

MATERIAL SAFETY DATA SHEET

(Following Regulations (EC) No 1907/2006 & (EC) No 1272/2008)

MSDS Number: G201607005 Date of first issue: 14TH, JULY, 2023

1 - Identification of product

Darco Code	CSOL25128G/STD, CSOL50128G/STD, CSOL50128U/STD
Tradenames	Bio Soluble Fibre Blanket
Chemical Name	Alkaline-earth Silicate Fiber (AES Fiber)

1.1 - information of products

Components	Index Number	CAS Number	% by Weight
Alkaline-earth Silicate Wools (AES wools)	650-016-00-2 of Annex VI	436083-99-7	100

1.2-Use of Product

Use of the products is restricted to professional users for application as thermal insulation, heat shields, heat containment, gaskets and expansion joints at temperatures up to 1260°C in industrial furnaces, ovens, kilns, boilers and other process equipment and in the aerospace and automotive industries. Products are not intended for direct sale to the general public

- Primary Use: Manufacture of fibre (this use refers to the initial production of the fibre and is therefore not relevant to the downstream user)
- Secondary Use: Conversion into wet and dry mixtures and articles (refer to section 8)
- Tertiary Use: Installation, removal (industrial and professional) / Maintenance and service life (industrial and professional) (refer to section 8)

Uses Advised against Spraying of the product

1.2 - Identification of Company**1.3 Manufacturer/Supplier:**

Darco Industries, 20 Dobra Road, Yangebup 6164
(08) 9418 8826

EMERGENCY INFORMATION

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LANGUAGE: ENGLISH

OPENING HOURS:

WEEKDAY: 7:00-18:00

WEEKEND: Not Open

2 - Hazard Identification**2.1 - Classification of the substance/ mixture**

2.1.1 CLASSIFICATION ACCORDING TO REGULATION (EC) NO1272/2008 Not classified

2.1.2 CLASSIFICATION ACCORDING TO DIRECTIVE 1999/45/EC Not classified

2.2 - Labelling Elements

Not applicable

2.3 - OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION

Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure. These effects are usually temporary

3 - Composition / Information On IngredientsDESCRIPTION

These products in the form of bulk, blanket (pre-sized or not), module, bloc, vacuum-formed shapes and boards are made of AES wool (synthetic fibres, alk. earth silicate).

Composition

COMPONENT	%	CAS Number	Index number
Alkaline-earth silicate wools	100	436083-99-7	650-016-00-2

Composition:

* CAS definition: Alkaline earth silicate (AES) consisting of silica (50-82 wt%), calcia and magnesia (18-43 wt%), alumina and titania (less than 6 wt%), and trace oxides.

None of the components are radioactive under the terms of European Directive Euratom 96/29.

4 - First-Aid measures**4.1 - Skin**

Handling of this material may generate mild mechanical temporary skin irritation. If this occurs, rinse affected areas with water and wash gently. Do not rub or scratch exposed skin.

4.2 - Eyes

In case of eye contact flush abundantly with water; have eye bath available. Do not rub eyes. Seek medical attention if irritation persists.

4.3 - Nose and Throat

If these become irritated move to a dust free area, drink water and blow nose. Seek medical attention if irritation persists. If symptoms persist, seek medical advice.

5 - Fire-fighting measures

Non-combustible products,
Packaging and surrounding materials maybe combustible
Use extinguishing agent suitable for surrounding combustible materials.

6 - Accidental Release Measures

6.1 - PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Where abnormally high dust concentrations occur, provide workers with appropriate protective equipment as detailed in section 8. Restrict access to the area to a minimum number of workers required. Restore the situation to normal as quickly as possible.

6.2 - ENVIRONMENTAL PRECAUTIONS

Prevent further dust dispersion for example by damping the materials.
Do not flush spillage to drain and prevent from entering natural watercourses.
Check for local regulations, which may apply

6.3 - METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

Pickup large pieces and use a vacuum cleaner fitted with a high efficiency filter (HEPA) if brushes are used, ensure that the area is wetted down first. Do not use compressed air for cleanup. Do not allow to become windblown.

