

SAFETY DATA SHEET

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

Product Identifier

Trade name or designation of the mixture: **CARBOLITE[®] (All Mesh Sizes)**
Registration number: 2254101 (Denmark)
Synonym(s): Ceramic Proppant; Semi-Crystalline Alumina Silicate; Sintered Kaolinite
SDS Number: 02
Date of first issue: 26 February 2007
Version Number: 03
Supersedes Date: 03 June 2011

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

Identified Uses: Proppant for oil and natural gas well hydraulic fracturing
Uses advised against: None known

Details of the supplier of the safety data sheet

Company name: CARBO Ceramics Inc.
Address: 575 N. Dairy Ashford Road, Suite 300
Houston Texas,
77079, USA
Customer service: + 1-337-367-6151
Contact person: Not available
Emergency number: + 1-800-551-3247
Company name: CARBO Ceramics (UK) Ltd.
Address: 35 Albert Street
Aberdeen
AB25 1XU
Scotland
United Kingdom
Telephone: +44-(0)1224-632324

Section 2: Hazards Identification

Classification of the substance or mixture

The article has been assessed and/or tested for its physical, health and environmental hazards and the following classifications apply.

Classification according to Directive 67/548/EEC or 1999/45/ED as amended

Classification: Not Classified

Classification according to Regulation (EC) No. 1272/2008 as amended

Classification: Not Classified

Hazard Summary

Physical hazards: Not classified for physical hazards
Health hazards: Prolonged inhalation of excess may dust cause lung and respiratory system damage. Use of this product as intended does not results in exposure to dust.
Environmental hazards: Not classified for hazards to the environment.
Specific hazards: Exposure to dust may cause irritation of the lungs, eyes and mucous membranes. Use of this product as intended does not result in exposure to dust.
Main symptoms: None known

Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Silica Crystalline-Cristobalite bound within the matrix of the article
Signal word: None
Hazard statement: None

Precautionary Statements

Prevention: None
Response: None
Storage: None
Disposal: None

Supplemental Label Information: None

Other Hazards: None

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Section 3: Composition/information on ingredients

ARTICLE General Information

Chemical Name	Percent	CAS-No. /EC-No.	REACH Registration No.	INDEX No.	Notes
Ceramic materials and wares, chemicals	100	66402-68-4 266-340-9	-	-	N/A

Composition comments: The full text for all R- and H- phrases is displayed in section 16. All concentrations are in percent by weight unless ingredients are a gas. Gas concentrations are in percent by volume.

CLP: Regulation No. 1272/2008, DSD: Directive 67/548/EEC, #: This substance has workplace exposure limit(s), N/A: Not applicable

Section 4: First aid measures

General information	Show this Safety Data Sheet to the doctor in attendance. Exposure is not anticipated with use of this product as intended. If symptoms occur, follow first aid measures as appropriate.
Description of first aid measures	
Inhalation:	Remove to fresh air. Get medical attention if irritation or symptoms persist.
Skin contact:	Wash with soap and water. Get medical attention if irritation develops or persists.
Eye contact:	Rinse immediately with plenty of water, including under the eyelids, for at least 15 minutes. Get medical attention if irritation or symptoms persist.
Ingestion:	Rinse mouth. Do not induce vomiting. Get medical attention.
Most important symptoms and effects, both acute and delayed:	Contact with dust: Irritation of the nose and throat. Irritation of eyes and mucous membranes. Use of the product as intended does not result in exposure to dust.
Indication of any immediate medical attention and special treatment needed:	Provide general supportive measures and treat symptomatically.

Section 5: Fire-fighting measures

General fire hazards	This product is not flammable.
Extinguishing media	
Suitable extinguishing media:	Not Applicable
Unsuitable extinguishing media:	Not Applicable
Special hazards arising from the substance or mixture:	Not Applicable
Advice for firefighters:	
Special protective equipment for firefighters:	In the event of fire, wear self-contained breathing apparatus.
Special firefighting procedures:	Not Applicable

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel:	Avoid dust formation. Wear suitable protective clothing. Avoid contact with skin and eyes.
For emergency responders:	Use personal protection recommended in Section 8 of the SDS.
Environmental precautions:	None known
Methods and materials for containment and cleaning up:	Sweep up spilled substance and remove to safe place. Pick up and arrange disposal without creating dust. Collect and dispose of spillage as indicated in Section 13.

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Reference to other sections: For personal protection, see Section 8.
For waste disposal, see Section 13.

Section 7: Handling and storage

Precautions for safe handling: Avoid dust formation. Avoid breathing dust. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store in accordance with local, regional, national and international regulations.

Special end use(s): Industrial use.

Section 8: Exposure controls/personal protection

Control parameters
Occupational exposure limits

Austria, MAK List

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Belgium. Exposure Limits

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Bulgaria. OELs. Regulation No. 13 of Ministry of labor & Social Policy, with Ministry of Health on protection of workers related to exposure to chemical agents at work

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PL 311/173, as amended

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Denmark. Exposure Limit Values

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Estonia. OELs. Occupational Exposure Limit Values for Hazardous Substances (Minister of Social Affairs Regulation No. 57)

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Finland. Workplace Exposure Limits

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

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France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Italy. OELs

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Lithuania. OELs Occupational Exposure Limit Values for Hazardous Chemical Substance Concentration, General Requirement (No. 645/169)

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Netherlands. OELs (binding)

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP1796)

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

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Slovenia. OELs. Regulation concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Switzerland. SULA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Ceramic materials and wares, chemicals (CAS: 66402-68-4)	N/A	N/A	N/A

Recommended monitoring procedures

Follow standard monitoring procedures.

