Prepared in accordance with Commission Regulation (EU) 2020/878



Item Code: SILICA REFRACTORIES

Revision Date: 14-01-2025

Revision Number:

This document replaces SDS dated: 26-05-2023

SILICA REFRACTORIES

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

1.1 Product identifier: **SILICA REFRACTORIES**

Other means of identification:

Synonyms: This is a general SDS used to convey hazard information regarding Silica

containing refractory products.

UFI Number:

REACH Registration No.: Mixture

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

Relevant identified uses: Refractory insulation

Uses advised against: Uses other than those described above.

1.3 Details of the Supplier of the Safety Data Sheet:

Allied Mineral Products, LLC Allied Mineral Products (Tianjin) Co., Ltd.

2700 Scioto Parkway Address: No.2 Yanshan Road, TMHT Development Area,

Columbus, OH 43221 Tianjin, 300459, China Telephone: (614)-876-0244 Cell: +(86)22 2521 0378 E-Mail of person responsible for SDS: Fax: +(86)22 2521 0375

sdsinfo@alliedmin.com:

Allied Mineral Products Europe B.V. Allied Mineral Products South Africa (Pty) Ltd.

Energieweg 5 4691 SE Crocker Road Wadeville Ext. 4

Tholen, Netherlands Wadeville Ext. 4 Telephone: +31-166 601200 Germinston, 1407 E-mail van de verantwoordelijke voor South Africa

veiligheidsbladen: sdsinfo@alliedmin.com: Telephone: +27-11-902-6930:

Allied Refractory Products India Pvt. Ltd. Fabricados no Brasil para Allied Mineral Products, Inc.

SM-5 Bol, G.I.D.C. De Togni S/A Materiais Refratarios b/h Tata Nano, Tal.: Sanand Telephone: +55-35-2101-2222:

Dist.: Ahmedabad, Gujarat 382170, India

Telephone: +91-2717-616800:

Allied Mineral Products Rus LLC Fabricado en Chile para Allied Mineral Products, Inc.

423601, Russia, Republic of Tatarstan, Por Refractarios lunge Ltda. Yelabuga Region, City of Yelabuga, Telephone: (56-2) 2745-3613:

Territory of SEZ "Alabuga",

Street Sh-2, Structure 5/12, Building 2, Facility 8

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Phone: +7(85557)5-26-07; Fax: +7(85557)5-26-06:

1.4 Emergency telephone number: CHEMTREC: (800) 424-9300

Poison Centre contact information: Nationaal Vergiftigingen Informatie Centrum (NVIC)

030-274-8888 (Alleen voor professionele hulpverleners en medisch

personeel in geval van acute of onbedoelde vergiftigingen)

Beaumont Hospital - National Poisons Information Centre

Beaumont Road, Dublin 9 Tel: +353 1 8092566

Email: npicdublin@beaumont.ie

Website: www.poisons.ie

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category

No 1272/2008 [CLP]:

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008 [CLP]:

Hazard pictograms:



Signal Word: Danger

Hazard Statements: H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P264 - Wash thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product. P314 - Get medical advice/attention if you feel unwell.

P501 - Dispose of contents/container to a suitable disposal site in

accordance with local/national/international regulations.

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Supplemental Hazard information (EU): None Known

2.3 Other hazards: This product also contains nuisance dust. Although the nuisance dust

contains no additional hazards, appropriate PPE should be used.

This substance/mixture contains no components considered to be an

endocrine-disrupting substance at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances:

Not applicable

3.2 Mixtures:

Chemical Name	%	CAS#	EC No. REACH Registration No.	Classificati on (EC) No 1272/200 8	M Factor	SCL	ATE	Nanoform material
Silica, Crystalline quartz (respirable)	5 - 10	14808-60-7	238-878-4 01- 2120770509- 45-***	STOT RE 1; H372	No data available	No data available	No data available	Not applicable
Silica, Crystalline quartz (non- respirable)	80 - 99	14808-60-7	238-878-4 01- 2120770509- 45-***	Not classified	No data available	No data available	No data available	Not applicable
Non Hazardous components *	Balance	Not applicable	Not applicable	Not classified	Not applicable	Not applicable	No data available	Not applicable

^{*} The non hazardous ingredients percentage includes the components that are hazardous but below the threshold for GHS classification. In the case where there are no hazardous components, the percentage of non hazardous ingredients will be 100%.