7 - Handling and storage

7.1 - PRECAUTIONS FOR SAFE HANDLING

Handling can be a source of dust emission and therefore the processes should be designed to limit the amount of handling. Whenever possible, handling should be carried out under controlled conditions (i.e., using dust exhaust system). Regular goodhousekeeping will minimise secondary dust dispersal.

7.2 - CONDITIONS FOR SAFE STORAGE

Store in original packaging in a dry area.
Always use sealed and clearly labelled containers.
Avoid damaging containers.
Reduce dust emission during unpacking.
Emptied containers, which may contain debris, should be cleaned before disposal or recycling.
Recyclable cardboard and/or plastic films are recommended for packaging.

7.3-SPECIFIC END USE

The main application of these products is as thermal insulation. Use of the products is restricted to professional users. Please refer to section 8 and the relevant exposure scenario

8 - Risk Management Measures / Exposures Controls / Personal Protection

Industrial hygiene standards and occupational exposure limits vary between countries and local jurisdictions. Check which exposure levels apply to your facility, and comply with local regulations. If no regulatory dust or other standards apply, a qualified industrial hygienist can assist with a specific workplace evaluation including recommendations for respiratory protection. Examples of exposure limits applying (in January 2010) in different countries are given below:

COUNTRY	EXPOSURE LIMIT*	SOURCE
Germany	3 mg/m ³	TRGS 900
France	1.0 f/ml	Circulaire DRT No 95-4 du 12.01.95
Spain	1.0 f/ml	Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT).
U.K.	2.0 f/ml and 5 mg/m ³	HSE - EH40 - Workplace Exposure Limit

* Time weighted average concentrations of airborne respirable fibres measured over 8 hours by the conventional membranefilter method or the total inhalable dust using standard gravimetric techniques.

8.2 - EXPOSURE CONTROLS

8.2.1 APPROPRIATE ENGINEERING CONTROLS

Review your applications) and assess situations with the potential for dust release. Where practical, enclose dust sources and provide dust extraction at source. Designate work areas and restrict access to informed and trained workers.

Use operating procedures that will limit dust production and exposure of workers.

Keep the workplace clean. Use a vacuum cleaner fitted with a HEPA filter; avoid using brooms and never use compressed air for cleanup.

If necessary, consult an industrial hygienist to design workplace controls and practices.

The use of products specially tailored to your application(s) will help to control dust. Some products can be delivered ready for use to avoid further cutting or machining. Some could be pre-treated or packaged to minimise or avoid dust release during handling. Consult your supplier for further details

8.2.2 - Personal Protective Equipment

Skin Protection

Wear industrial leather gloves and work clothes, which are loose fitting at the neck and wrists. Soiled clothes should be cleaned to remove excess dust before being taken off (e.g. use vacuum cleaner, not compressed air). Each worker should be provided with two lockers in an appropriate changing and washing area. It is good hygiene practice to ensure work clothes are washed separately by the employer. Work clothes should not be taken home.

Eye Protection

As necessary, wear goggles or safety glasses with side shields

Respiratory Protection

For dust concentrations below the applicable exposure limit value, RPE is not required but FFP2 respirators should be provided for use on a voluntary basis.

For short term operations where excursions are less than ten times the applicable limit value, use FFP3 respirators.

In case of higher concentrations or where the concentration is not known, please seek advice from your company and/or your supplier. You may also refer to the ECFIA code of practice available on the ECFIA's web site: www.ecfia.eu

Information and Training of workers

Workers should be trained on good working practices and informed on applicable local regulations.

8.2.3 - Environmental Exposure Controls

Refer to local, national or European applicable environmental standards for release to air water and soil.
For waste, refer to section 13

9 -Physical and chemical properties

APPEARANCE	White Fibre
BOILING POINT	Not applicable
FLASH POINT	Not applicable
AUTOFLAMMABILITY	Not applicable
OXIDISING PROPERTIES	Not applicable
RELATIVE DENSITY	64-160 kg/m ³
SOLUBILITY	Less than 1 mg/l
PARTITION COEFFICIENT	Not applicable
ODOUR	None
MELTING POINT	> 1260°C
FLAMMABILITY	Not applicable
EXPLOSIVE PROPERTIES	Not applicable
VAPOUR PRESSURE	Not applicable
pH	Not applicable
LENGTH WEIGHTED GEOMETRIC MEAN DIAMETER	1.4-3µm

OTHER SAFETY INFORMATION

These fibres are far denser than air or water and will settle rapidly under normal environmental conditions.

