

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

1.1 Product identifier

Universal sealant
Article number: 109660

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

1.2.1 Relevant uses

Sealing material

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company Ferdinand Bilstein GmbH + Co. KG
Wilhelmstr. 47
58256 Ennepetal / GERMANY
Phone +49 2333 911-0
Fax +49 2333 911-444
Homepage www.febi.com
E-mail info@febi.com

Address enquiries to

Technical information info@febi.com

Safety Data Sheet info@febi.com

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

Repr. 2: H361f Suspected of damaging fertility.
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

The product is classified as hazardous in accordance to OSHA Standard 29 CFR 1910.1200 (HCS 2012)

Hazard pictograms



Signal word

WARNING

Contains:

octamethylcyclotetrasiloxane, CAS: 556-67-2

Hazard statements

H361f Suspected of damaging fertility.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P405 Store locked up.
P501 Dispose of contents/container to in accordance with local/regional/national/international regulation.

2.3 Other hazards

Human health dangers	Contains no ingredients with endocrine-disrupting properties.
Environmental hazards	The mixture contains the following substances which fulfill the PBT and/or vPvB criteria according to REACH criteria, Annex XIII: CAS 541-02-6/ CAS 540-97-6/ CAS 556-67-2
Other hazards	Further hazards were not determined with the current level of knowledge. This product is classified as hazardous in accordance to OSHA Standard 29 CFR 1910.1200.

SECTION 3: Composition / Information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
0.1 - < 1	Dodecamethylcyclohexasiloxane CAS: 540-97-6
0.1 - < 1	Decamethylcyclopentasiloxane CAS: 541-02-6
< 0,25	octamethylcyclotetrasiloxane CAS: 556-67-2

Comment on component parts For full text of H-statements: see SECTION 16.

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	Take up product with suitable papertissues before. 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. Do not induce vomiting. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to the doctor.

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.

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

Ensure adequate ventilation.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).

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

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).

Dispose of absorbed material in accordance with the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.

Wash hands before breaks and after work.

Use barrier skin cream.

Do not eat, drink or smoke when using this product.

Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Do not use metal containers.

Protect from heat/overheating.

Keep in a cool place. Store in a dry place.

Recommended storage temperature: +5°C - +25°C

7.3 Specific end use(s)

This product is not recommended for use in joints which will be in contact with either pure oxygen or steam.



SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (US)

Substance
Decamethylcyclopentasiloxane
CAS: 541-02-6
Long-term exposure: 10 ppm, CRMG (Chemical Manufacturer Recommended Exposure Guidelines) TWA
Acetic acid
CAS: 64-19-7
Long-term exposure: 10 ppm, 25 mg/m ³ , ACGIH

DNEL

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
Industrial, inhalative, Acute - systemic effects, 97,3 mg/m ³
Industrial, inhalative, Acute - local effects, 24,2 mg/m ³
Industrial, inhalative, Long-term - local effects, 24,2 mg/m ³
Industrial, inhalative, Long-term - systemic effects, 97,3 mg/m ³
general population, inhalative, Acute - systemic effects, 17,3 mg/m ³
general population, inhalative, Acute - local effects, 4,3 mg/m ³
general population, inhalative, Long-term - systemic effects, 17,3 mg/m ³
general population, inhalative, Long-term - local effects, 4,3 mg/m ³
general population, oral, Acute - systemic effects, 5 mg/kg bw/d
general population, oral, Long-term - systemic effects, 5 mg/kg bw/d
Dodecamethylcyclohexasiloxane, CAS: 540-97-6
Industrial, inhalative, Long-term - systemic effects, 11 mg/m ³
Industrial, inhalative, Long-term - local effects, 1,22 mg/m ³
Industrial, inhalative, Acute - local effects, 6,1 mg/m ³
general population, inhalative, Long-term - systemic effects, 2,7 mg/m ³
general population, inhalative, Long-term - local effects, 0,3 mg/m ³
general population, inhalative, Acute - local effects, 1,5 mg/m ³
general population, oral, Acute - local effects, 1,7 mg/kg bw/day
octamethylcyclotetrasiloxane, CAS: 556-67-2
Industrial, inhalative, Long-term - local effects, 73 mg/m ³
Industrial, inhalative, Long-term - systemic effects, 73 mg/m ³
general population, inhalative, Long-term - systemic effects, 13 mg/m ³
general population, oral, Long-term - systemic effects, 3,7 mg/kg bw/day
general population, inhalative, Long-term - local effects, 13 mg/m ³

