



Safety data sheet according to 1907/2006/EC, Article 31

Printing date 19.07.2016



Version number 11

Revision: 19.07.2016

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

- **1.1 Product identifier**
- **Trade name: KEIM SILAN-PRIMER (SILANGRUND)**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the mixture** Water-repellent, silane-based primer.
- **Uses advised against** All other uses are not recommended.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
KEIM MINERAL PAINTS LTD
Santok Building / Deer Park Way, Donnington Wood GB-Telford, Shropshire TF2 7NA
Tel +44 1952 231 250 / Fax +44 1952 231 251
www.keim.com / sales@keimpaints.co.uk
- **Further information obtainable from:**
David Pratt
Telefon: +44 1952 231250
E-Mail: sales@keimpaints.co.uk
- **1.4 Emergency telephone number:**
GBK GmbH Global Regulatory Compliance
Emergency number: +49(0)6132/84463

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Flam. Liq. 2 H225 Highly flammable liquid and vapour.
Eye Irrit. 2 H319 Causes serious eye irritation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**

GHS02 GHS07
- **Signal word** Danger
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
- **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P233 Keep container tightly closed.

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- P243 Take precautionary measures against static discharge.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
P370+P378 In case of fire: Use for extinction: CO₂, powder or water spray.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Alkylalkoxysilane / silanes + ethanol

- **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6 Index number: 603-002-00-5 Reg.nr.: 01-2119457610-43-XXXX	ethanol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319	> 75%
CAS: 35435-21-3 EINECS: 252-558-1 Reg.nr.: 01-2119555666-27-XXXX	Alkyltriethoxysilane ⚠ Flam. Liq. 3, H226	10-25%
CAS: 110-54-3 EINECS: 203-777-6 Index number: 601-037-00-0	n-hexane ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361f; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	< 0.5%
CAS: 64742-49-0 EINECS: 265-151-9 Index number: 649-328-00-1	Naphtha (petroleum), hydrotreated light ⚠ Flam. Liq. 2, H225; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	< 1%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
When seeing the doctor we suggest to present this safety data sheet.
Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Wash off immediately with water and soap and rinse well afterwards.
If skin irritation continues, consult a doctor.

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- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse mouth and throat well with water.
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
carbon oxide (CO_x)
silicon dioxide (SiO₂)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Cool endangered receptacles with water spray.
In case of fire do not breathe smoke, fumes and vapours.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Keep away from ignition sources.
Avoid contact with skin and eyes.
Do not inhale fumes.
Particular danger of slipping on leaked/spilled product.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow product to reach soil, sewage system or any water course.
Follow local governmental rules and regulations.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with non-combustible liquid-binding material (sand, diatomite, vermiculite).
Ensure adequate ventilation.
Dispose of the material collected according to regulations.
Clear contaminated areas thoroughly.
- **6.4 Reference to other sections**
Eliminate all sources of ignition.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Keep receptacles tightly sealed.

Avoid contact with skin and eyes.

Do not inhale aerosols.

See item 8 for information about suitable protective equipment and technical precautions. Respect the protection rules.

Information about fire - and explosion protection:

Use explosion-proof apparatus / fittings and spark-proof tools.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:**

Store only in unopened original receptacles.

Keep in the original containers in a cool and dry place.

Information about storage in one common storage facility:

Store away from oxidising agents.

Store away from water.

Further information about storage conditions:

Protect from humidity and water.

Store receptacle in a well ventilated area.

Keep container tightly sealed.

Protect from heat and direct sunlight.

Storage class: 3A**7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters**Ingredients with limit values that require monitoring at the workplace:****64-17-5 ethanol**WEL Long-term value: 1920 mg/m³, 1000 ppm**110-54-3 n-hexane**WEL Long-term value: 72 mg/m³, 20 ppm**DNELs****35435-21-3 Alkyltriethoxysilane**

Oral Long-term - systemic effects, consumer 1.25 mg/kg/day (consumer)

Acute - local effects, consumer 7.5 mg/kg/day (consumer)

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Dermal	Acute - local effects, consumer	43 mg/kg/day (consumer)
	Long-term - systemic effects, worker	12 mg/kg bw/day (worker)
	Long-term - systemic effects, consumer	7.2 mg/kg/day (consumer)
Inhalative	Acute - local effects, consumer	107 mg/m ³ (consumer)
	Long-term - systemic effects, worker	84 mg/m ³ (worker)
	Long-term - systemic effects, consumer	17.9 mg/m ³ (consumer)

· PNECs**35435-21-3 Alkyltriethoxysilane**

Aquatic compartment - freshwater	0.64 mg/l (freshwater)
Aquatic compartment - marine water	0.064 mg/l (marine water)
Aquatic compartment - water, intermittent releases	1 mg/l (not specified)
Aquatic compartment - sediment in freshwater	1107 mg/kg sed dw (sediment fresh water)
Aquatic compartment - sediment in marine water	111 mg/kg sed dw (sediment marine water)
Terrestrial compartment - soil	896 mg/kg dw (soil)

· Additional information: The lists valid during the making were used as basis.**· 8.2 Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:**

Avoid contact with the eyes and skin.

Do not inhale aerosols.

Wash hands before breaks and at the end of work.

