SAFETY DATA SHEET

Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

According to Article 31 of the Regulation (EC) No 1907/2006 (REACH), a Safety Data Sheet (SDS) must be provided for hazardous substances or mixtures. This product does not meet the classification criteria of the Regulation (EC) No 1272/2008 (CLP) . Therefore such document is outside the scope of Article 31 of REACH and the requirements for content in each section do not apply

Revision date 09-Sep-2022 Revision Number 4

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

1.1. Product identifier

Product Code(s)	Polycraft Fumed Silica Filler Powder
Product Name	Untreated Fumed Silica
Form	nanoform
REACH registration number	01-2119379499-16
Synonyms	Silicon Dioxide, Synthetic Amorphous Silica, Pyrogenic (Fumed) Amorphous Silica

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

Recommended use	Various, Rheological control, Flow agent, Anti-caking agent, Anti-blocking agent, Anti-settling agent, Spray aid, Thickening agent, Carrier, Viscosity control agent, Glossing or matting agent, Chemical intermediate, Stabilization agent, Filler, Reinforcing agent in: Coatings, Adhesives and/or sealants, Silicone Elastomer, Rubber products, suspension, dispersion, Batteries, Cosmetics, Inks and toners, Paints, Hygiene and sanitary products, Other.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

MB Fibreglass
Unit 17 & 20 Abbey Business Park
Mill Road, Newtownabbey
Co.Antrim
BT36 7EE
United Kingdom
Tel: +44 2890 861992

Email: sales@mbfg.co.uk

E-mail address
For further information, please contact

1.4. Emergency telephone number

Emergency Telephone	+44 2890 861992 (office hours only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008
This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

Signal word
None

Hazard statements
None

Precautionary Statements - EU (§28, 1272/2008)
None

2.3. Other hazards

May cause mechanical irritation. Dust may be irritating to respiratory tract.

Endocrine Disruptor Information
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Synthetic Amorphous, Pyrogenic Silica 112945-52-5	> 99.9	01-2119379499-16	231-545-4	-	-	-	-

Additional information
Regulatory information is found under the general silica: CAS RN 7631-86-9 , EINECS RN 231-545-4.
The hyphen (-) means "not applicable".

Particle characteristics *

Name of (set of) nanoform(s):	Synthetic amorphous silicon dioxide, nanostructured material
Number based particle size distribution (internal structure/primary particles)	
D10:	7-15 nm
D50:	2-30 nm
D90:	10-35 nm
Shape:	spheroidal / spherical; Synthetic amorphous silica exists as a nanostructured material consisting of aggregates and agglomerates which are composed of fused primary particles
Crystallinity:	amorphous
Surface Treatment:	None
Specific Surface Area:	50-450 m^2/g

*Please refer to nano factsheet

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.
Eye contact	In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Skin contact	Wash skin with soap and water. Get medical attention if symptoms occur.
Ingestion	Do NOT induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	See Section 11 for additional Toxicological Information.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Silica is non-combustible, therefore no extinguishing media needs to be identified.
Unsuitable extinguishing media	None.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	None.
Hazardous combustion products	None

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	In case of fire: Wear self-contained breathing apparatus. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid generation of dust. Ensure adequate ventilation. Use personal protective equipment as required. See section 8.

6.2. Environmental precautions

Environmental precautions	Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment	Contain spilled product on land, if possible. Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Clean up promptly by vacuum. Use of a vacuum with high efficiency particulate air (HEPA) filtration is recommended. Do not create a dust cloud by using a brush or compressed air. Pick up and transfer to properly labeled containers. See section 13.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid generation of dust. Do not breathe dust. Provide appropriate local exhaust ventilation at machinery and at places where dust can be generated. Do not create a dust cloud by using a brush or compressed air.

Take precautionary measures against static discharges. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations. Fine dust is capable of penetrating electrical equipment and may cause electrical shorts.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Do not store together with volatile chemicals as they may be adsorbed onto product. Store at ambient conditions. Keep in properly labeled containers.

7.3. Specific end use(s)

Risk Management Methods (RMM)

Per Article 14.4 of the REACH Regulation no exposure scenario has been developed as the substance is not hazardous.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

The table below is a summary. Please see the specific legislation for complete information.

