Re Alloys Sp. z o.o.
Cieszyńska 23
43-170 Łaziska Górne
tel./fax +48 32 324 71 06

NIP 629 21 35 648
REGON 276099119
BDO 000024441
biuro@realloys.pl
www.realloys.pl

Sąd Rejonowy Katowice Wschód w Katowicach
Wydział VIII Gospodarczy KRS
Nr KRS 0000027895
Kapitał Zakładowy 13.564.500,00 zł

SAFETY DATA SHEET

SILIMIC

Date of formation / date of updating: 01/07/2011 to 12/04/2024

Silica Fume is not classified as hazardous under the CLP Regulation (1272/2008/EC) is not persistent bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) as defined in Annex XIII of the REACH Regulation, and is not included in the ECHA candidate list of substances of very high concern. Therefore, provision of a Safety Data Sheet (SDS) according to Regulation 1907/2006 (REACH) and Commission Regulation (EU) 2020/878 of 18.08.2020 is not mandatory. This Safety Data Sheet (SDS) is a voluntary presentation of certain information that may assist the user in the handling of silica fume, including information as required on the basis of art. 32 of the REACH regulation.

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

1.1. Product identifier

Trade name Silimic

Synonyms: Silica Fume, microsilica, condensed SiO2 (silica) fume, amorphous silica, silicon dioxide powder, silica powder, volatilised SiO2, thermally generated silica fume (TGSF), microfume, amorphous silicon dioxide

EC Number 273-761-1

CAS number: 69012-64-2

REACH registration number: 01-2119486866-17-0024

UFI code: not applicable

1.2 Identified uses of the substance or mixture and uses advised against

Chemical agent

- Formulation [mixing] of preparations and/or re-packaging (SU 10; PROC 2, 3, 4, 5, 7, 8a&b, 9, 10, 11, 19, 22, 23, 24, 26); AC 1, 3, 5, 10, 11, 13; PC 1, 9, 32; ERC 5, 2):
Additive (mineral admixture) in manufacturing of: (ready mix) concrete, repair products (mortars & grouts), shotcrete
Manufacturing of sealants and adhesives.
Manufacturing of polymers.
Component in formulation of refractories.
Thinner, washing and cleaning, and plaster manufacture.
- Manufacture of other non-metallic mineral products, e.g. plasters, cement, refractories, ceramic and other special products (SU13; PROC 1, 2, 3, 4, 5, 8, 9, 14, 19, 21, 22, 23; PC 9; AC 2, 4; ERC 3, 5:
Manufacturing of refractory products: bricks, tiles, table ware, sanitary ware, clay pipes for processes at elevated temperatures, refractory concrete, special concretes
Manufacturing of unshaped aluminosilicate refractory materials
Additive to SiC for the production of furnace lining.
Protection of surfaces against wear
Manufacturing of special ceramics.
Cement industry: raw material for clinker production
Manufacture of flue dust/clinker with the use of preparations of: cement, hydraulic binder, controlled low strength material, concrete (ready-mix or pre-cast), mortar, grout.
Additive to floor spackling paste.
Manufacturing of glass.
Manufacturing of equipment for shaft drilling.
- Mining (including maritime industries) (SU 2b; PC 20, PROC 1, 3, 5, 8, 26; ERC 10b):
Manufacturing of equipment for shaft drilling.
Stabilisation in mines and quarries.