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For full text of H-statements see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures:

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen

by trained personnel. Seek immediate medical attention.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Seek

medical attention if irritation persists.

Skin Contact: Wash with soap and water. Seek medical attention if irritation develops or

persists.

Ingestion: No hazard expected under normal industrial use. If swallowed, seek medical

attention.

Self protection of the first aider: Practice universal precaution and use PPE as appropriate.

4.2 Most important symptoms and

effects, both acute and delayed:

Causes damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed: Get medical attention if you feel unwell.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

substance or mixture:

Suitable extinguishing media: Use methods suitable to fight surrounding fire.

Unsuitable extinguishing media: None Known

5.2 Special hazards arising from the

This product is noncombustible and will not ignite or contribute to the

intensity of a fire.

Hazardous Combustion Products: Not applicable

5.3 Advice for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand

and full protective gear.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Non-emergency personnel should be kept clear of the area Non-emergency personnel:

Emergency responders: Personal Protective Equipment should be worn as indicated in Section 8.

Prevent contamination of soil, drains and surface water. 6.2 Environmental precautions:

6.3 Methods and material for

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containment and cleaning up:

Small spills: Refer to information provided for large spills

Large spills: Vacuum or sweep up material and place in a disposal container. Avoid dust

generation. Exhaust ventilation is recommended to maintain airborne dust concentrations below regulatory exposure levels. Consult individual operating permits for allowable air emissions. Dusts of as-manufactured refractory product have a low order of aquatic toxicity, are insoluble, and are not very mobile. Based upon this information, it is not believed to be a significant threat to the environment if accidentally released into water. Dusts of as-manufactured refractory product are not believed to be a significant threat to the environment if accidentally released on land. Dust and material generated during maintenance and tear-out operations may be contaminated with other hazardous substances (e.g., metals & alkaline materials). Evaluation of dust and material from specific processes should be performed to determine if an environmental threat exists in the case of a release. Clean up using methods which avoid dust generation. Compressed air should not be used to clean up spills. Wear appropriate personal

protective equipment. Collect material in a compatible and appropriately labeled container. Dispose of material from processing, installation, maintenance, or tear-out operations in accordance with applicable

regulations.

6.4 Reference to other sections: Refer to section 13 for disposal information

SECTION 7: Handling and storage

7.1 Precautions for safe handling: Steam spalling, which can lead to personal injury, may result from improper

drying and firing procedures. For safest use and optimum performance,

proper practices must be followed.

7.2 Conditions for safe storage, including any incompatibilities:

Conditions for safe storage: Store in a dry area.

Materials to Avoid/Chemical

Incompatibility:

Strong acids, bases, oxidizing agents.

7.3 Specific end use(s): Refractory insulation

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

Occupational Exposure limit values:

Chemical Name	United Kingdom -	United Kingdom -	
Chemical Name	Workplace Exposure	Workplace Exposure	

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	Limits (WELs) - TWAs	Limits (WELs) - STELs	
Silica, Crystalline quartz (non- respirable)	0.1 MG/M3 TWA	0.3 mg/m3 STEL (calculated, respirable)	No data available
Silica, Crystalline quartz (respirable)	0.1 MG/M3 TWA	0.3 mg/m3 STEL (calculated, respirable)	No data available

DNEL: None Known **PNEC:** None Known

8.2 Exposure controls:

Appropriate engineering controls: Local exhaust ventilation may be necessary to control any air contaminants

to within their exposure limits during the use of this product.

Individual protection measures, such as personal protective equipment:

Eye and face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection:

Hand protection: The correct choice of protective gloves depends upon the chemicals being

handled, the conditions of work and type of use. Gloves should be chosen in consultation with the supplier/manufacturer and with a full assessment of

the working conditions.

Other skin protection: Do not eat, drink or smoke when using this product.

Respiratory Protection: Recommend chest X-rays and yearly vital capacity tests for employees

regularly exposed to silica for early detection of silicosis. Comply with all

guidelines for crystalline silica exposure.