Immediately remove all soiled and contaminated clothing

· Respiratory protection: In case of long or strong exposure: das mask filter ABEK.**· Protection of hands:** Protective gloves**· Material of gloves**

suitable material e.g.:

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.5 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove materialValue for the permeation: Level ≥ 3 (60 min)

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Tightly sealed goggles**· Body protection:** Protective work clothing

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Fluid
· Colour:	Colourless
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined

· Change in condition

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	78 °C (bei 980 hPa)

· Flash point: 4 °C (DIN 51755)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 360 °C

· Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	0.4 Vol %
· Upper:	15.0 Vol %

· Oxidising properties: Not applicable.

· Vapour pressure at 20 °C: 55.9 hPa

· Density at 20 °C: 0.8* g/cm³ (bei 980 hPa)

· Relative density: Not determined.

· Vapour density: Not applicable.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with water:

Hydrolised.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

· Dynamic at 20 °C:	1.27* mPas
· Kinematic:	Not determined.

· 9.2 Other information

* The values are for freshly produced material and may change with the time.

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions of storage and use.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** oxidizing agents
- **10.6 Hazardous decomposition products:**
In case of fire, the following can be released:
carbon oxide (CO_x)
silicon dioxid (SiO₂)
No hazardous decomposition products if stored and handled as prescribed.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

ATE mix	> 2000 mg/kg (orally)
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64-17-5 ethanol

Oral	LD50	10470 mg/kg (rat)
Inhalative	LC50/4 h	124.7 mg/l (rat)

35435-21-3 Alkyltriethoxysilane

Oral	LD50	>2000 mg/kg (rat) (OECD 423)
Dermal	LD50	>2000 mg/kg (rat) (OECD 402)
	NOAEL	≥1000 mg/kg (rat) (screening test (oral), Analogie OECD 422)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Frequent persistent contact with the skin may cause skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **during inhalation:** Irritant effect possible.
- **during swallowing:** Irritant effect possible
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Other information (about experimental toxicology):**
Experimental analysis are not available.
The product was not tested. The statements on toxicology have been derived from the properties of the individual components.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** not applicable
- **Germ cell mutagenicity** 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.
- **STOT-single exposure** Based on available data, the classification criteria are not met.

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- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

64-17-5 ethanol

NOEC	(10d) 9.6 mg/l (daphnia)
EC 50/48h	> 1000 mg/l (bacteria) 5012 mg/l (daphnia)
EC 50/72 h	275 mg/l (algae) (OECD 201)
LC 50/96 h	14200 mg/l (fish)
EC 10	(72h) 11.5 mg/l (algae) (OECD 201)

35435-21-3 Alkyltriethoxysilane

NOEC	(21d), 32 mg/l (daphnia) (reproduction) ≥ 3 mg/l (rat) (inhalativ (Aerosol), 28d, 5d/w, 6h/d, OECD 412)
EC 50/3h	>100 mg/l (sewage sludge)
LC 50/96 h	> 100 mg/l (marine fish) (OECD 203, semistatisch)

- **12.2 Persistence and degradability** The solvent is biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **AOX-indication:**
According to our standard of knowledge the product does not contain any organic bounded halogen. The product has no influence on the waste water's AOX-value.
- **According to the formulation contains the following heavy metals and compounds from the EU guideline NO. 2006/11/EC:**
According to our current data base the product does not consist of any heavy metals or substances of EU-directives 76/464/EWG.
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed with household garbage. Do not allow product to reach sewage system.

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Disposal must be made according to official regulations.

· **European waste catalogue**

08 01 11* waste paint and varnish containing organic solvents or other hazardous substances

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1993

· **14.2 UN proper shipping name**

· **ADR**

1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL), Alkyltriethoxysilane), special provision 640D

· **IMDG**

FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL), Alkyltriethoxysilane)

· **IATA**

FLAMMABLE LIQUID, N.O.S. (ETHANOL, Alkyltriethoxysilane)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

· **14.4 Packing group**

· **ADR, IMDG, IATA**

II

· **14.5 Environmental hazards:**

· **Marine pollutant:**

No

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

33

· **EMS Number:**

F-E,S-E

· **Stowage Category**

B

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

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· Transport/Additional information:**· ADR**

- Limited quantities (LQ)
- Excepted quantities (EQ)

1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

- Transport category
- Tunnel restriction code

2
D/E

· IMDG

- Limited quantities (LQ)
- Excepted quantities (EQ)

1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":

UN 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (ETHANOL (ETHYL ALCOHOL), ALKYLTRIETHOXSILANE), 3, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
For information on labelling please refer to section 2 of this document.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **National regulations:**
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57** not applicable
- **Product-Code/Giscode:** ESI20
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H225 Highly flammable liquid and vapour.

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- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H361f Suspected of damaging fertility.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H411 Toxic to aquatic life with long lasting effects.

· **Department issuing SDS:** KEIMFARBEN Germany, Product safety department

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- TRGS: Technische Regeln für Gefahrstoffe (Technical Rules for Dangerous Substances, BAuA, Germany)
- VOC: Volatile Organic Compounds (USA, EU)
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- EC10: Effective concentration at 10% mortality rate.
- EC50: Half maximal effective concentration.
- LC10: Lethal concentration at 10% mortality rate.
- NOEC: No observed effect concentration.
- REACH: Registration, Evaluation and Authorisation of Chemicals (Regulation (EC) No.1907/2006)
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Repr. 2: Reproductive toxicity – Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Asp. Tox. 1: Aspiration hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· * **Data compared to the previous version altered.**