



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

Printing date 20.10.2020

Version number 2.0

Revision: 20.10.2020

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

- **1.1 Product identifier**
- **Trade name: KEIM TWINSTAR**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the mixture** Sol-silicate paint for use on exterior walls.
- **Uses advised against** All other uses are not recommended.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
KEIMFARBEN GMBH
Keimstraße 16 / 86420 Diedorf
Tel. +49 (0)821 4802-0
Fax +49 (0)821 4802-210
www.keim.com / info@keimfarben.de
- **Further information obtainable from:**
Product safety department
Telefon: 49(0)821/4802-138
E-Mail: sdb.info@keimfarben.de
- **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**
The product is not classified, according to the CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:**
EUH210 Safety data sheet available on request.
EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.
- **2.3 Other hazards** Alkaline product. Avoid contact with skin and eyes.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description:

Aqueous solution of silicic acid potassium salt, silica sol, acrylic polymer, mineral fillers, pigments, additives.

Dangerous components:

CAS: 13463-67-7 EINECS: 236-675-5 Index number: 022-006-00-2 Reg.nr.: 01-2119486799-10-xxxx	titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$] ☠ Carc. 2, H351	2.5-10%
CAS: 1314-98-3 EINECS: 215-251-3 Reg.nr.: 01-2119475779-15-xxxx	zinc sulphide substance with a Community workplace exposure limit	2.5-10%
CAS: 1312-76-1 EINECS: 215-199-1 Reg.nr.: 01-2119456888-17-xxxx	Silicic acid, potassium salt ☠ Skin Irrit. 2, H315; Eye Irrit. 2, H319 Specific concentration limits: Skin Irrit. 2; H315: C $\geq 40 \%$ Eye Irrit. 2; H319: C $\geq 40 \%$	$\leq 2.5\%$
CAS: 13463-67-7 EINECS: 236-675-5 Index number: 022-006-00-2 Reg.nr.: 01-2119489379-17-xxxx	titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$] ☠ Carc. 2, H351	$\geq 0.1-\leq 2.5\%$

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.

• **After inhalation:** Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Do not use solvents or thinners.

If skin irritation continues, consult a doctor.

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.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.
- **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Specila protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
In case of fire do not breathe smoke, fumes and vapours.
Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid contact with skin and eyes.
Particular danger of slipping on leaked/spilled product.
Respect the protection rules (see section 7 a. 8).
Ensure adequate ventilation
- **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 liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.
Clear contaminated areas thoroughly.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Keep receptacles tightly sealed.
Avoid contact with skin and eyes.
Do not inhale aerosols.
Ensure good ventilation/exhaustion at the workplace.
See item 8 (8.2) for information about suitable protective equipment and technical precautions.
Respect the protection rules.
- **Information about fire - and explosion protection:**
The product is not flammable.
No special measures required.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep in the original containers in a cool and dry place.
Store only in unopened original receptacles.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Store in a cool place.
Protect from frost.
Protect from heat and direct sunlight.
- **Storage class:** 12
- **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:**
alveoles penetrating component

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

AGW (Germany)	Long-term value: $1.25 \cdot 10^{**} \text{ mg/m}^3$ 2(II);*alveolengängig**eintembar; AGS, DFG
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14808-60-7 Quartz (SiO₂)

MAK (Germany)	alveolengängige Fraktion
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1314-98-3 zinc sulphide

MAK (Germany)	Long-term value: $0.1A \cdot 2E^{**} \text{ mg/m}^3$ *alveolengängig; **eintembar
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- **DNELs**

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

Oral	Long-term - systemic effects	700 mg/kg bw/day (consumer)
Inhalative	Long-term - local effects	10 mg/m ³ (worker)
	Long-term - local effects	10 mg/m ³ (consumer)

- **PNECs**

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

Aquatic compartment - freshwater	0.184 mg/l (freshwater)
Aquatic compartment - marine water	0.0184 mg/l (marine water)
Aquatic compartment - water, intermittent releases	0.193 mg/l (invertebrates)
Aquatic compartment - sediment in freshwater	1.000 mg/kg sed dw (sediment fresh water)
Aquatic compartment - sediment in marine water	100 mg/kg sed dw (sediment marine water)
Terrestrial compartment - soil	100 mg/kg dw (soil)

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Sewage treatment plant

100 mg/l (sewage treatment plant)

- **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:**
 - Use suitable respiratory protective device only when aerosol or mist is formed.
 - Filter: P2
- **Protection of hands:** Protective gloves
- **Material of gloves**
 - suitable material e.g.:
 - Nitrile impregnated cotton-gloves
 - Recommended thickness of the material: ≥ 0.5 mm
 - Nitrile rubber, NBR
 - Recommended thickness of the material: ≥ 0.4 mm
 - Butyl rubber, BR
 - Recommended thickness of the material: ≥ 0.7 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 material**
 - Value for the permeation: level ≥ 6 (480 min)
 - The determined penetration times according to EN 16523-1:2015 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
 - After contact with skin wash thoroughly with water and apply lotion.
- **Limitation and supervision of exposure into the environment**
 - See Section 12 and 6.2
 - No further relevant information available.