- Manufacture of pure chemicals (SU 9; PC 9, 18; PROC 1, 2, 3, 4, 5, 8, 9, 19; ERC 1, 2):
Manufacturing of inorganic pigments.
Component in formulation of monolithic refractories.
Manufacture of processing aids used in the chemical industry.
- Agriculture, forestry, fishery (SU1; PC12; PROC 5, 8b, 11, 19, 26; ERC 10b):
Anti-caking agent in artificial fertilisers.
Silica fertiliser used in agriculture.
- Manufacture of rubber products (SU 11; PC 32; PROC 1, 2, 3, 5, 6, 7, 8, 9, 10, 13, 14, 15, 19; AC 1, 2, 3, 5, 8, 10, 12; ERC 3, 6d):
Manufacturing of gaskets, gaskets materials and seals.
Manufacturing of rubber materials
Manufacturing of coated rubber materials and inks
- Manufacture of plastics products, including compounding and conversion:
manufacturing of elastomer products (SU 12; PC 32; PROC 1, 2, 3, 5, 6, 7, 8, 9, 10, 13, 14, 15, 19, 23; AC 1, 2, 3, 5, 8, 10, 12; ERC 3, 6d):
Manufacturing of rubber materials
Manufacturing of coated rubber materials and inks
- Building and construction work (SU 19; PC 10; PROC 1, 2, 3, 5, 7, 8a&b, 9, 10, 13, 15, 19, 26, AC 1, 2, 3, 5, 8, 10, 12; ERC 3, 6d):
Professional use of construction chemical.
Construction: Use of cement, hydraulic binder, controlled low strength material, ready-mix concrete, mortar, grout.
Construction: Use of cement, hydraulic binder, controlled low strength material, mortar, grout for construction (DIY).
Soil stabilisation and improvement.
Mineral filler in asphalt pavement and bituminous products.
Shotcrete in tunnels.
Building and construction work with the use of coating and paint.
- Manufacture of basic metals, including alloys (SU14; PROC 1, 2, 3, 5, 7, 8a&b, 9, 10, 13, 15, 19, 26; AC 1, 2, 3, 5, 8, 10, 12; ERC1
- Professional uses of adhesives (SU 22; PROC 8, 9, 11, 13, 19, ERC 8f)
- Consumer uses of adhesives (SU21; PC 19; PROC 1; ERC 1)
This substance may be used by all the members of the general public.

Not applicable.

The chemical is used by the general public only.

Not applicable.

1.3. Details of the supplier of the Safety Data Sheet

Re Alloys Sp. z o.o.

Ul. Cieszyńska 23

43-170 Łaziska Górne

fax: +48 (32) 3247106

Website: www.realloys.pl

E-mail: biuro@realloys.pl

1.4. Emergency phone numbers

122 in the entire Europe

- Austria – VergiftungsInformationsZentrale: + 431 406 43 43
- Belgium – Centre Antipoison/Antigifcentrum: + 32 (0)70 245 245

- Bulgaria – Poison centre: + 359 2 9154 409
- Cyprus: 112
- Czech Republic: + 420 224 919 293
- Denmark - Giftlinjen: 82 12 12 12
- Estonia:
- Finland - Poison Information Centre: + 358 (09) 471 977
- France – Centre anti-poisons: + 33 (0)1 4005 48 48
- Germany – Giftinformationszentren: + 49 (0) 30 - 19240
- Greece– Poison centre: Poison Centre + 30 2107793777
- Hungary- +36 (0)6 80 20 11 99
- Island:
- Ireland:
- Italy:
- Latvia:
- Liechtenstein:
- Lithuania: + 370 5 236 20 52
- Luxembourg:
- Malta: + 356 2545 0000
- the Netherlands: 112
- Norway - Norwegian Poison Information Centre: + 47 22 59 13 00
- Poland: +48 32 3247100
- Portugal - Centro de Informação Antivenenos: + 351 808 250 143
- Romania:
- Slovakia– National Toxicological Information Centre: + 421 2 5477 4166
- Slovenia:
- Spain:
- Sweden- Giftinformationscentralen: + 46(0)8-331231
- Great Britain - The UK National Poisons Emergency number: +44 870 600 6266

List of national help desks:
http://www.echa.europa.eu/help/nationalhelp_contact_en.aspm

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This product does not meet the criteria for hazard classification. Therefore, there is no requirements to produce Exposure scenarios for the identified uses of section 1.2 (Art. 14 of REACH).

Physical and chemical hazards and hazards for the environment

Not specified.

Threat to human health

High concentrations of dust may mechanically irritate or dry out skin, eyes and respiratory system.

2.2 Label elements

Marked in accordance with the Regulation (EC) no. 1272/2008 [CLP]:

2.2.1. Hazard pictograms: Labelling is not required. None.

2.2.2. Signal word(s): none

2.2.3. Hazard statements and precautionary statements: none

2.3 Other hazards

Mixture does not meet the criteria of PBT nor vPvB as defined in Annex XIII of the REACH Regulation. Mixture does not include substances listed in accordance with article 59 (1) of the REACH Regulation due to endocrine-disrupting properties or properties identified as endocrine-disrupting in line with criteria specified in Commission Delegated Regulation (EU) 2017/2100 of Commission Regulation (EU) 2018/605.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

CAS/EC number and the registration number	Name of the main ingredient	Concentration	Classification under EC 1272/2008	Classification under 67/548/EEC
EC 273-761-1	Silica Fume	≥ 80 %	Not classified	Not classified

* This PSI is based on the Chemical Safety Report of Silica Fume made according to the qualities covered by the Silica Fume registration dossier under REACH.