Thermal Hazards: Not applicable

Environmental exposure controls: Avoid runoff into storm sewers and ditches that lead to waterways.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:

Physical state: Granular solid

Colour: Off-white to dark gray

Odour: No Odor

pH: Not applicable

Melting Point/Freezing Point (°F):

Melting point (°F): > 2000 °F (> 1100 °C)
Freezing point (°F): Not applicable

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Initial boiling point and boiling range (°C): Not applicable

Flash point (°F):

Evaporation Rate (water = 1):

Flammability (solid, gas):

Not applicable

No data available

Non-flammable

Upper/lower flammability or explosive

limits:

Upper flammable or explosive limit, %

6 Not applicable

in air:

Lower flammable or explosive limit, %

in air:

Not applicable

Vapour pressure:Not applicableVapor Density (Air=1):Not applicableRelative density (water = 1):2 to 3.5 g/cc

Solubility(ies): < 3%

Partition coefficient: n-octanol/water:

Auto-ignition temperature (°C):

Not applicable

Not applicable

Not applicable

Not applicable

Not applicable

No data available

Particle characteristics:

Not applicable

Not applicable

Not applicable

Not applicable

Not applicable

9.2 Other information:

Information with regard to physical hazard classes:

Particle characteristics:

Other safety characteristics:

No data available

Not applicable

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity: Not expected to be reactive10.2 Chemical stability: Stable under normal conditions.

10.3 Possibility of hazardous reactions: None expected under standard conditions of storage

10.4 Conditions to avoid: Not applicable

10.5 Incompatible materials: Strong acids, bases, oxidizing agents.

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10.6 Hazardous decomposition products: Not applicable

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:

Chemical Name	ORAL LD50 (rat)	DERMAL LD50 (rabbit)	INHALATION LC50 (rat)
No data available			

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

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:

SILICOSIS- The major concern is silicosis, caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), and accelerated (or acute). Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple Silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function, or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated Silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough, and sputum production. Complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (corpulmonale). Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of the initial exposure. The progression can be rapid. Accelerated Silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and the progression is more rapid. Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, and weight loss. Acute silicosis is fatal.

SCLERODERMA- There is evidence that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of scleroderma, an immune system disorder manifested by a fibrosis (scarring) of the lungs, skin, and other internal organs. Recently, the American Thoracic Society noted that "there is persuasive evidence relating scleroderma to occupational silica exposures in settings where there is appreciable silicosis risk". The following may be consulted for additional information on silica, silicosis, and scleroderma (also known as progressive systemic sclerosis):

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Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Raymond (1994). "Adverse Effects of Crystalline Silica Exposure", American Journal of Respiratory and Critical Care Medicine, Volume 155, pp. 761-765 (1997).

TUBERCULOSIS- Individuals with silicosis are at increased risk to develop tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information: Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Raymond (1994). "Adverse Effects of Crystalline Silica Exposure", American Journal of Respiratory and Critical Care Medicine, Volume 155, pp. 761-765 (1997).

NEPHROTOXICITY- There are several recent studies suggesting that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of kidney disorders. The following may be consulted for additional information on silica, silicosis, and nephrotoxicity: Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Ramond (1994). "Further evidence of human silica nephrotoxicity in occupationally exposed workers", British Journal of Industrial Medicine, Vol 50, No. 10, pp. 907-912 (1993). "Adverse Effects of Crystalline Silica Exposure", American Journal of Respiratory and Critical Care Medicine, Volume 155, pp. 761-765 (1997).

ARTHRITIS- There are recent studies suggesting that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of arthritis. The following may be consulted for additional information on silica exposure and arthritis: American Journal of Industrial Medicine, Volume 35, pp. 375-381 "Connective Tissue Disease and Silicosis", Rosenman KD; Moore-Fuller M.; Reilly MJ. (1999). Environmental Health Perspective, Volume 107, pp. 793802 "Occupational Exposure to Crystalline Silica and Autoimmune Disease", Parks CG, Conrad K, Cooper GS. (1999).

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:

Classification has been based on toxicological information of the components in Section 3.

Aspiration hazard:

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

Endocrine disrupting properties:

None of the components is known to cause Endocrine disrupting properties.

