

Safety Data Sheet

Silicon Carbide (SiC)

according to Regulation (EC) No 1907/2006

Silicon carbide

1-Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name: Silicon Carbide
Commercial product name: Silicon Carbide
Registration number: 01-2119402892-42-0003.

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

Refractory industry: refractory bricks.
Abrasive industry: boned and coated abrasives.
Metallurgical industry: deoxidization and recarburation.

No uses of silicon carbide advised against.

1.3 Details of the supplier of the safety data sheet

Manufacturer: NAVARRO SIC S.A.
Distributor (if applicable):
Street address: Pº San Francisco de Sales, 31-1º
Country: Spain
Telephone – Telefax: 0034 91 533 48 00 Fax: 0034 91 544 70 27
Department responsible for technical information: Sales Department.
E-mail of competent person: nage@navarrosic.com

1.4 Emergency telephone number

Navarro SiC S.A.: Tel: 0034 91 533 48 00. Monday to Friday: 8:30-14:30 and 15:30-17:30h CET.

2-HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

SiC is not classified as dangerous substance or mixture according to Regulation (EC) N° 1272/2008.

2.2 Label elements

Product: Silicon Carbide

Version: 1.7
Revision: 01/03/2017
Printing date - 11/04/2017

No labelling required for SiC.

2.3 Other hazards

SiC does not fulfil the criteria for the classification as PBT or vPvB.

No specific toxicity described for SiC crude and grains.

SiC is not an officially listed hazardous substance.

According to ACGIH SiC is insoluble or made of poorly soluble particles not otherwise specified (PNOS).

3-COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Contains Silicon Carbide (EC N°: 206-991-8, CAS# 40 9-21-2) in the 85-99.0 % range (not classified according to Regulation (EC) N°127 2/2008)

Other ingredients as:

Free carbon <2%, CaO <0.15, Fe₂O₃ <0.25%, Al₂O₃ < 0.25% (all ingredients are contained as impurities of the Silicon Carbide products depending on the percentage of Silicon Carbide)".

May also contain traces of respirable crystalline silica (less than 0.01% w/w; the regulatory limit is 0.1% w/w)

4-FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Not special action required
Skin contact	No special action required Mechanical irritant, prolonged contact may cause skin abrasion Seek medical attention if needed
Eye contact	Flush with plenty of clean water Mechanical irritant, contact may cause tearing and redness Seek medical advice if irritation persists
Ingestion	No special action required.

4.2 Most important symptoms and effects, both acute and delayed

Not applicable

4.3 Indication of any immediate medical attention and special treatment needed

No specific treatment required.

5-FIREFIGHTING MEASURES

5.1 Extinguishing media

General information	Not inflammable
Suitable extinguishing media	Use extinguishing measures appropriate to the sources of the fire
Extinguishing media not to be used for safety reasons	None known

5.2 Special exposure hazards arising from the substance or mixture

No special exposure hazards known arising from the product itself, combustion products or resulting gases.

5.3 Advice for firefighters

Special protective equipment	Not applicable
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6-ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Limit dust formation, use disposable (P2 as a minimum) dust protection mask

6.2 Environmental precautions

No special measures required

6.3 Methods and material for containment and cleaning up

Pick up mechanically and dispose of in accordance to regulations

6.4 Reference to other sections

See also section 7 and 8.

7-HANDLING AND STORAGE

7.1 Precautions for safe handling

Minimize dust formation

Precautions against fire and explosion	No danger of fire and dust explosion.
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7.2 Conditions for safe storage, including any incompatibilities

Conditions of storage rooms and vessels No special precautionary measures.

Advice of storage of incompatible materials None

Further information of storage None

7.3 Specific end use(s)

Not applicable

8-EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components with specific control parameters as limit values for silicon carbide

	8 hours TWA (mg / m ³)	
	<i>Inhalable (total) dust</i>	<i>Respirable dust</i>
France	10	5
Germany	10	3
Spain*	10	3

Additional national exposure limit values have to be taken into consideration.

* According to RD 374/2001(Directive 98/24/CE).

8.2 Exposure controls

Further information for system design and engineering measures

Use engineering controls to ensure compliance (implies air monitoring strategy, proper selection of air sampling equipment and statistical analysis of dust levels) with applicable dust exposure limits.

Personal protection equipment

General hygiene

Observe standard hygiene practices (e. g. do not eat or drink at the workplace, comply with smoking rules in the company).

Respiratory protection

Avoid inhaling the dust; if in specific circumstances, compliance cannot be achieved, use a disposable (P2 as a minimum) dust protection mask.

Hand protection

Protective gloves are recommended.

Eye protection

Wear safety glasses.

Environmental exposure controls

See section 6 and 7. No further measures required.

9-PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	.....	Grains, powder
Colour	.....	Green, dark green, black
Odour	.....	Odourless
Change in physical state	.....	Not in normal condition of use
Flash point	.....	Not applicable
Flammability	.....	Not applicable
Ignition temperature	.....	Not applicable
Autoflammability	.....	Not applicable
Oxidizing properties	.....	Not applicable
Explosive limits	.....	Not applicable
Specific gravity	.....	approx. 3.2g/cm ³
Bulk density	.....	700-1700 kg/m ³
Solubility in water	.....	Practically non soluble
PH value	.....	Not applicable
Partition coefficient n-octanol/water	Not applicable

9.2 Other information

Dustiness	according to EN 15051 standard
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10-STABILITY AND REACTIVITY