3.2 Mixtures

Not applicable.

4. FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1.

Inhalation exposure

Inhalation: Mechanical irritation caused by dust in the airways. Remove person from dust-exposed area.

Skin contact

Wash skin with water and/or a mild detergent.

Eye contact

Rinse eyes with water/saline solution.

See a physician upon persistent discomfort.

Exposure by oral route

Remove source preventing further ingestion. See “inhalation”.

4.1.2. Rescue personnel protective equipment

Use clothes as specified in Section 8 and personal protective equipment.

4.1 Most important symptoms and effects, both acute and delayed

Acute overexposure to dust may cause irritation symptoms like coughing and sore throat, reddening and heavy watering of the eyes. Skin contact can cause reddening and itching of the skin.

4.2 Indication of any immediate medical attention and special treatment needed

No data available. Any burn with hot or molten product requires medical consultation.

5. FIRE FIGHTING MEASURES

Silimic is not combustible and the dust entails no danger of explosion.

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5.1 Extinguishing media

5.1.1. Suitable extinguishing agent: Not applicable.

5.1.2. Unsuitable extinguishing agent: not applicable.

5.2 Special hazards related to the substance or mixture

Product is not a fire or explosion hazard.

5.3 Advice for fire-fighters

Not applicable

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel providing assistance

Avoid handling that generates dust generation and exposure to silica fume.

6.1.2. For emergency responders

Avoid handling that generates dust generation and exposure to silica fume. Use clothes as specified in Section 8 and personal protective equipment.

6.2 Environmental precautions

Dispose of the material in a way approved of by the competent local authorities.

6.3 Methods and material for containment and cleaning up

6.3.1. Recommendations for preventing the spread of draftage:

In the open area, seal the package.

6.3.2. Recommendations for draftage removal:

Released material should be collected in suitable containers. Use vacuum cleaner, do not sweep.

6.3.3. Any other information, including advice on inappropriate methods to prevent the spread of product:

No data available.

6.4 Reference to other sections

When removing contamination and performing rescue operations in the hazardous area, use appropriate personal protective equipment referred to in section 8 of the product data sheet.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

7.1.1. Recommendations

Avoid generation of dust. Wear protective clothing, gloves, and goggles. Wear suitable respiratory protection where applicable.

7.1.2. Advice on general occupational hygiene

No data available

7.2 Conditions for safe storage, including information on any incompatibilities

Keep away from hydrofluoric acid (HF). Reactions with HF leads to the formation of toxic gas (SiF4).

Keep dry and avoid storage below 0 °C

7.3 Specific end uses
No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

National occupational exposure limit values

At the content of free crystalline) silica in dust below 2%, NDS of the dust is 10 [mg/m3].

Other limit values

DNEL (Derived No Effect Level)

4 mg/m³ proposed value for inhalable silica fume

0.3 mg/m3 proposed value for respirable silica fume

PNEC (Predict No Effect Concentration)

Not applicable

8.2 Exposure controls

8.2.1. Appropriate engineering controls

Dust-free closed systems and local exhaust ventilation for dusty operations.

Eye or face protection
Safety glasses or goggles
Skin protection
Personal Protective equipment
Hand protection
Gloves
Respiratory protection
Dusty work conditions use filtering facepiece (P2).
Thermal hazards

No data available

Environmental exposure controls

The Limit values for particles (PM 2.5 and PM 10) of the ambient air

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Solid
Colour	Colour varies from white to black, depending on the carbon content
Odour	Odourless
Melting point/freezing point	> 1500 °C (101.3 kPa)
Boiling temperature or initial boiling point and boiling range	No data available

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Flammability	Non-flammable
Upper and lower explosive limit	lowest explosive limit is +/- 60 mg/m³
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
pH	Not applicable
Kinematic viscosity	No data available
Solubility	Water solub. 1.3 ≤ 5.3 mg/l at pH 5.9-7.6 (20 °C); 614 mg Si/l at PH 6.5 (OECD 105)
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure	Not applicable
Density or relative density	2.2 - 2.3 g/cm3
Relative vapour density	Not applicable
Characteristics of particles	Silica fume is a very fine dust. Average primary particle size (d50): 0.15 µm forming larger agglomerates during handling (10-120 µm)

9.2 Other information

Specific surface (m2/g) – 15-30

10. STABILITY AND REACTIVITY

10.1 Reactivity

The product is stable.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Keep away from hydrofluoric acid (HF).