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Pasty
Colour: Different, according to colouring.

· Odour: Weak, characteristic

· Odour threshold: Not determined

· pH-value at 20 °C: ~11*

· Change in condition

Melting point/freezing point: Not determined

Initial boiling point and boiling range: >100 °C

· Flash point: Not applicable

· Flammability (solid, gas): Not applicable

· Ignition temperature: Not determined

· Decomposition temperature: Not determined

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product does not present an explosion hazard.

· Explosion limits:

Lower: Not applicable

Upper: Not applicable

· Oxidising properties: Not applicable

· Vapour pressure at 20 °C: ~23 hPa

· Density at 20 °C: 1.4-1.6* g/cm³

· Relative density: Not determined

· Vapour density: Not applicable.

· Evaporation rate: Not applicable.

· Solubility in / Miscibility with water:

Fully miscible

· Partition coefficient: n-octanol/water: Not applicable

· Viscosity:

Dynamic at 20 °C: 2000-2800* 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:** Acids
- **10.6 Hazardous decomposition products:**
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:**

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

Inhalative	ATE mix (4h)	>5 mg/l (inhalation)
	ATE mix	>2,000 mg/kg (dermal) >2,000 mg/kg (orally)
	NOAEL	3,500 mg/kg /Oral (rat) (90d)

1314-98-3 zinc sulphide

Oral	LD50	>15,000 mg/kg (rat) (OECD 401)
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1312-76-1 Silicic acid, potassium salt

Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>5,000 mg/kg (rat) (OECD 402)
Inhalative	LC50/4 h	>5 mg/l (rat)

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

Oral	LD50	>5,000 mg/kg (rat) (OECD 425)
Dermal	LD50	>5,000 mg/kg (rabbit)
	NOAEL	3,500 mg/kg /Oral (rat) (90d)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Frequent persistent contact with the skin may cause skin irritation.
- **Serious eye damage/irritation** In case of longer exposure, irritating effect is possible.
- **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.

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The product was not tested. The statements on toxicology have been derived from the properties of the individual components.

· Repeated dose toxicity**13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]**Inhalative | NOAEC | 10 mg/m³ (rat) (90d)

- **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.
- **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:****13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]**

NOEC	$\geq 100,000$ mg/kg (sediment fresh water)
EC50	>100 mg/kg (freshwater alga) (OECD 201)
EC 50	$>10,000$ mg/l (algae) (ISO 10253)
LC 50	$>10,000$ mg/l (marine fish) (OECD 203)
	$>1,000$ mg/l (freshwater fish) (EPA-540/9-85-006)
	$>1,000$ mg/l (daphnia) (OECD 202)

1314-98-3 zinc sulphide

EC 50/48h (static)	100 mg/l (daphnia) (OECD 202)
EC 50/96h (static)	100 mg/l (fish) (OECD 203)
EC 50/72 h (static)	100 mg/l (algae) (OECD 202)

1312-76-1 Silicic acid, potassium salt

NOEC	>1 mg/l (fish)
	>1 mg/l (invertebrates)
EC 50/48h	>100 mg/l (daphnia) (OECD 202)
EC 50/72 h	>100 mg/l (algae)
LC 50/96 h	>100 mg/l (fish) (DIN EN ISO 7346-2)
EC 0	$>1,000$ mg/l (activated sludge) (30min)

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

NOEC	$\geq 100,000$ mg/kg /Se (soil microorganisms)
EC 50/72 h	>100 mg/l (algae) (OECD 201)

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LC 50/96 h	>10,000 mg/l (fish) (OECD 203)
	>1,000 mg/l (freshwater fish) (EPA-540/9-85-006)
LC 50/48h	>1,000 mg/l (daphnia) (OECD 202)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **AOX-indication:**
Due to the substance of content which do not include organic jointed halogens, the product can not take influence on the AOX-load of the waste water.
- **According to the formulation contains the following heavy metals and compounds from the EU guideline NO. 2006/11/EC:**
The product contains TiO₂, BaSO₄.
- **General notes:**
At present there are no ecotoxicological assessments.
The statements on ecotoxicology have been derived from the properties of the individual components.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow product to reach ground water, water course or sewage system.
- **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.
Disposal must be made according to official regulations.
- **European waste catalogue**

08 01 12	waste paint and varnish other than those mentioned in 08 01 11
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- **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 | Void |
| · 14.2 UN proper shipping name | |
| · ADR, IMDG, IATA | Void |

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· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
· Class	Void
· 14.4 Packing group	
· ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable
· Transport/Additional information:	No dangerous good in sense of these transport regulations.
· UN "Model Regulation":	Void

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.
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
None of the ingredients is listed.
- **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:** BSW40
- **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**
H315 Causes skin irritation.
H319 Causes serious eye irritation.

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H351 Suspected of causing cancer. Route of exposure: Inhalation.

· **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)

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

AGW: Arbeitsplatzgrenzwert (Germany)

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)

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Carc. 2: Carcinogenicity – Category 2

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