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Routes of entry: Inhalation, skin contact.

Symptoms related to the physical, chemical and toxicological characteristics:

Causes damage to organs. Causes damage to organs through prolonged

or repeated exposure.

SECTION 12: Ecological information

12.1 Toxicity: Dusts of as-manufactured refractory product have a low order of aquatic

toxicity, are insoluble, and are not very mobile. Based upon this information, it is not believed to be a significant threat to the environment if accidentally released on land or into water. However, dust and material generated during maintenance and tear-out operations may be contaminated with other hazardous substances (e.g., metals, respirable crystalline silica, alkaline materials). Evaluation of dust and material from specific processes should be performed to determine if an

environmental threat exists in the case of release.

Ecological Toxicity Data:

Chemical Name	CAS#	Aquatic EC50 Crustacea	Aquatic ERC50 Algae	Aquatic LC50 Fish
No data available				

12.2 Persistence and degradability:Not applicable12.3 Bioaccumulative potential:Not applicable12.4 Mobility in soil:Not applicable12.5 Results of PBT and vPvB assessment:Not applicable12.6 Endocrine disrupting properties:None Known12.7 Other adverse effects:None Known

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Disposal methods: The as-manufactured refractory product or refractory dust is not

considered a hazardous waste. Dust and material generated during use, maintenance and tear-out operations may be contaminated with other hazardous substances (e.g., metals, alkaline materials) from a particular

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application. Additionally, the spent refractory could contain reaction products not originally present in the supplied refractory material. Contaminants or reaction products have the potential to cause the refractory waste to exhibit hazardous waste characteristics. It is the responsibility of the user to consult applicable regulations prior to disposal of any industrial product to ensure waste disposal compliance. Waste analysis and characterization may be necessary to determine proper waste disposal. Waste Management: Dusts could contain respiratory hazards. To prevent waste materials becoming airborne during waste generation, storage, transportation, and disposal, proper dust control measures are recommended.

SECTION 14: Transport information

International carriage of dangerous goods by road (ADR), rail or inland waterways:

14.1. UN number:Not Regulated for Transport

14.2. UN proper shipping name: Not applicable14.3. Transport hazard class(es): Not applicable14.4. Packing group: Not applicable

International carriage of dangerous goods by sea (IMDG/IMO):

14.1. UN number:Not Regulated for Transport

14.2. UN proper shipping name:Not applicable14.3. Transport hazard class(es):Not applicable14.4. Packing group:Not applicable

International carriage of dangerous goods by air (IATA):

14.1. UN number: Not Regulated for Transport

14.2. UN proper shipping name: Not applicable14.3. Transport hazard class(es): Not applicable14.4. Packing group: Not applicable

14.5. Environmental hazards: No

14.6. Special precautions for user: No data available14.7 Transport in bulk according to Annex No data available

II of MARPOL and the IBC Code:

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SECTION 15: Regulatory information

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

Chemical Name	EINECS	SVHC
Silica, Crystalline quartz (respirable)	Yes	No

15.2 Chemical Safety AssessmentNo Chemical Safety Assessment has been carried out for this

substance/mixture by the supplier.

SECTION 16: Other information

SDS Prepared by: Environmental, Health & Safety Compliance

Revision Date: 14 January 2025

Revision Number: 6

Abbreviations and acronyms: CAS = Chemical Abstract Service

DNEL= Derivative No Effect Level

EC= European Community

EINECS = European Inventory of Existing Chemical Substances

MSHA = Mine Safety Health Administration

NIOSH = National Institute of Occupational Safety & Health

OEL = Occupational Exposure Limit
PBT= Persistent, Bioaccumulative, Toxic
PNEC= Predicted No Effect Concentration

SCOEL= Scientific Committee on Occupational Exposure Limits

TLV = Threshold Limit Value TWA= Time Weighted Average

vPvB= Very Persistent, Very Bioaccumulative

Wt.% = Weight Percent

Hazard phrase(s) referenced in section 3

H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements:

Response:

Prevention: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P264 - Wash thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product. P314 - Get medical advice/attention if you feel unwell.

Disposal: P501 - Dispose of contents/container to a suitable disposal site in

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accordance with local/national/international regulations.

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