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

1.1 Product identifier

Trade name: ZZ® 345

This safety data sheet pertains to the following products:
ZZ® 345 Fire Protection Silicone
ZZ-Fire Protection Silicone NE

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

General use: Silicone sealant. Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company name: ZAPP-ZIMMERMANN GmbH
Street/POB-No.: Marconistr. 7-9
Postal Code, city: 50769 Köln
Germany
WWW: www.z-z.de
E-mail: info@z-z.de
Telephone: +49 (0)221-97 061-0
Telefax: +49 (0)221-97 061-928
Department responsible for information:
Lars Volkmer,
Telephone: +49 (0)221-97061-160, e-mail Lars.Volkmer@kzim.de

1.4 Emergency telephone number

GIZ-Nord, Göttingen
Telephone: +49 551-19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

This mixture is classified as not hazardous.

2.2 Label elements

Labelling (CLP)

Hazard statements: not applicable

Precautionary statements: not applicable

Special labelling

EUH208 Contains 3-Aminopropyltriethoxysilane. May produce an allergic reaction.
EUH210 Safety data sheet available on request.

Text for labelling: Provide good ventilation.

2.3 Other hazards

Following dangerous substances will be released when the product hardens: 2-Pentanone oxime
Long-term high dose inhalation of 2-Pentanone oxime may cause irreversible damage to health.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

No data available

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: A mixture of: Polydimethylsiloxane, fillers, auxiliaries, crosslinking agent based on oximosilane

Hazardous ingredients:

Identifiers	Designation Classification	Content
REACH 01-2120004323-76-xxxx EC No. 484-460-1 CAS 37859-55-5	O,O',O''-(methylsilylidyne)trioxime 2-pentanone Acute Tox. 4; H302. Eye Irrit. 2; H319.	< 5 %
EC No. - CAS 128446-60-6	3-aminopropyl(methyl)silesquioxanes, ethoxy-terminated Flam. Liq. 3; H226. Skin Irrit. 2; H315. Eye Irrit. 2; H319.	< 2.5 %
REACH 01-2119480479-24-xxxx EC No. 213-048-4 CAS 919-30-2	3-Aminopropyltriethoxysilane Acute Tox. 4; H302. Skin Corr. 1B; H314. Skin Sens. 1; H317.	< 1 %

Full text of H- and EUH-statements: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Seek medical treatment in case of troubles.

Following skin contact: Immediately wipe affected skin area with paper towel or cloth. Thoroughly wash skin with soap and water. Consult a doctor if skin irritation persists.

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: Rinse mouth with water. Do not induce vomiting. Immediately get medical attention. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

May cause irritation following contact with the skin and the eyes.
May cause allergic reactions in already sensitized persons.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Extinguishing powder, water spray jet, alcohol resistant foam, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

5.2 Special hazards arising from the substance or mixture

May form dangerous gases and vapours in case of fire.
Furthermore, there may develop: Nitrogen oxides (NOx), traces of incompletely burned carbon compounds, silicon dioxide, formaldehyde, carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Suppress gases/vapours/mists with water spray jet.
Do not breathe fumes.
Do not allow water used to extinguish fire to enter drains, ground or waterways.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Eliminate all ignition sources if safe to do so. Keep unprotected people away.
Provide adequate ventilation. Do not breathe vapours.
Avoid contact with the substance. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

6.3 Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal. Final cleaning.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Make sure there is sufficient air exchange and / or that working rooms are air suctioned.
Do not breathe vapours. Avoid contact with skin and eyes.
Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse.
When using do not eat, drink or smoke. Wash hands before breaks and after work.
Have eye wash bottle or eye rinse ready at work place.

Precautions against fire and explosion:
Keep away from heat sources, sparks and open flames.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:
Keep container tightly closed in a cool, well-ventilated place.
Protect from humidity and water. Protect against heat /sun rays.
Store containers in upright position. Do not re-use the empty container.
Do not drop, drag or bang the container.
Do not allow the product to enter the ground.

Hints on joint storage: Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Additional information: Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Provide for good ventilation or exhaust system or work with completely self-contained equipment.
Pay attention to ventilation such as local exhaust, mechanical and/or door open for at least 24 hours after application.

Personal protection equipment

Occupational exposure controls

Respiratory protection: If vapours form, use respiratory protection.
Use filter type ABEK according to EN 14387.
If necessary: Wear self-contained breathing apparatus.