PNEC

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
freshwater, 0,0012 mg/l
seawater, 0,00012 mg/l
sediment (freshwater), 2,39 mg/kg dw
sediment (seawater), 0,239 mg/kg dw
sewage treatment plants (STP), > 10 mg/l
soil, 3,34 mg/kg dw



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Dodecamethylcyclhexasiloxane, CAS: 540-97-6
sewage treatment plants (STP), 1 mg/L
sediment (freshwater), 13 mg/kg sediment dw
sediment (seawater), 1,3 mg/kg sediment dw
soil, 3,77 mg/kg soil dw
oral (food), 66,7 mg/kg
octamethylcyclotetrasiloxane, CAS: 556-67-2
freshwater, 1,5 µg/L
seawater, 0,15 µg/L
sewage treatment plants (STP), 10 mg/L
sediment (freshwater), 3 mg/kg sediment dw
sediment (seawater), 0,3 mg/kg sediment dw
soil, 0,54 mg/kg soil dw
oral (food), 41 mg/kg

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	safety glasses (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. > 0,4 mm: Viton, >480 min (EN 374-1/-2/-3).
Skin protection	light protective clothing
Other	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.
Respiratory protection	No dangerous reactions known if used as directed.
Thermal hazards	Not applicable
Delimitation and monitoring of the environmental exposition	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

Physical state	Liquid
Form	pasty
Color	black
Odor	acetic
Odor threshold	No information available.
pH-value	Not applicable
pH-value [1%]	Not applicable
Boiling point or initial boiling point and boiling range [°C]	No information available.
Flash point [°C]	> 93
Flammability	No
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Oxidizing properties	No
Vapor pressure/gas pressure [kPa]	No information available.
Density [g/cm ³]	1,01 - 1,06 (20 °C / 68,0 °F)
Relative density	Not determined
Bulk density [kg/m ³]	Not applicable
Solubility in water	virtually insoluble
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	No information available.
Kinematic viscosity	> 20,5 mm ² /S (40°C)
Relative vapour density	No information available.
Melting point [°C]	No information available.
Auto-ignition temperature [°C]	No information available.
Decomposition temperature [°C]	No information available.
Particle characteristics	Not applicable

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

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with acids, alkalis and oxidizing agents.
Reactions with reducing agents.

10.4 Conditions to avoid

Strong heating.
Sensitive to moisture



10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

Acetic acid.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Product
Based on the information available, the classification criteria have not been fulfilled.
Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
LD50, oral, Rat, > 5000 mg/kg bw
Dodecamethylcyclohexasiloxane, CAS: 540-97-6
LD50, oral, Rat, > 2000 mg/kg (OECD 423)
octamethylcyclotetrasiloxane, CAS: 556-67-2
LD50, oral, Rat, 4800 mg/kg

Acute dermal toxicity

Product
Based on the information available, the classification criteria have not been fulfilled.
Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
LD50, dermal, Rabbit, > 2000 mg/kg bw
Dodecamethylcyclohexasiloxane, CAS: 540-97-6
LD50, dermal, Rat, > 2000 mg/kg (OECD 402)
octamethylcyclotetrasiloxane, CAS: 556-67-2
LD50, dermal, Rat, > 2400 mg/kg

Acute inhalational toxicity

Product
Based on the information available, the classification criteria have not been fulfilled.
Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
LD50, inhalativ (mist), Rat, 8,67 mg/l/4h
octamethylcyclotetrasiloxane, CAS: 556-67-2
LC50, inhalative, Rat, 36 mg/L 4h

Serious eye damage/irritation

Slight irritant effect.

Based on the information available, the classification criteria have not been fulfilled.

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
Eye, non-irritating
octamethylcyclotetrasiloxane, CAS: 556-67-2
Eye, non-irritating

Skin corrosion/irritation

Based on the information available, the classification criteria have not been fulfilled.