10.4 Conditions to avoid

Hydrofluoric acid (HF) leads to the formation of SiF4 (toxic gas).

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Heating at above 1000 °C for prolonged time will convert amorphous silica (SiO2) to crystalline silica (SiO2).

11. TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes defined in Regulation (EC) no. 1272/2008

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Acute toxicity

Based on available data, the classification criteria are not met. Substance-specific acute toxicity data on Silica Fume do not exist. Therefore, acute toxicity data of similar type of substances, such as synthetic amorphous silica (SAS), are utilised. Examples for acute toxicity of SAS: LD50 = 5000 mg/kg/ oral/ rat, LD50 = 5000 mg/kg/ dermal/ rabbit/ synthetic silica.

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.

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, no classification is recommended.

STOT-single exposure (Specific Target Organ Toxicity)

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

STOT-repeated exposure

NOAEC ((*No-Observed-Adverse-Effect Level*): 1,3 mg/m3/ rat

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

Aspiration hazard

Reason of no classification - no data available

11.12. Information about other threats

Silica Fume might contain trace amounts (<0.05%) of respirable crystalline silica and polycyclic aromatic hydrocarbons (PAH).

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Based on available data, the environmental threat classification criteria are not met.

12.2 Persistence and degradability
Silica Fume is an inorganic substance and is not biodegradable. The solubility in water is considered low.

12.3 Bioaccumulative potential
No or very low potential for bioconcentration and bioaccumulation.

12.4 Mobility in soil

Particulate silica is immobile substance in soil and sediment. Dissolution product of silica occurs mainly in aquatic phase.

12.5 Results of PBT and [1]vPvB [2] assessment:
Silica fume is an inorganic substance and it is not classifiable as a PBT/vPvB substance. Silica fume is not known to contain any > 0,1 % or any < 0,1 % PBT/vPvB impurities. Trace amounts of known impurities do not trigger any PBT/vPvB classification for the registered silica fume substance.

12.6 Endocrine disrupting properties
Not applicable

12.7 Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal methods
13.1.1 Disposal of product and package

Product is not included in the list of hazardous waste in the waste catalogue (Ordinance of the Minister of Climate of 2 January 2020 on waste catalogue (Journal of Laws of 2020 item 10) - thus, it is not included in the list of hazardous waste in the European Waste List (Commission Decision 2000/53 of 3 May 2000, as amended). Disposal should be carried out by a licensed waste disposal contractor in accordance with the respective national regulations.

Suggested waste code: for contaminated product - 16 03 04 Inorganic wastes other than those mentioned in 16 03 03, 16 03 80, alternatively 10 02 99 Other non-mentioned wastes.

Package does not have to be classified as hazardous waste in line with the waste catalogue. Recovery (recycling) or disposal packaging waste should be carried out in line with the applicable law for packages - depending on the type of packaging waste (only empty package may be recycled).

13.1.2 Waste treatment

In accordance with conditions imposed by the local law, including those stipulated by the authorised recipient of waste.

13.1.3 Waste discharge

Not applicable

13.1.4 Other recommendations on wastes disposal

Not applicable

14. TRANSPORT INFORMATION

14.1 UN number
Not regulated

14.2 UN proper shipping name
None

14.3 Transport hazard class(es)
IMGD: not classified

ICAO/IATA: not classified

ADR/RID: Not classified

[1] *PBT – Persistent bioaccumulative toxic chemical*
[2] *(Substance) Very persistent and very bioaccumulative*

14.4 Packing group
Not applicable.

14.5 Environmental hazards
Silica fume is not considered to cause harm to aquatic organisms (Lillicrap, 2011). Silica fume is not a marine pollutant.