Chemical name	Amorphous Silica 7631-86-9
Austria	TWA: 4 mg/m³
Czech Republic	TWA: 0.1 mg/m³ respirable fraction; 4.0 mg/m³ (as amorphous SiO2)
Finland	TWA: 5 mg/m³
Germany MAK	TWA: 4 mg/m³ inhalable fraction
Ireland	TWA: 6 mg/m³ total inhalable dust; 2.4 mg/m³ respirable dust STEL: 18 mg/m³ respirable dust, calculated; 7.2 mg/m³ respirable dust, calculated
Norway	TWA: 1.5 mg/m³ respirable dust STEL: 3 mg/m³ respirable dust, calculated
Slovenia	TWA: 4 mg/m³
Switzerland	TWA: 4 mg/m³
United Kingdom	TWA: 6 mg/m³ inhalable dust; 2.4 mg/m³ respirable dust STEL: 18 mg/m³ inhalable dust, calculated; 7.2 mg/m³ respirable dust, calculated
Chemical name	**Dust, or particulates not otherwise specified RR-00072-6**
Belgium	TWA: 3 mg/m³ alveolar fraction; 10 mg/m³ inhalable fraction
France	TWA: 10 mg/m³ inhalable; 5 mg/m³ alveolar fraction
Ireland	TWA: 10 mg/m³ total inhalable; 4 mg/m³ respirable STEL: 30 mg/m³ total inhalable, calculated; 12 mg/m³ respirable, calculated
Italy REL	TWA: 10 mg/m³ inhalable particles, calculated; 3 mg/m³ respirable particles, calculated
Norway	TWA: 10 mg/m³ total dust; 5 mg/m³ respirable dust STEL: 20 mg/m³ total dust, calculated; 10 mg/m³ respirable dust, calculated
Portugal	TWA: 10 mg/m³ inhalable fraction; 3 mg/m³ respirable fraction
Slovakia	TWA: 10 mg/m³
Spain	TWA: 10 mg/m³ inhalable fraction; 3 mg/m³ respirable fraction

ACGIH TLV	TWA: 10 mg/m³ inhalable particles, recommended TWA: 3 mg/m³ respirable particles, recommended

Derived No Effect Level (DNEL) As required under the EU Registration, Evaluation and Authorization of Chemicals (REACH) Regulation, the Synthetic Amorphous Silica REACH Consortium a Derived No Effect Level (DNEL) for Synthetic Amorphous Silica of 4 mg/m³ inhalable (Germany TRGS 900 occupational exposure limit).

Predicted No Effect Concentration (PNEC) Not applicable.

8.2. Exposure controls

Engineering controls Ensure adequate ventilation to maintain exposures below occupational limits. Provide appropriate local exhaust ventilation at machinery and at places where dust can be generated. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear protective gloves to prevent soiling of hands. Use protective barrier cream before handling the product.

Skin and body protection Wear suitable protective clothing. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

Respiratory protection Approved respirator may be necessary if local exhaust ventilation is not adequate.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls In accordance with all local legislation and permit requirements as applicable for dusts.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Color	white
Odor	None
Odor threshold	Not applicable

Property	Values	**Remarks • Method**
Melting point / freezing point	1700 °C	NIOSH Pocket Guide to Chemical Hazards
Boiling point / boiling range	2230 °C	NIOSH Pocket Guide to Chemical Hazards
Flammability (solid, gas)		Not flammable. Product resists ignition and does not promote flame spread
Flammability Limit in Air		Not applicable
Flash point		Not combustible
Autoignition temperature		Not applicable
Decomposition temperature		Not applicable
pH	3.6 - 4.5	In-house testing
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	Soluble	According to OECD 105, enhanced
Solubility(ies)		No data available
Partition coefficient		Not applicable

Vapor pressure		Not applicable
Relative density	2.2	@ 20 °C
Bulk density	30-150 kg/m³	DIN/ISO 787:11
Relative vapor density		Not applicable

Particle characteristics: *

Particle Size Distribution Number based particle size distribution (internal structure/primary particles)

D10:	7-15 nm
D50:	2-30 nm
D90:	10-35 nm
Shape:	spheroidal / spherical; Synthetic amorphous silica exists as a nanostructured material consisting of aggregates and agglomerates which are composed of fused primary particles
Dissolution rate:	Soluble (155-230 mg/L; OECD 105 enhanced)
Agglomeration state:	Micron-sized agglomerates
Specific Surface Area:	50-450 m^2/g

*Please refer to nano factsheet

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

Explosive properties	Non-explosible
Oxidizing properties	No Oxidizing properties

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity: Not reactive. Substance is an inert inorganic solid.