Hand protection: Protective gloves according to EN ISO 374:1.
Glove material: nitrile rubber - Layer thickness: >= 0.1 mm
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN ISO 16321-1:2022.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:

Take off contaminated clothing and wash it before reuse. Avoid contact with skin and eyes. Do not breathe vapours. When using do not eat, drink or smoke. Wash hands before breaks and after work. Have eye wash bottle or eye rinse ready at work place.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state at 20 °C and 101.3 kPa	Form: pasty
Colour:	varying, depends on colouring
Odour:	characteristic
Odour threshold:	not determined
Melting point/freezing point:	not applicable
Initial boiling point and boiling range:	not determined
Flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Flash point/flash point range:	not determined
Decomposition temperature:	No data available
pH:	No data available
Viscosity, kinematic:	No data available
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	No data available
Vapour pressure:	No data available
Density:	at 20 °C: 1.15 g/cm³
Vapour density:	No data available
Particle characteristics:	Not applicable

9.2 Other information

Explosive properties:	Product is not explosive.
Oxidizing characteristics:	No data available
Auto-ignition temperature:	not self-igniting
Evaporation rate:	No data available
Additional information:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Following dangerous substances will be released when the product hardens: 2-Pentanone oxime (CAS 623-40-5).

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

Protect from humidity and water. Protect against heat /sun rays.

10.5 Incompatible materials

Water, humidity

10.6 Hazardous decomposition products

> 150 °C discharge of small quantities of formaldehyde.

Thermal decomposition: No data available

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological effects:

Acute toxicity (oral): Based on available data, the classification criteria are not met.

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.

Skin sensitisation: Based on available data, the classification criteria are not met. Contains 3-Aminopropyltriethoxysilane. May produce an allergic reaction.

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties:

No data available

Other information:

Information about O,O',O''-(methylsilylidyne)trioxime 2-pentanone:
LD50 Rat, oral: 1,234 mg/kg

Information about 2-Pentanone oxime:
Causes serious eye irritation. Harmful if swallowed.
Long-term high dose inhalation of 2-Pentanone oxime may cause irreversible damage to health.

Information about Formaldehyde:
Formaldehyde is released during the curing. Formaldehyde may cause irreversible effects, is irritating to the mucous membranes and may cause skin sensitisation.

Symptoms

After contact with skin: Can cause irritation.
May cause sensitization by especially sensitive humans.
After eye contact: Can cause irritation.

SECTION 12: Ecological information

12.1 Toxicity

Further details: No data available

12.2 Persistence and degradability

Further details: No data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 07 02 17 = waste containing silicones other than those mentioned in 07 02 16

Recommendation: Dispose of waste according to applicable legislation.
Hardened remnants of material may be disposed of as construction site, hardened paints or as household waste.
product, uncured: Special waste.

Package

Waste key number: 15 01 02 = Plastic packaging

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

Section 14. Transport information

14.1 UN number or ID number

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.2 UN proper shipping name

ADR/RID, ADN, IMDG, IATA-DGR:

Not restricted

14.3 Transport hazard class(es)

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.4 Packing group

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.5 Environmental hazards

Dangerous for the environment:

Substance/mixture is not environmentally hazardous according to the criteria of the UN model regulations.

Marine pollutant - IMDG: no

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

National regulations - EC member states

Labelling of packaging with <= 125mL content

Hazard statements: EUH208 Contains 3-Aminopropyltriethoxysilane. May produce an allergic reaction.
EUH210 Safety data sheet available on request.

Precautionary statements: not applicable

Further regulations, limitations and legal requirements:

No data available

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Wording of the H-phrases under paragraph 2 and 3:

H226 = Flammable liquid and vapour.
H302 = Harmful if swallowed.
H314 = Causes severe skin burns and eye damage.
H315 = Causes skin irritation.
H317 = May cause an allergic skin reaction.
H319 = Causes serious eye irritation.
EUH208 = Contains 3-Aminopropyltriethoxysilane. May produce an allergic reaction.
EUH210 = Safety data sheet available on request.

Reason of change: General revision

Date of first version: 22/5/2014

Department issuing data sheet:

see section 1: Department responsible for information

Abbreviations and acronyms:

Acute Tox.: Acute toxicity
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
AS/NZS: Australian Standards/New Zealand Standards
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EN: European Standard
EQ: Excepted quantities
EU: European Union
Eye Irrit.: Eye irritation
Flam. Liq.: Flammable liquid
IATA: International Air Transport Association
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LD50: Lethal dose 50%
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
Skin Corr.: Skin corrosion
Skin Irrit.: Skin irritation
Skin Sens.: Skin sensitisation
TRGS: Technical Rules for Hazardous Substances
vPvB: Very persistent and very bioaccumulative