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

1.1 Product identifier

Trade name: KE-3421

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

General use: Sealing agent
For industrial purposes only

1.3 Details of the supplier of the safety data sheet

Company name: Shin-Etsu Silicones Europe B.V.
Street/POB-No.: Bolderweg 32
Postal Code, city: 1332 AV Almere
Netherlands
Telephone: +31 36-5493-170
Telefax: +31 36-5326-459
Dept. responsible for information:
QA department,
Telephone: +31 36-5493-179, Email: msds_info@shinetsu.nl

1.4 Emergency telephone number

Telephone: +31 36-5493-170
Only available during office hours.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Flam. Liq. 2; H225 Highly flammable liquid and vapour.
Skin Irrit. 2; H315 Causes skin irritation.
Eye Irrit. 2; H319 Causes serious eye irritation.

2.2 Label elements

Labelling (CLP)

Signal word: **Danger**

Hazard statements:
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor if you feel unwell.

Special labelling

EUH208	Contains N-(3-(Trimethoxysilyl)propyl)ethylenediamine, 3-Aminopropyltriethoxysilane. May produce an allergic reaction.

2.3 Other hazards

With exposure to moisture, product will release acetone.
Acetone: Highly flammable liquid and vapour.
Potentially explosive mixtures may form if adequate ventilation is not provided.
Inhaling can lead to irritations of the respiratory tract and mucous membrane.
Higher doses may have a narcotic effect.

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: Organopolysiloxane mixture

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EC No. 239-362-1 CAS 15332-99-7	Tris(Isopropenyloxy) vinylsilane	approx. 10 %	Flam. Liq. 3; H226.
EC No. 274-092-8 CAS 69709-01-9	N,N,N',N'-Tetramethyl-N''-[3-(trimethoxysilyl)propyl] guanidin	< 1 %	Skin Corr. 1C; H314.
REACH 01-2119480479-24-xxxx EC No. 213-048-4 CAS 919-30-2	3-Aminopropyltriethoxysilane	< 1 %	Acute Tox. 4; H302. Skin Corr. 1B; H314. Skin Sens. 1; H317.
EC No. 217-164-6 CAS 1760-24-3	N-(3-(Trimethoxysilyl) propyl)ethylenediamine	< 1 %	Eye Dam. 1; H318. Skin Sens. 1; H317.
EC No. 203-625-9 CAS 108-88-3	Toluene	< 1 %	Flam. Liq. 2; H225. Skin Irrit. 2; H315. Eye Irrit. 2; H319. Repr. 2; H361d. STOT SE 3; H336. STOT RE 2; H373. Asp. Tox. 1; H304. Aquatic Chronic 3; H412.

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

Additional information: With exposure to moisture, product will release acetone.
The maximum workplace exposure limits are, where necessary, listed in section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: If you feel unwell, seek medical advice.

In case of inhalation: Move victim to fresh air.

Following skin contact: Immediately wipe affected skin area with paper towel or cloth.
Wash with generous amount of water and soap.
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. Consult an ophthalmologist.

After swallowing: Rinse mouth with water.
Never give anything by mouth to an unconscious person.
Consult physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye irritation. Causes skin irritation.

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:
Foam, extinguishing powder, water fog, carbon dioxide.

Extinguishing media which must not be used for safety reasons:
High power water jet.

5.2 Special hazards arising from the substance or mixture

Highly flammable liquid and vapour.
Vapours can form explosive mixtures with air.
In case of fire may be liberated: Formaldehyde, silicon dioxide, traces of incompletely burned carbon compounds, carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:
Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information: Hazchem-Code: •3YE

Cool endangered containers with water spray and, if possible, remove from danger zone.
Do not allow water used to extinguish fire to enter drains, ground or waterways. Treat runoff as hazardous.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Eliminate all ignition sources if safe to do so.
Provide adequate ventilation. Do not breathe vapours.
Avoid contact with skin and eyes. Wear protective equipment.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.
If necessary notify appropriate authorities.