10 - Stability and Reactivity

10.1 -Reactivity

AES is stable and non-reactive.

10.2 - Chemical Stability

AES is inorganic, stable and inert

10.3 - Possibility of Hazardous Reactions

None

10.4 - Conditions to Avoid

Please refer to handling and storage advice in Section 7

10.5 - Incompatible Materials

None

10.6 - Hazardous decomposition products

Upon heating above 900°C for sustained periods, this amorphous material begins to transform to mixtures of crystalline phases.
For further information please refer to Section 16.

11 -Toxicological information

11.1 -TOXICOKINETICS, METABOLISM AND DISTRIBUTION

11.1.1 BASIC TOXICOKINETICS

Exposure is predominantly by inhalation or ingestion. Manmade vitreous fibres of a similar size to AES have not been shown to migrate from the lung and/or gut and do not become located in other organs of the body

Fibres contained in the products listed in the title have been designed to be rapidly cleared from lung tissue. This low bio persistence has been confirmed in many studies on AES using EU protocol ECB/TM/27(rev 7). When inhaled, even at very high doses, they do not accumulate to any level capable of producing a serious adverse biological effect.

11.2 - INFORMATION ON TOXICOLOGICAL EFFECTS

In lifetime chronic studies there was no exposure-related effect more than would be seen with any "inert" dust. Sub chronic studies at the highest doses achievable produced at worst a transient mild inflammatory response. Fibres with the same ability to persist in tissue do not produce tumours when injected into the peritoneal cavity of rats.

Fiber Blanket Bio M fibres are negative when tested using approved methods (Directive 67/548/EEC, Annex 5, Method B4). Like all man-made mineral fibres and some natural fibres, fibres contained in this product can produce a mild mechanical irritation resulting in temporary itching or rarely, in some sensitive individuals, in a slight temporary reddening. Unlike other irritant reactions this is not the result of allergy or chemical skin damage but is caused by mechanical effects.

12 - Ecological information

These products are insoluble materials that remain stable overtime and are chemically identical to inorganic compounds found in the soil and sediment; they remain inert in the natural environment.

No adverse effects of this material on the environment are anticipated.

13 - Disposal Considerations

WASTE TREATMENT

Waste containing > 0.1% RCF/ASW is categorized as a stable non-reactive hazardous waste according to Commission Decision 2000/532/EC, which can generally be disposed of at landfill sites licensed for this purpose

Unless wetted, such a waste is normally dusty and so should be properly sealed in clearly labelled containers for disposal. At some authorized disposal sites, dusty wastes may be treated differently in order to insure they are dealt with promptly to avoid them being windblown.

Please refer to the European list (Decision no 2000/532/CE as modified) to identify your appropriate European Waste Code (EWC) and ensure national and or regional regulation are complied with.

Additional information

When disposing of waste and assigning European Waste Code (EWC) any possible contamination during use will need to be considered and expert guidance sought as necessary.

14 - Transport information

Not classified as dangerous goods under relevant international transport regulations (ADR, RID, IATA, and IMDG). Ensure that dust is not windblown during transportation.