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6



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dermal, non-irritating
octamethylcyclotetrasiloxane, CAS: 556-67-2
dermal, non-irritating

Respiratory or skin sensitisation Based on the information available, the classification criteria have not been fulfilled.

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
dermal, non-sensitizing
octamethylcyclotetrasiloxane, CAS: 556-67-2
dermal, non-sensitizing

Specific target organ toxicity — single exposure Based on the information available, the classification criteria have not been fulfilled.

Substance
octamethylcyclotetrasiloxane, CAS: 556-67-2
inhalative, irritant

Specific target organ toxicity — repeated exposure Based on the information available, the classification criteria have not been fulfilled.

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
NOAEL, oral, Rat, 1000 mg/kg bw/day
NOAEL, dermal, Rat, 1600 mg/kg bw/day
NOAEC, inhalative, Rat, 2420 mg/m ³
Dodecamethylcyclohexasiloxane, CAS: 540-97-6
NOAEL, oral, Rat, 1000 mg/kg bw/day
NOAEC, inhalative, Rat, 546 mg/kg bw/day
LOAEC, inhalative, Rat, 182 mg/kg bw/day
octamethylcyclotetrasiloxane, CAS: 556-67-2
NOAEL, dermal, Rabbit, 960 mg/kg bw/day (subacute), no adverse effect observed
NOAEC, inhalative, Rat, 1820 mg/m ³ (chronic), no adverse effect observed

Mutagenicity Based on the information available, the classification criteria have not been fulfilled.

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
in vitro, negativ
in vivo, negativ
octamethylcyclotetrasiloxane, CAS: 556-67-2
in vivo, negativ

Reproduction toxicity Based on the information available, the classification criteria have been fulfilled.
Suspected of damaging fertility.
Calculation method

- Fertility

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
NOAEC, inhalative, Rat, 2420 mg/m ³
Dodecamethylcyclohexasiloxane, CAS: 540-97-6
NOAEL, oral, Rat, 1000 mg/kg bw/d (Effect on developmental toxicity)



NOAEL, oral, Rat, 1000 mg/kg bw/d (Effect on fertility)
octamethylcyclotetrasiloxane, CAS: 556-67-2
NOAEC, inhalative, Rat, 3640 mg/m ³ (subchronic), adverse effect observed

- Development

Substance
Decamethylcyclopentasiloxane, CAS: 541-02-6
NOAEC, inhalative, Rat, 2427 mg/m ³
Dodecamethylcyclohexasiloxane, CAS: 540-97-6
NOAEL, oral, Rat, 1000 mg/kg bw/d (Effect on fertility)
NOAEL, oral, Rat, 1000 mg/kg bw/d (Effect on developmental toxicity)
octamethylcyclotetrasiloxane, CAS: 556-67-2
NOAEC, inhalative, Rat, 3640 mg/m ³ (subchronic), adverse effect observed

Carcinogenicity

Based on the information available, the classification criteria have not been fulfilled.

Substance
octamethylcyclotetrasiloxane, CAS: 556-67-2
NOAEC, inhalative, Rat, 8492 mg/m ³ (chronic)

Aspiration hazard

Based on the information available, the classification criteria have not been fulfilled.

General remarks

Toxicological data of complete product are not available.

SECTION 12: Ecological information

12.1 Toxicity

Product
Based on the information available, the classification criteria have not been fulfilled.
Substance
Dodecamethylcyclohexasiloxane, CAS: 540-97-6
EC50, (72h), Pseudokirchneriella subcapitata, > 0,002 mg/l
EC50, (3h), Bacteria, 100 mg/l
NOEC, (28d), 130 mg/kg sediment dw
NOEC, (28d), 1 g/kg soil dw
NOEC, (21d), Daphnia magna, >= 0,0046 mg/l
NOEC, (72h), Pseudokirchneriella subcapitata, >= 0,002 mg/l
octamethylcyclotetrasiloxane, CAS: 556-67-2
EC50, (48h), Invertebrates, 0,015 mg/L
EC50, (4d), Algae, 0,022 mg/L
NOEC, (48h), Invertebrates, 0,015 mg/L

12.2 Persistence and degradability

Behaviour in environment compartments

Behaviour in sewage plant Not determined

Biological degradability Not determined

12.3 Bioaccumulative potential

Product has having no bioaccumulation potential.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

The mixture contains the following substances which fulfill the PBT and/or vPvB criteria according to REACH criteria, Annex XIII:

CAS 541-02-6

CAS 540-97-6

CAS 556-67-2

12.6 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

12.7 Other adverse effects

Do not discharge product unmonitored into the environment.