6.3 Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13).

Additional information: Use explosion-proof equipment and non-sparking tools/utensils.

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: When not in use, keep containers tightly closed.
Provide adequate ventilation, and local exhaust as needed. Do not breathe vapours.
Avoid contact with skin and eyes. Wear protective equipment.

Precautions against fire and explosion:
Keep away from sources of ignition. - No smoking. Do not weld.
Take precautionary measures against static discharges.

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.
Keep away from heat sources, sparks and open flames.
Store containers in upright position. Do not drop, drag or bang the container.
Handle empty containers with care. Incineration may cause explosion.
Do not re-use the empty container.

Storage class: 3 = Flammable liquids

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
108-88-3	Toluene	Europe: IOELV: STEL	384 mg/m³; 100 ppm (May be absorbed through the skin.)
		Europe: IOELV: TWA	192 mg/m³; 50 ppm (May be absorbed through the skin.)
		Great Britain: WEL-STEL	384 mg/m³; 100 ppm
		Great Britain: WEL-TWA	191 mg/m³; 50 ppm
		Ireland: 15 minutes	384 mg/m³; 100 ppm
		Ireland: 8 hours	192 mg/m³; 50 ppm
67-64-1	Acetone	Europe: IOELV: TWA	1210 mg/m³; 500 ppm
		Great Britain: WEL-STEL	3620 mg/m³; 1500 ppm
		Great Britain: WEL-TWA	1210 mg/m³; 500 ppm
		Ireland: 8 hours	1210 mg/m³; 500 ppm IOELV

8.2 Exposure controls

Explosion protection required. Provide adequate ventilation, and local exhaust as needed. 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: Respiratory protection must be worn whenever the WEL levels have been exceeded. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection: Protective gloves according to EN 374.
Glove material: Plastic or rubber.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:

Keep away from heat sources, sparks and open flames.
Do not breathe vapours. When using do not eat, drink or smoke.
Avoid contact with skin and eyes.
Eye wash facility must be provided.
Wash hands before breaks and after work.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Form: pasty
Colour: light yellow

Odour: like acetone

Odour 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:	1 °C (c.c.)
Evaporation rate:	(butyl acetate =1) <= 1 (tris(Isopropenyloxy)vinylsilane)
Flammability:	Highly flammable liquid and vapour.
Explosion limits:	LEL (Lower Explosion Limit): (Decomposition: acetone) 2.10 Vol-% UEL (Upper Explosive Limit): (Decomposition: acetone) 13.00 Vol-%
Vapour pressure:	at 25 °C: <= 1.3 hPa (tris(Isopropenyloxy)vinylsilane)
Vapour density:	(air =1) >= 1
Density:	at 25 °C: 0.98 g/mL
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	no data available
Auto-ignition temperature:	no data available
Thermal decomposition:	no data available
Viscosity, kinematic:	at 25 °C: 300 mm²/s
Explosive properties:	Vapours can form explosive mixtures with air.
Oxidizing characteristics:	no data available

9.2 Other information

Additional information: no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Highly flammable liquid and vapour.
With exposure to moisture, product will release acetone.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions with proper and specified storage and handling

10.4 Conditions to avoid

Keep away from heat sources, sparks and open flames.
Protect from moisture contamination.

10.5 Incompatible materials

Water, humidity, strong oxidizing agents

10.6 Hazardous decomposition products

Acetone.
In case of fire may be liberated: Formaldehyde, silicon dioxide, traces of incompletely burned carbon compounds, carbon monoxide and carbon dioxide.

Thermal decomposition: no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects:

Acute toxicity (oral): Lack of data.
Acute toxicity (dermal): Lack of data.
Acute toxicity (inhalative): Lack of data.
Skin corrosion/irritation: Skin Irrit. 2; H315 = Causes skin irritation.
Eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.
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: Lack of data.

