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 [REGULATION (GB) CLP]

Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

The product is required to be labelled in accordance with regulation CLP.

Hazard pictograms none

Signal word none

Hazard statements H412 Harmful to aquatic life with long lasting effects.

Precautionary statements P102 Keep out of reach of children.
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local/national 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.

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 (non-classified PBT/vPvB substance)
	CAS: 540-97-6, EINECS/ELINCS: 208-762-8, Reg-No.: 01-2119517435-42-XXXX
0,1 - < 1	Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance)
	CAS: 541-02-6, EINECS/ELINCS: 208-764-9, Reg-No.: 01-2119511367-43-XXXX
< 0,25	Octamethylcyclotetrasiloxane
	CAS: 556-67-2, EINECS/ELINCS: 209-136-7, EU-INDEX: 014-018-00-1, Reg-No.: 01-2119529238-36-XXXX
	GHS/CLP: Flam. Liq. 3: H226 - Repr. 2: H361f - Aquatic Chronic 1: H410, M-Factor (chronic): 10

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 your 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 within 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 within 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 (UK)

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance)
CAS: 541-02-6, EINECS/ELINCS: 208-764-9, Reg-No.: 01-2119511367-43-XXXX
Long-term exposure: 10 ppm, TWA - DCC OEL

Ingredients with occupational exposure limits to be monitored EU (2004/37/EG)

not relevant

DNEL

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6
Industrial, inhalative, Acute - systemic effects, 97,3 mg/m³
Industrial, inhalative, Acute - local effects, 24,2 mg/m³
Industrial, inhalative, Long-term - local effects, 24,2 mg/m³
Industrial, inhalative, Long-term - systemic effects, 97,3 mg/m³
general population, inhalative, Acute - systemic effects, 17,3 mg/m³
general population, inhalative, Acute - local effects, 4,3 mg/m³
general population, inhalative, Long-term - systemic effects, 17,3 mg/m³
general population, inhalative, Long-term - local effects, 4,3 mg/m³
general population, oral, Acute - systemic effects, 5 mg/kg bw/d
general population, oral, Long-term - systemic effects, 5 mg/kg bw/d
Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance), CAS: 540-97-6
Industrial, inhalative, Long-term - systemic effects, 11 mg/m³
Industrial, inhalative, Long-term - local effects, 1,22 mg/m³
Industrial, inhalative, Acute - local effects, 6,1 mg/m³
general population, inhalative, Long-term - systemic effects, 2,7 mg/m³
general population, inhalative, Long-term - local effects, 0,3 mg/m³
general population, inhalative, Acute - local effects, 1,5 mg/m³
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/m³
Industrial, inhalative, Long-term - systemic effects, 73 mg/m³
general population, inhalative, Long-term - systemic effects, 13 mg/m³
general population, oral, Long-term - systemic effects, 3,7 mg/kg bw/day
general population, inhalative, Long-term - local effects, 13 mg/m³

PNEC

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), 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

Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance), 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
Odour 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
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/cm³]	1,01 - 1,06 (20 °C / 68,0 °F)
Relative density	not determined
Bulk density [kg/m³]	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 mm²/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, alkalies 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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity

Product
Based on the available information, the classification criteria are not fulfilled.

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6
LD50, oral, Rat, > 5000 mg/kg bw
Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance), 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 available information, the classification criteria are not fulfilled.

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6
LD50, dermal, Rabbit, > 2000 mg/kg bw
Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance), 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 available information, the classification criteria are not fulfilled.

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), 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 available information, the classification criteria are not fulfilled.

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6
Eye, non-irritating
Octamethylcyclotetrasiloxane, CAS: 556-67-2
Eye, non-irritating

Skin corrosion/irritation Based on the available information, the classification criteria are not fulfilled.

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6

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

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

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6
dermal, non-sensitizing
Octamethylcyclotetrasiloxane, CAS: 556-67-2
dermal, non-sensitizing

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

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

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

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), 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/m³
Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance), CAS: 540-97-6
NOAEL, oral, Rat, 1000 mg/kg bw/day
NOAEC, inhalative, Rat, 546 mg/kg bw/day
LOAEC, inhalative, Rat, 182 n´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/m³ (chronic), no adverse effect observed

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

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6
in vitro, negativ
in vivo, negativ
Octamethylcyclotetrasiloxane, CAS: 556-67-2
in vivo, negativ

Reproduction toxicity Based on the available information, the classification criteria are not fulfilled.

- Fertility

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6
NOAEC, inhalative, Rat, 2420 mg/m³
Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance), 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/m³ (subchronic), adverse effect observed

- Development

Substance
Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance), CAS: 541-02-6
NOAEC, inhalative, Rat, 2427 mg/m³
Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance), 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/m³ (subchronic), adverse effect observed

Carcinogenicity Based on the available information, the classification criteria are not fulfilled.

Substance
Octamethylcyclotetrasiloxane, CAS: 556-67-2
NOAEC, inhalative, Rat, 8492 mg/m³ (chronic)

Aspiration hazard Based on the available information, the classification criteria are not fulfilled.

General remarks

Toxicological data of complete product are not available.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties Contains no ingredients with endocrine-disrupting properties.

11.2.2 Other information none

SECTION 12: Ecological information

12.1 Toxicity

Product
Based on the available information, the classification criteria are not fulfilled.

Substance
Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance), 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

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

	Coordinate disposal with the disposal contractor/authorities if necessary.
Waste no. (recommended)	080410

Contaminated packaging

	Uncontaminated packaging may be taken for recycling. Contaminated packing should be disposed of as product waste.
Waste no. (recommended)	150102 150104

SECTION 14: Transport information

14.1 UN number or ID 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"

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 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	2008/98/EG (2000/532/EG); 2010/75/EU; 2004/42/EG; (EG) 648/2004; (EG) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EWG ((EG) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014; (EU) 2019/1148; (EU) 2019/1021
- Comment on component parts	SVHC (Candidate List of Substances of Very High Concern for authorisation) ≥ 0.1% CAS 541-02-6 - Decamethylcyclopentasiloxane (non-classified PBT/vPvB substance) CAS 540-97-6 - Dodecamethylcyclohexasiloxane (non-classified PBT/vPvB substance) CAS 556-67-2 - Octamethylcyclotetrasiloxane
- Annex I (REACH)	The product is not subject to Annex I restrictions.
- Annex XIV (REACH)	According to Annex XIV of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances ≥ 0.1% that are subject to authorisation.
- Annex XVII (REACH)	According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product contains ≥ 0.1% of substances with the following restrictions. 40, 70, 75 According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is subject to the following restrictions. 3
TRANSPORT-REGULATIONS	ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2024)
NATIONAL REGULATIONS (UK):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	no
- VOC (2010/75/CE)	36 g/l

15.2 Chemical safety assessment

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

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H410 Very toxic to aquatic life with long lasting effects.
H361f Suspected of damaging fertility.
H226 Flammable liquid and vapour.

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
ATE = acute toxicity estimate
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
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
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
IVIS = In vitro irritation score
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
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

Customs Tariff	not determined
Classification procedure	Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects. (Calculation method)
Modified position	1.3, 2.3, 3.2, 8.1, 9.1, 11.1, 12.5, 15.1, 16.2, 16.3