10.2. Chemical stability

Stability: Stable under normal conditions. Stable under recommended storage conditions.

Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	This material is an inorganic dust and will not create nor support conditions that would result in a dust explosion or fire. Take precautionary measures against static discharges. Avoid generation of dust. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions: None under normal processing.

Hazardous polymerization: Hazardous polymerization does not occur.

10.4. Conditions to avoid

Conditions to avoid: None known.

10.5. Incompatible materials

Incompatible materials: None known.

10.6. Hazardous decomposition products

Hazardous decomposition products: None known

SECTION 11: Toxicological information

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

Acute toxicity

Oral LD50	> 5000 mg/kg (rat). No deaths occurred and no signs of toxicity were seen during the observation periods after single oral administration of silica(OECD 401).
Dermal LD50	> 2000 mg/kg (rabbit). Very slight transient erythema in one animal. No signs of systemic or organ toxicity (OECD 402).
Inhalation LC50	Due to the product's physical characteristics, no suitable testing procedure is available.
Skin corrosion/irritation	Primary irritation index = 0/8 @ 24 hr. Not classified as an irritant (OECD 404).
Serious eye damage/eye irritation	Draize score 1.0/110 @ 24 hr. Not classified as an irritant in rabbit studies (OECD 405). High dust concentrations may cause mechanical irritation.
Respiratory or skin sensitization	No experimental animal data are available. No cases of sensitization in humans have been reported.
Germ cell mutagenicity	Not mutagenic in AMES Test. Negative in the unscheduled DNA synthesis assay. Negative in the chromosome aberration test in Chinese hamster ovary (CHO) cells.
Carcinogenicity	No evidence of carcinogenicity was observed in multiple animal species following repeated oral or inhalation exposure to amorphous silica. Similarly, epidemiology studies show no evidence of carcinogenicity in workers who manufacture amorphous silica.
Reproductive toxicity	No effects on reproductive organs or fetal development have been reported in animal toxicity studies.
STOT - single exposure	Based on available data, specific target organ toxicity is not expected after single oral, single inhalation, or single dermal exposure.
STOT - repeated exposure	Repeated dose toxicity: oral (rat), 2 weeks to 6 months, no significant treatment-related adverse effects at doses of up to 8% silica in the diet. Repeated dose toxicity: inhalation (rat), 13 weeks, Lowest Observed Effect Level (LOEL) = 1.3 mg/m^3 based on mild reversible effects in the lungs. Repeated dose toxicity: inhalation (rat), 90 days, LOEL = 1 mg/m^3 based on reversible effects in the lungs and effects in the nasal cavity. Repeated dose toxicity using SAS 400 m2/g: inhalation (rat), 90 days, fully reversible inflammation related to clearance processes following recovery period. NOAEC (lung) based on histopathology and inflammatory marker is 5 mg/m^3 Based on available data, a STOT-RE classification is not warranted.
Aspiration hazard	Based on industrial experience and available data, no aspiration hazard is expected.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

11.2.2. Other information

Other adverse effects: No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity: Fish (Brachydanio rerio) LC50 (96 h): > 10,000 mg/l; (Method: OECD 203).
No acute toxicity to Daphnia with EL and EL_{50} ranging from >1000 to 10,000 mg/L (OECD 202).

12.2. Persistence and degradability

Persistence and degradability: The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation: Not expected due to physicochemical properties of the substance.

12.4. Mobility in soil

Mobility: Not expected to migrate.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Endocrine disrupting properties

Endocrine disrupting properties: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products: Dispose of in accordance with federal, state and local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging: Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

Waste codes / waste designations according to EWC / AVV: Not applicable.

SECTION 14: Transport information

IATA

14.1 UN number or ID number: Not regulated
14.2 UN proper shipping name: Not regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

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

National regulations

Germany

Water hazard class (WGK)	non-hazardous to water (nwg)

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
TCSI	Complies
NZIoC	Complies

Note:
Regulatory information is found under the general silica: CAS RN 7631-86-9 , EINECS RN 231-545-4.

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
TCSI - Taiwan Chemical Substance Inventory
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS
NIOSH Pocket Guide to Chemical Hazards, September 2005. "Silica, amorphous". DHHS (NIOSH) Publication No. 2005-149. National Technical Information Service, Springfield, VA. p. 277

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End of Safety Data Sheet