Other information:

Information about tris(Isopropenyloxy)vinylsilane:
LD50 Rat, oral: >5000 mg/kg

Information about acetone (Decomposition):
LD50 Rat, oral: 5800 mg/kg
LC50 Rat inhalative: 50,1 g/m³/8h

Symptoms

In case of inhalation: Vapours irritate mucous membranes and respiratory tracts. Vapours may cause drowsiness and dizziness.

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 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 16* = Wastes containing dangerous silicones
* = Evidence for disposal must be provided.

Recommendation: Incinerate according to applicable local, state and federal regulations.

Contaminated packaging

Waste key number: 15 01 02 = Plastic packaging or 150104 = Metallic packaging

Recommendation: Handle empty containers with care. Incineration may cause explosion.
Do not re-use the empty container.
Dispose of waste according to applicable legislation.

SECTION 14: Transport information

14.1 UN number

ADR/RID, IMDG, IATA-DGR:
UN 1133

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
UN 1133, Adhesives

14.3 Transport hazard class(es)

ADR/RID: Class 3, Code: F1
IMDG: Class 3, Subrisk -
IATA-DGR: Class 3

14.4 Packing group

ADR/RID, IMDG, IATA-DGR:
II

14.5 Environmental hazards

Marine pollutant: no

14.6 Special precautions for user

Land transport (ADR/RID)

Warning board:	ADR/RID: Kemmler-number 33, UN number UN 1133
Hazard label:	3
Special provisions:	640D
Limited quantities:	5 L
EQ:	E2
Contaminated packaging - Instructions:	P001 IBC02 R001
Contaminated packaging - Special provisions:	PP1
Special provisions for packing together:	MP19
Portable tanks - Instructions:	T4
Portable tanks - Special provisions:	TP1 TP8
Tank coding:	LGBF
Tunnel restriction code:	D/E

Sea transport (IMDG)

EmS:	F-E, S-D
Special provisions:	-
Limited quantities:	5 L
EQ:	E2
Contaminated packaging - Instructions:	P001
Contaminated packaging - Provisions:	PP1
IBC - Instructions:	IBC02
IBC - Provisions:	-
Tank instructions - IMO:	-
Tank instructions - UN:	T4
Tank instructions - Provisions:	TP1, TP8
Stowage and handling:	Category B.
Properties and observations:	Adhesives are solutions of gums, resins, etc., usually volatile due to the solvents. Miscibility with water depends upon their composition.
Segregation group:	none

Air transport (IATA)

Hazard:	Flamm. liquid
EQ:	E2
Passenger Ltd.Qty.:	Pack.Instr. Y341 - Max. Net Qty/Pkg. 1 L
Passenger:	Pack.Instr. 353 - Max. Net Qty/Pkg. 5 L
Cargo:	Pack.Instr. 364 - Max. Net Qty/Pkg. 60 L
Special Provisioning:	A3
ERG:	3L

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

SECTION 15: Regulatory information

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

National regulations - Great Britain

Hazchem-Code: •3YE

No data available

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Further information

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

H225 = Highly flammable liquid and vapour.
H226 = Flammable liquid and vapour.
H302 = Harmful if swallowed.
H304 = May be fatal if swallowed and enters airways.
H314 = Causes severe skin burns and eye damage.
H315 = Causes skin irritation.
H317 = May cause an allergic skin reaction.
H318 = Causes serious eye damage.
H319 = Causes serious eye irritation.
H336 = May cause drowsiness or dizziness.
H361d = Suspected of damaging the unborn child if inhaled.
H373 = May cause damage to central nervous system through prolonged or repeated exposure via inhalation.
H412 = Harmful to aquatic life with long lasting effects.
EUH208 = Contains N-(3-(Trimethoxysilyl)propyl)ethylenediamine, 3-Aminopropyltriethoxysilane. May produce an allergic reaction.

Date of first version: 19/1/2016

Department issuing data sheet

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

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

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.