensitisation: Lack of data. Germ cell mutagenicity/Genotoxicity: Lack of data. Carcinogenicity: Lack of data. Reproductive toxicity: Lack of data. Effects on or via lactation: Lack of data. Specific target organ toxicity (single exposure): Lack of data. Specific target organ toxicity (repeated exposure): Lack of data. Aspiration hazard: Based on available data, the classification criteria are not met.
Other information:	With exposure to moisture, product will give off a small amount of acetic acid. Acetic acid: Irritates skin and mucous membranes.

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12. Ecological information**Ecotoxicity**

- Aquatic toxicity: According to experience to date, toxicity to fish is not expected.
Insoluble in water when in vulcanized state.
- Effects in sewage plants: According to current data, no harmful effects are expected with release to sewage treatment facility.
Product is easily separated from water by filtration.
- Further details: Bio-accumulation is not to be expected ($\log P(o/w) < 1$).

Mobility in soil

No data available

Persistence and degradability

- Further details: Product is not biodegradable.

Additional ecological information

- General information: Do not empty into drains.

13. Disposal considerations**Product**

- Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

Contaminated packaging

- Recommendation: Dispose of waste according to applicable legislation.
Handle contaminated packages in the same way as the substance itself.

14. Transport information**USA: Department of Transportation (DOT)**

- Proper shipping name: Not restricted

Sea transport (IMDG)

- Proper shipping name: Not restricted
Marine pollutant: no

Air transport (IATA)

- Proper shipping name: Not restricted

Further information

No dangerous good in sense of these transport regulations.

15. Regulatory information

National regulations - U.S. Federal Regulations

Product: Substance/product listed in the following inventories:
TSCA

Acetic acid: Clean Air Act:
SOCMI Chemical: yes
Clean Water Act:
Hazardous Substances: RQ 5000 lbs.
Other Environmental Laws:
CERCLA: RQ 5000 lbs.
NIOSH Recommendations:
Occupational Health Guideline: 0002*

National regulations - U.S. State Regulations

Acetic acid: California Proposition 65 code: -
Delaware Air Quality Management List:
DRQ: 5000 - RQ State: Federal Regulations Apply
Idaho Air Pollutant List:
Title 585: AAC: 1.25 - EL: 1.67 - OEL: 25 - Title 586: -
Massachusetts Haz. Substance codes: 2,4,5,6 F8
Minnesota Haz. Substance:
Codes: AO - Ratings: -- - Status: Title III.
New York List of Hazardous Substances:
RQ-Air: 5000 - RQ-Land: 100 - Note: No Note Associated with this chemical.
Pennsylvania Haz. Substance code: E
Washington Air Contaminant:
TWA: 10 ppm - 25 mg

National regulations - Canada

Substance/product listed in the following inventories: DSL

National regulations - Great Britain

Hazchem-Code: -

16. Other information

Hazard rating systems:



NFPA Hazard Rating:
Health: 1 (Slight)
Fire: 1 (Slight)
Reactivity: 0 (Minimal)

HMIS Version III Rating:
Health: 1 (Slight)
Flammability: 1 (Slight)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X

Reason of change: Changes in section 1.3: Corporate headquarters

Date of first version: 10/15/1994

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information



SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200 and ANSI standard Z400.1-2010

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The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.