Definitions:

ADR Transport by road, council directive 94/55/EC IMDG Regulations relating to transport by sea RID Transport by rail, Council Directive 96/49/EC ICAO/IATA Regulations relating to transport by air ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

15 - Regulatory information

SAFETY HEALTH AND ENVIRONMENT REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCES OR MIXTURES

EU regulations:

- Council Directive 67/548/EEC "on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances as modified and adapted to the technical progress" (OJEC L 196 of 16 August 1967, p.1 and its modifications and adaptations to technical progress).
- Council Directive 1999/45/EC of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations (OJ L 200 of 30.7.1999)
- Regulation (EC) No 1907/2006 dated 18th December 2006 on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) - Regulation (EC) No 1272/2008 dated 20th January 2009 on classification, labelling and packaging of substances and mixtures (OJ L 353)
- Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC (OJEC of 13 December 1997, L 343).
- Commission regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
- The 1st Adaptation to Technical Progress (ATP) to Regulation (EC) No 1272/2008 enters into force on 25 September 2009. It transfers the 30th and 31st ATPs of Directive 67/548/EEC to the Regulation (EC) No 1272/2008.

PROTECTION OF WORKERS

Shall be in accordance with several European Directives as amended and their implementations by the Member States:

- a) Council Directive 89/391/EEC dated 12 June 1989 "on the introduction of measures to encourage improvements in the safety and health of workers at work" (OJEC (Official Journal of the European Community) L 183 of 29 June 1989, p.1).
- b) Council Directive 98/24/EC dated 7 April 1998 "on the protection of workers from the risks related to chemical agents at work" (OJEC L 131 of 5 May 1998, p.11).

OTHER POSSIBLE REGULATIONS

Member States are in charge of implementing European Directives into their own national regulation within a period of time normally given in the Directive. Member States may impose more stringent requirements. Please always refer to any national regulation.

16 - Other Information

useful references

(The directives which are cited must be considered in their amended version)

- Council Directive 89/391/EEC dated 12 June 1989 "on the introduction of measures to encourage improvements in the safety and health of workers at work" (OJEC L 183 of 29 June 1989, p.1).

- Regulation (EC) No 1907/2006 dated 18th December 2006 on registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) - Regulation (EC) No 1272/2008 dated 20th January 2009 on classification, labelling and packaging of substances and mixtures (OJ L 353)

- Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC (OJEC of 13 December 1997, L 343).

- Council Directive 98/24/EC of 7 April 1998 "on the protection of the health and safety of workers from the risks related to chemical agents at work" (OJEC L 131 of 5 May 1998, p11).

Precautionary measures

Information on after service heated fibres

In almost all applications high temperature insulating wools products (HTIW) are used as an insulating material helping keeping up temperature at 900°C or more in a closed space. As only a thin layer of the insulation hot face side is exposed to high temperature, respirable dust generated during removal operations does not contain detectable levels of crystalline silica.

In applications where the material is heat soaked, duration of heat exposure is normally short and a significant devitrification allowing CS to build up does not occur. This is the case for waste mould casting for instance.

Toxicological evaluation of the effect of the presence of CS in artificially heated HTIW material has not shown any increased toxicity in vitro. The results from different combinations of factors like increased brittleness of fibres, or micro crystals embedded in the glass structure of the fibre and therefore not biologically available may explain the lack of toxicological effects.

IARC evaluation as provided in Monograph 68 is not relevant as CS is not biologically available in after service HTIW and respirable dust generated during removal operations does not contain detectable levels of crystalline silica.

<http://www.iarc.fr/en/publications/pdfs-online/index.php>

High concentrations of fibres and other dusts may be generated when after-service products are mechanically disturbed during operations such as wrecking. Therefore ECFIA recommends:

a) control measures are taken to reduce dust emissions; and

b) all personnel directly involved wear an appropriate respirator to minimise exposure and comply with local regulatory limits CARE Program

The trade association representing the European high temperature insulation wool industry (ECFIA) has undertaken an extensive hygiene programme for High Temperature Insulation Wool (HTW). The objectives are twofold: (i) to monitor workplace dust concentrations at both manufacturers' and customers' premises, and (ii) to document manufacturing and use of HTW products from an industrial hygiene perspective in order to establish appropriate recommendations to reduce exposures. The initial results of the programme have been published. If you wish to participate in the CARE programme, contact ECFIA or your Thermal Ceramics' supplier.

Other Information

NOTICE:

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However safe as provided by law, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorisation given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by the vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product (however, this shall not act to restrict the vendor's potential liability for negligence or under statute).