



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

Printing date 05.12.2022


Version number 14.0 (replaces version 13.1)

Revision: 05.12.2022

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

- **1.1 Product identifier**
- **Trade name: KEIM KÜNSTLERFARBEN**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the mixture**
Inorganic pigment paste for painting in KEIM-A-technique.
- **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**
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
- **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**

GHS09
- **Signal word** Void
- **Hazard statements**
H411 Toxic to aquatic life with long lasting effects.
- **Precautionary statements**
P102 Keep out of reach of children.
P280 Wear protective gloves/protective clothing/eye protection.
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with regional/national regulations.

(Contd. on page 2)



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according to 1907/2006/EC, Article 31

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Version number 14.0 (replaces version 13.1)

Revision: 05.12.2022

Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 1)

- **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:** Paint-paste from purely inorganic pigments, fillers and water.

- **Dangerous components:**


CAS: 1314-13-2

EINECS: 215-222-5

Index number: 030-013-00-7

Reg.nr.: 01-2119463881-32-0043

zinc oxide

 Aquatic Acute 1, H400; Aquatic Chronic 1, H410

≥10-<25%

- **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.
- **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.

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**
In case of fire, the following can be released:
Metal oxides

(Contd. on page 3)

DEN



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Version number 14.0 (replaces version 13.1)

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Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 2)

- **5.3 Advice for firefighters**
- **Special protective equipment:** Wear self-contained respiratory protective device.
- **Additional information** In case of fire do not breathe smoke, fumes and vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Product forms slippery surface when combined with water.
Avoid contact with skin and eyes.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Follow local governmental rules and regulations.
- **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose of the material collected according to regulations.
Clear contaminated areas thoroughly.
Flush rests with sufficient amount of water.
- **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.
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.
- **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:**
Protect from frost.
Protect from heat and direct sunlight.
- **Storage class:** 12
- **GISCode** BSW50 Beschichtungsstoffe, wasserbasiert, lösemittelhaltig, filmgeschützt

(Contd. on page 4)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.12.2022

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Revision: 05.12.2022

Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 3)

- **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:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **DNELs**

1314-13-2 zinc oxide

Oral	Long-term - systemic effects	0.83 mg/kg bw/day (consumer) (50 mg Zn/day)
Dermal	Long-term - systemic effects	83 mg/kg bw/day (worker)
	Long-term - systemic effects	83 mg/kg bw/day (consumer) (5000 mg Zn/day)
Inhalative	Long-term - systemic effects	5 mg/m ³ (worker)
	Long-term - systemic effects	2.5 mg/m ³ (consumer)
	Long-term - local effects	0.5 mg/m ³ (worker)

- **PNECs**

1314-13-2 zinc oxide

Aquatic compartment - freshwater	0.0206 mg/l (Freshwater)
Aquatic compartment - marine water	0.0061 mg/l (Seawater)
Aquatic compartment - sediment in freshwater	117.8 mg/kg sed dw (Freshwater sediment)
Aquatic compartment - sediment in marine water	56.5 mg/kg sed dw (Marine sediment)
Terrestrial compartment - soil	35.6 mg/kg dw (soil)
Sewage treatment plant	0.1 mg/l (Sewage treatment plant)

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Individual protection measures, such as 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:** Not necessary if room is well-ventilated.

- **Hand protection** Protective gloves

- **Material of gloves**

suitable material e.g.:

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.4 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.

(Contd. on page 5)



Safety data sheet

according to 1907/2006/EC, Article 31

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Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 4)

· Penetration time of glove material

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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye/face protection Goggles recommended during refilling**· Body protection:** Protective work clothing**· Environmental exposure controls**

See Section 12 and 6.2

No further relevant information available.

SECTION 9: Physical and chemical properties**· 9.1 Information on basic physical and chemical properties****· General Information****· Physical state**

Fluid

· Colour:

Different, according to colouring.