The product is insoluble in water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Coordinate disposal with the disposal contractor/authorities if necessary.

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

Contaminated packing should be disposed of as product waste.

RCRA Hazard Class (40CFR 261)

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities.

SECTION 14: Transport

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

DOT Road Shipment Information (49 CFR) 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"
DOT Road Shipment Information (49 CFR)	Not applicable

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
DOT Road Shipment Information (49 CFR)	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
DOT Road Shipment Information (49 CFR)	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

DOT Road Shipment Information (49 CFR) 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

US Regulations

National regulations

29 CFR 1910.1200-HCS 2012, OSHA-PEL, ACGIH-TLV, NTP, IARC, SARA Title III, NFPA, TSCA, California - Prop. 65

- SARA, 302

This product does not contain any ingredients regulated under this list.

- SARA, 311

This product is classified as hazardous under SARA 311 - Delayed .

- SARA, 313

This product does not contain any ingredients regulated under this list.

- CA Proposition 65

No components require labeling under California Proposition 65.

- TSCA

All chemical substances in this material are included on or exempted from listing on the TSCA Inventory.

- FDA

American Conference of Governmental Industrial Hygienists - ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

International Agency for Research on Cancer IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

National Toxicology Program - NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

HAP-VOC

36 g/l

Transport-regulations

DOT-Classification, ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2024)

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1 Abbreviations and acronyms:

ACGIH = American Conference of Governmental Industrial Hygienists;
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;
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act;
CFR = Code of Federal Regulations;
CPR = Controlled Products Regulations;
DMEL = Derived Minimum Effect Level;
DNEL = Derived No Effect Level;
DOT = Department of Transportation;
EC50 = Median effective concentration;
EPA = Environmental Protection Agency;
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;
IARC = International Agency of Research on Cancer;
IATA = International Air Transport Association;
TSCA = Toxic Substance Control Act;
HMIS = Hazardous Materials Identification System;
NFPA = National Fire Protection Association;
NIOSH = National Institute for Occupational Safety and Health;
OSHA = Occupational Safety and Health Administration;
LC50 = Lethal concentration, 50%;
LD50 = Median lethal dose, 50%;
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;
SARA = Superfund Amendments and Reauthorization Act;
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 Ratings

Customs Tariff

Not determined

NFPA Ratings



TOP, FLAMMABILITY: 1 - Slight Hazard
LEFT, HEALTH: 2* - Moderate chronic Hazard
RIGHT, REACTIVITY: 1 - Slight Hazard
BOTTOM, SPECIAL NOTICE:

HMIS Ratings

HEALTH	2*	2* - Moderate chronic Hazard
FLAMMABILITY	1	1 - Slight Hazard
PHYSICAL HAZARD	1	1 - Slight Hazard
PERSONAL PROTECTION	C	C - Safety Glasses, Gloves and Protection Apron

PERSONAL PROTECTION:

- A - Safety Glasses
- B - Safety Glasses and Gloves
- C - Safety Glasses, Gloves and Protection Apron
- D - Face Shield, Gloves and Protection Apron
- E - Safety Glasses, Gloves and Dust Respirator
- F - Safety Glasses, Gloves, Protection Apron and Dust Respirator
- G - Safety Glasses, Gloves and Vapor Respirator.
- H - Splash Goggles, Gloves, Protection Apron and Vapor Respirator.
- I - Safety Glasses, Gloves, Dust Respirator and Vapor Respirator.
- J - Splash Goggles, Gloves, Protection Apron, Dust Respirator and Vapor Respirator.
- K - Airline Mask or Hood, Gloves, Full Suit and Boots.
- X - Personal protection rating to be supplied by user depending on use conditions

Modified position

1.3, 2.3, 3.2, 8.1, 9.1, 11.1, 11.2, 12.5, 15.1, 16.2, 16.3