DNEL

Not available

PNEC

Not available

Exposure Controls

Appropriate engineering controls

Observe occupational exposure limits and prevent generation of dusts.

Individual protective measures

General information

Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Spilled material can reduce traction and may present a slip hazard.
Wear safety glasses with side shields or goggles.

Eye/face protection

Skin protection

- Hand protection

- Other

Wear protective gloves.

It is a good industrial hygiene practice to minimize skin contact.

Respiratory protection

In case of inadequate ventilation or risk of inhalation of dust, use a suitable air purifying respirator with particle filter (type P2) or dust mask.

Thermal hazards

Not applicable

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Environmental manager must be informed of all major releases.

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Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state

Form	Solid	Explosive Properties	Not applicable
Colour	Cream to light-gray spheres	Explosive limit	Not applicable
Odour	Odourless	Vapour pressure	Not applicable
Odour threshold	Not available	Vapour density	Not applicable
pH	Not applicable	Evaporation rate	Not applicable
Melting/freezing point	2204,4°C	Relative density	2,7 (water = 1)
Boiling point, initial boiling point and boiling range	(4000°F)(estimated)	Solubility (water)	Insoluble in water
Flash point	Not applicable	Partition coefficient (n-octanol/water)	No data available
Auto-ignition temperature	Not applicable	Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable	Bulk density	98 lb/ft ³
Flammability limit-lower %	Not applicable	Viscosity	Not applicable
Flammability limit-upper %	Not applicable	VOC (weight %)	0 lb/gal
Oxidising properties	Not applicable	Percent volatile	Not applicable
		Other information	No relevant additional information available

Section 10: Stability and reactivity

Reactivity:	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Not applicable
Incompatible materials:	Chlorine trifluoride
Hazardous decomposition products:	Not applicable

Section 11: Toxicological information

General information on likely routes of exposure

Ingestion:	May cause discomfort if swallowed.
Inhalation:	Inhalation of dust may cause respiratory irritation. Use of this product as intended does not result in exposure to dust.
Skin contact:	Dust may irritate skin. Use of this product as intended does not result in exposure to dust.
Eye contact:	Dust may irritate eyes. Use of this product as intended does not result in exposure to dust.

Symptoms:

Information on toxicological effects:	Dust may cause irritation to mucous membranes. Use of this product as intended does not result in exposure to dust.
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Acute toxicity:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory sensitization:	No data available
Skin sensitization:	Not a skin sensitizer
Germ cell mutagenicity:	Not expected to be mutagenic
Carcinogenicity:	Inhalation of respirable crystalline-Cristobalite in excess of established human exposure limits is known to cause cancer. Use of this product as intended does not result in exposure to dust.
Reproductive toxicity:	No data available
Specific target organ toxicity – single exposure:	No data available
Specific target organ toxicity – repeated exposure:	Respiratory system - causes damage to organs through prolonged or repeated inhalation. Use of this product as intended does not result in exposure to dust.
Aspiration hazard:	No data available
Mixture versus substance information:	No data available

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Other information: No other specific acute or chronic health impact noted.

Section 12: Ecological information

Toxicity:	No toxicity data noted for the ingredients
Persistence and degradability:	No data is available
Bioaccumulative potential:	No data available
Mobility:	No data available
Environmental fate – Partition coefficient:	No data available
Mobility in soil:	No data available
Results of PBT and vPvB assessment:	Not a PBT or vPVB substance or mixture
Other adverse effects:	The product is not classified as environmentally hazardous.

Section 13: Disposal considerations

Waste treatment methods

Residual waste:	Dispose of in accordance with all applicable regulations.
Contaminated packaging:	Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU Waste code:	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local, regional, national, international regulations.

Section 14: Transportation information

ADR	The product is not covered by international regulation on the transportation of dangerous goods
RID	The product is not covered by international regulation on the transportation of dangerous goods
AND	The product is not covered by international regulation on the transportation of dangerous goods
IATA	The product is not covered by international regulation on the transportation of dangerous goods
IMDG	The product is not covered by international regulation on the transportation of dangerous goods

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

No information available

Section 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 on substance that deplete the ozone layer, Annex I	Not listed
Regulation (EC) No. 2037/2000 on substance that deplete the ozone layer, Annex II	Not listed
Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I	Not listed
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1	Not listed
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2	Not listed
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3	Not listed
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V	Not listed
Directive 96/61/EC concerning integrated pollution prevention and control (IPPC): Article 15, European Pollution Emission Registry (EPER)	Not listed
Regulation (EC) No. 1907/2006, REACH Article 59(1). Candidate list	Not listed

Other regulations: This Safety Data Sheet complies with the requirements of the Regulation (EC) No. 1907/2006. The product is classified and labeled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended and respective national laws implementing EC directives. This product is not classified as dangerous according to Directive 67/548/EEC.

National regulations: Follow national regulation for work with chemical agents

Chemical safety assessment: No Chemical Safety Assessment has been carried out.

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Section 16: Other information

List of abbreviations

DNEL	Derived No-Effect Level
PNEC	Predicted No Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
vPvB	Very Persistent and very Bioaccumulative

References

IARC Monographs. Overall Evaluation of Carcinogenicity
EPA: AQUIRE database
HSDB[®] - Hazardous Substance Data Bank
IUCLID DATA Set

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details refer to sections 9, 11 and 12.

Full test of any statements or R-phrases and H-phrases under Section 2 to 12

None

Training information

Follow training instructions when handling this material

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

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