14.6 Special precautions for users
Not applicable.

14.7 Transport
Not applicable.

In-bulk transport in line with the appendix II to the MARPOL73/78 and the IBC code

15. REGULATORY INFORMATION

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

The Safety Data Sheet is prepared in compliance with:

- Regulation /EC) No 1907/2006 for Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),
- Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP),
- Commission Regulation (EU) No 2015/830 amending Regulation (EU) 1907/2006 (SDS),
- Commission Decision 2000/532/WE of 3 May 2000 establishing a list of wastes pursuant (European List of Wastes),
- European Agreement (ADR) concerning the International Carriage of Dangerous Goods by Road,
- Act of 25 February 2011 on chemical substances and their mixtures (Journal of Laws of 2018 item 1816 as amended)
- The Ordinance of the Minister of Family, Labour and Social Policy 12 June 2018 on maximum permissible concentration and intensity of harmful factors in the work environment (Journal of Laws of 2018, item1286, as amended),
- Ordinance of the Minister of Labour and Social Policy of 26 September 1997 on as amended general safety and hygiene at work (i.e., Journal of Laws of 2003 no. 169 item 1650 as amended).
- Regulation (EU) 2016/425 of the European Parliament and of the Council of 09 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC (OJ EU L 2016.81.51 of 31 March 2016),
- The Ordinance of the Ministry of Health of 02 February 2011 on tests and measurements of harmful factors in the work environment (i.e. Journal of Laws of 2023 item 419)
- Ordinance of the Minister of Economic Development, Labour and Technology of 22 July 2021 on restrictions of production, marketing or use of hazardous substances and mixtures, and on restrictions of marketing or use of products containing such substances and mixtures (Journal of Laws of 2021, item 1419)
- Ordinance of the Minister of Health of 24 July 2012 on chemical substances, their mixtures, agents or technological processes that are carcinogenic and mutagenic in the work environment (Journal of Laws of 2004 item 156)
- The Ordinance of the Minister of Environment of 24 August 2012 on admissible levels of some substances in the air (Journal of Laws of 2021, item 845)
- The Ordinance of the Minister of Economy of 26 January 2010 on the reference values for some substances in the air (Journal of Laws of 16/2010, item 87)
- Waste Management Act of 14 December 2012 (i.e. Journal of Laws of 2023 item 1587 as amended).
- Act of 13 June 2013 on the management of packaging and packaging waste (i.e. Journal of Laws of 2023 item 1658 as amended),

The Ordinance of the Ministry of Climate of 02 January 2020 on the catalogue of waste (Journal of Laws of 2020, item 10)

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Chemical safety assessment

Chemical Safety Assessment for the Silica Fume has been carried out

16. OTHER INFORMATION

Other References:

- Silica Fume Chemical Safety Report;

- Lillicrap A. Assessment of the Transformation/Dissolution Data Generated for Silica Fume. Norwegian Institute for Water Research. Lab. Testing Report n° 6026-2010, Serial No. O-10158 of March 2011.

The Safety Data Sheet has been provided for your reference. According to the current regulations, the manufacturer is not obliged to provide a safety data sheet for this material.

Explanation of abbreviations and acronyms:

NDS is the highest allowable concentration
NDSCh maximum permissible instantaneous concentration
DSB permissible concentration in biological material
IOELv indicative occupational exposure limit
SCOEL Scientific Committee on Occupational Exposure Limits
LC50 (CL50) / LD50 (DL50) Median Lethal Concentration / Lethal Dose
LC100 (CL100) / LD100 (DL100) concentration / dose that resulted in the death of 100% of the study population
PBT persistent, bioaccumulative, toxic
vPvB substance is very persistent and very bioaccumulating
ADR European agreement on the international carriage of dangerous goods by road
RID Regulations for the international carriage of dangerous goods by rail
GHS Globally harmonised system of classification and labelling of chemicals
EINECS European Inventory of Existing Commercial Chemical Substances
CAS Chemical Abstracts Service (branch of the American chemical society)
mc body weight

List of symbols indicating the hazard category, hazard classes and R and H phrases, which are included in sections 2 and 3 of the safety data sheet, and their full wording: Not applicable.

Further information:

The above information is based on the current state of knowledge and applies to the product as it is used. The data on this product is presented in order to comply with safety requirements and not to guarantee its specific properties. If the conditions of use of the product are not under the manufacturer's control, the responsibility for the safe use of the product rests with the user.