10.1 Reactivity	No reactivity hazards
10.2 Chemical stability	The material is stable
10.3 Possibility of hazardous reactions	.....	No hazardous reactions known
10.4 Conditions to avoid	.....	Not applicable
10.5 Incompatible materials	.....	Not applicable
10.6 Hazardous decomposition products	.....	Not applicable

11-TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

General information		No hazardous effects known, if used under normal conditions.
(a) acute toxicity	...	no harmful effects identified, based on available data
(b) irritation	.....	no harmful effects identified, based on available data
(c) corrosivity	.....	no harmful effects identified, based on available data
(d) sensitisation	.....	no harmful effects identified, based on available data
(e) repeated dose toxicity	.....	no harmful effects identified, based on available data
(f) carcinogenicity	no harmful effects identified, based on available data
(g) mutagenicity	no harmful effects identified, based on available data

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Version: 1.7
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(h) toxicity for reproduction no harmful effects identified, based on available data

12-ECOLOGICAL INFORMATION

12.1 **Toxicity** no harmful effects identified, based on available data
12.2 **Persistence and degradability**..... chemically inert and insoluble in water;
separation by mechanical processes
(sedimentation, filtration, etc...)
12.3 **Bioaccumulative potential** no potentials known
12.4 **Mobility in soil** no environmental problems known
12.5 **Results of PBT and vPvB assessment** no PBT or vPvB substance
12.6 **Other adverse effects** no environmental problems expected, if handled and treated in accordance with standard industrial practice

13-DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Material Not classified as hazardous waste; observe requirements by-laws.

Packaging Packaging has to be emptied entirely; recycling of used packaging is recommended; requirements by-laws must be considered.

14-TRANSPORT INFORMATION

14.1 **UN number**
Not applicable, non hazardous material

14.2 **UN proper shipping name**
Not applicable, non hazardous material

14.3 **Transport hazard class(es)**
Not applicable, non hazardous material

14.4 **Packing group**
Not applicable, non hazardous material

14.5 **Environmental hazards**
Not applicable, non hazardous material

14.6 **Special precautions for user**
Not applicable, non hazardous material

14.7 **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
Not applicable, non hazardous material

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15-REGULATORY INFORMATION

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

SiC is not classified as a hazardous substance.

Labelling according to Regulation (EC) N°1272/2008 is not required.

15.2 Chemical Safety Assessment

Not relevant

16-OTHER INFORMATION

Labelling of SiC Products

Members of SiC_{Ma} have established on a voluntary basis a label which summarizes the main safety and health aspects related to the handling of SiC products. The label is attached as Annex 1 to this SDS.

Further Information sources

ACGIH review

British Journal of Industrial Medicine:

1993, vol. 50, issue 9, part 1, pages 797-806

1993, vol. 50, issue 9, part 2, pages 807-813

Abbreviations :

TLV-TWA: Threshold Limit Value-Time Weighted Average (8 hours)

ACGIH : American Conference of Governmental Industrial Hygienists

PNOS : Particles Not Otherwise Specified.

Disclaimer:

To the best of our knowledge, the information contained in this SDS is accurate or is obtained from sources believed to be accurate. However, no liability, expressed or implied, is assumed for the accuracy or completeness of the information contained herein. Buyer assumes liability in its use of the material.

The product specification is contained in a separate product technical data sheet.

Annex 1 – Voluntary SiC_{Ma} label

<i>English</i>	<i>Français</i>	<i>Deutsch</i>	<i>Español</i>	<i>中文</i>
Wear safety glasses; wash with large amount of water in case of eyes contact.	Utiliser des lunettes de sécurité; laver à grande eau en cas de contact oculaire.	Sicherheitsbrille tragen; Nach Augenkontakt mit viel Wasser auswaschen.	Utilizar gafas de seguridad. Lavar los ojos con abundante agua en caso de contacto ocular.	请佩戴防护眼镜；万一眼中浸入了碳化硅请用大量清水进行冲洗。
Protective gloves are recommended.	Les gants de protection sont recommandés.	Schutzhandschuhe werden empfohlen.	Se recomienda el uso de guantes.	请佩戴防护手套。
Minimize dust generation when handling & processing; comply with applicable dust exposure limits; if necessary use local exhaust ventilation and respiratory protection.	Éviter la production de poussières; se conformer aux valeurs limites d'exposition; si nécessaire utiliser la ventilation locale et la protection respiratoire.	Staubzeugung während der Handhabung u. Verarbeitung vermeiden; die gültigen Staubbelastungsgrenzen einhalten; wenn nötig lokale Absaugventilatoren und Atemschutz verwenden.	Evitar la generación de polvos; cumplir con los límites de exposición para polvos. Si fuese necesario, utilizar ventilación y protección respiratoria adecuada.	在搬运和加工过程中请尽可能减少灰尘产生；不同工作现场应遵循与工作现场相适应的有关粉尘暴露限制规定；如果必要，请尽量使用移动通风排气装置，佩戴防护口罩。
Products may contain traces of respirable crystalline silica far below the 0.1% regulatory limit.	Ce produit peut contenir des traces de silice cristalline alvéolaire, bien en dessous du seuil réglementaire de 0.1%.	Produkte können Spuren weit unterhalb des vorgeschriebenen Grenzwertes von 0.1% der erlaubten Kristallinengehalt enthalten.	Los productos pueden contener trazas de sílice cristalina respirable por debajo del límite admisible del 0,1%.	产品可能含有微量可吸入的低于正常规定0.1%的硅粉。
Refer to Material Safety Data Sheet (MSDS).	Consulter la Fiche de Données de Sécurité.	Siehe Sicherheitsdatenblatt.	Consultar las hojas de seguridad del material.	参见产品的相关化学品安全技术说明书。