· Odour:

Weak, characteristic

· Odour threshold:

Not determined

· Melting point/freezing point:

Not determined

· Boiling point or initial boiling point and boiling range

Not determined

· Flammability

Not applicable

· Lower and upper explosion limit**· Lower:**

Not applicable

· Upper:

Not applicable

· Flash point:

Not applicable

· Ignition temperature:

Not determined

· Decomposition temperature:

Not determined

· pH at 20 °C

~7*

· Viscosity:**· Kinematic viscosity**

Not determined

· Dynamic:

Not determined.

· Solubility**· water:**

Miscible

· Partition coefficient n-octanol/water (log value)

Not applicable

· Vapour pressure:

Not determined.

· Density and/or relative density**· Density at 20 °C:**1.3-1.5* g/cm³**· Relative density**

Not determined

· Vapour density

Not applicable.

· 9.2 Other information

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

(Contd. on page 6)



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

Printing date 05.12.2022

Version number 14.0 (replaces version 13.1)

Revision: 05.12.2022

Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 5)

- **Appearance:**
- **Form:** Pasty
- **Important information on protection of health and environment, and on safety.**
- **Auto-ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product does not present an explosion hazard.
- **Change in condition**
- **Evaporation rate** Not applicable

- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Void
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

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:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
No hazardous decomposition products if stored and handled as prescribed.

DEN

(Contd. on page 7)



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Version number 14.0 (replaces version 13.1)

Revision: 05.12.2022

Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 6)

SECTION 11: Toxicological information

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

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

LD/LC50 values relevant for classification:**1314-13-2 zinc oxide**

Oral | LD50 | >5,000 mg/kg (rat)

- **Skin corrosion/irritation** not primarily irritating on the skin
- **Serious eye damage/irritation**
In case of longer exposure, slightly irritating effect to the eyes 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.
- **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.
- **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.
- **Subacute to chronic toxicity:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** Not applicable
- **11.2 Information on other hazards**

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:**

Toxic to aquatic organisms.

May cause long-term adverse effects in the aquatic environment.

1314-13-2 zinc oxide

EC 50/48h | 0.67 mg/l (daphnia)

ErC50/72h | 0.21 mg/l (algae) (pH >7 - 8,5; Zn (ZnO))

- **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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable

(Contd. on page 8)

DEN



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Revision: 05.12.2022

Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 7)

- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **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 ZnO.
- **General notes:**
The product contains materials that are harmful to the environment.
Toxic for aquatic organisms
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

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 11*	waste paint and varnish containing organic solvents or other hazardous substances
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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 or ID number | |
| · ADR, IMDG, IATA | UN3082 |
| · 14.2 UN proper shipping name | |
| · ADR | 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC OXIDE) |
| · IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC OXIDE), MARINE POLLUTANT |
| · IATA | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC OXIDE) |

(Contd. on page 9)



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

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Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 8)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances: ZINC OXIDE

· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special marking (IATA):**

Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

· **Hazard identification number (Kemler code):** 90

· **EMS Number:**

F-A,S-F

· **Stowage Category**

A

· **14.7 Maritime transport in bulk according to IMO instruments**

Not applicable

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000

ml

· **Transport category**

3

· **Tunnel restriction code**

E

· **IMDG**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000

ml

(Contd. on page 10)



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Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 9)

- | | |
|---------------------------------|--|
| · UN "Model Regulation": | UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC OXIDE), 9, III |
|---------------------------------|--|

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 E2** Hazardous to the Aquatic Environment

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

- **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

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.

- **REGULATION (EU) 2019/1148**

- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

- **National regulations:**

- **Waterhazard class:** Water hazard class 2 (Self-assessment): 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:** BSW50

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

DEN

(Contd. on page 11)



Safety data sheet
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Revision: 05.12.2022

Trade name: KEIM KÜNSTLERFARBEN

(Contd. of page 10)

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**

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

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

· **Version number of previous version:** 13.1

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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)

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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