

SDS Number: MW0004-EU

According to (EC) No 1907/2006 and (EC) No 1272/2008

Date of Issue: June 1998

Date of Last Revision: Feb 2021

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 PRODUCT IDENTIFIER: MaxCement™(1300 & 1500 °C), MaxSealCoat™, MaxModuleCoat™.
This product contains Refractory Ceramic Fibres (RCF)/Alumino-silicate wools (ASW) ((RCF/ASW)).

Index Number: 650-017-00-8 of Annex VI

CAS Number: 142844-00-6

CAS Name: Refractories, fibres, alumino-silicate.

Registration Number: 01-2119458050-50-0005

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

Restricted to “professional users”, for application as thermal insulation, Heat shields and containment, gaskets and expansion joints at temperatures up to 1400°C in industrial and domestic furnaces, kilns, boilers and other processes equipment. For application in aerospace and automotive industries. Products are not intended for direct sale to the general public.

- **Primary Use:** Manufacture of fibre (refers to the initial production of the fibre and is therefore not relevant to the downstream user).
- **Secondary Use:** Conversion in to 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.

1.3 MANUFACTURER/SUPPLIER: NUTEC EUROPE, S.A. DE C.V.
Eitua Industrialdea, 71A
48240 Berriz, Vizcaya - Spain
Phone: +34 946 203 700
Fax: +34 946 827 060
www.nutec.com

1.4 EMERGENCY TELEPHONE NUMBER:

Tel: +34 946 203 700
Language: English
Opening hours: Only available during office hours

SECTION 2. HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE/MIXTURE

2.1.1. Classification according to regulation (ec) no 1272/2008

Under the CLP-Regulation (classification, labelling and packaging of substances and mixtures) RCF/ASW has been classified as a 1B carcinogen (“presumed to have carcinogenic potential for humans, classification is largely based on animal evidence”).

2.1.2 Additional information

The International Agency for Research on Cancer (IARC) reaffirmed in 2001 that group 2B (“possibly carcinogenic to humans”) remains the appropriate classification for RCF/ASW.

In accordance with 1st adaptation to Technical Progress of Regulation (EC) No 1272/2008 as published 10th August 2009, the classification as "irritant" has been removed for all types of manmade vitreous fibres (MMVFs).

2.2 LABEL ELEMENTS

Component	Classification	Hazard pictogram & Symbol	H Statement
Refractory ceramic fibres (Alumino-silicate wools)	(EC)No. 1272/2008	GHS 08	H350i

Hazard pictogram:

GHS 08



Signal Word:

Danger

Hazard Statements:

May cause cancer by inhalation (H350i)

Precautionary statements:

Do not handle until all safety instructions have been read and understood. (P202)
Use personal protective equipment as required. (P281)

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.

Chronic effects for crystalline silica. These products may contain minimal amounts of crystalline silica. Prolonged/repeated inhalation of respirable crystalline silica dust may cause delayed lung injury (silicosis). IARC (International Agency for research on Cancer) states that there is "sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica in the form of quartz or cristobalite from occupational sources to classify crystalline silica as carcinogenic to humans (Group 1)". (Monograph V 68) In making the overall evaluation the Working Group noted however that carcinogenicity in humans was not detected in all industrial circumstances studied.

SECTION 3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 SUBSTANCES

NUTEC HT, HTZ, HP and LT fiber in the form of bulk, blanket and blanket modules are made of Refractory Ceramic Fibres (Refractories, Fibres, aluminosilicate)

COMPONENT	% by weight	CAS NUMBER	Index number in CLP Annex VI	REACH Registration Number	Hazard Classification according to CLP
Refractory ceramic fibres (Alumino-silicate wools)	22 - 36	142844 - 00 - 6	650-017-00-8	01-2119458050-50-0005	Carc 1B (H350i)
Silicon dioxide (Amorphous)	5-32	7631 - 86 - 9	---	Not yet available	Not classified
Organic material	1-10	Not applicable	---	Not yet available	Not classified
Aluminosilicates	1-20	13983-17-0	---	Not yet available	Not classified

3.2 COMPOSITION ADDITIONAL INFORMATION

COMPOSITION:

CAS definition: Chemical composition of Refractory Ceramic Fibres (RCF/ASW): SiO₂ 45-60% - Al₂O₃ 28-55%, ZrO₂<18%

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

SECTION 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.

4.3 NOSE AND THROAT

If these become irritated move to a dust free area, drink water and blow nose.

4.4 FIRST AID ADDITIONAL INFORMATION

If symptoms persist, seek medical advice.

SECTION 5. FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA.

Use extinguishing agent suitable for surrounding combustible materials.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Non-combustible products.

5.3 ADVICE FOR FIREFIGHTERS

Packaging and surrounding materials may be combustible.

SECTION 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 dampening the materials
- Do not flush spillage to drain.
- Check for local regulations, which may apply.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

- Pick up large pieces and use a vacuum cleaner fitted with a high efficiency filter (HEPA)
- If brushing is used, ensure that the area is wetted down first.
- Do not use compressed air for clean up.
- Do not allow to be windblown.

6.4 REFERENCE TO OTHER SECTIONS

For further information, please refer to sections 7 and 8

SECTION 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 good housekeeping will minimize secondary dust dispersal.

7.2 CONDITIONS FOR SAFE STORAGE INCLUDING ANY INCOMPATIBILITIES

- Store in original packaging in dry area.
- Always use sealed and visibly labeled 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.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Removing dried material after use may generate respirable dust. 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 national OELs (November 2014) are given in the table below. Additional references and/or updates can be found on the following websites:

http://www.dguv.de/ifa/en/gestis/limit_values

<http://osha.europa.eu/en/publications/reports/548OELs/view>

Country	Total Dust (mg/m ³)	Resp Dust (mg/m ³)	RCF (fibre/ml)	Source
Austria	10	6	0.5	Grenzwerteverordnung
Belgium	10	5	1	Valeurs limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Denmark	10	5	1	Grænseværdier for stoffer og materialer
Finland	No limit	No limit	0.2	Finnish Ministry of Social Affairs and Health
France	10	5	0.1	Institut National de Recherche et de Sécurité
Germany	10	1.25	0.2	TRGS 900
Hungary	No limit	No limit	1	EüM-SZCSM rendelet
Ireland	10	4	1	HAS – Ireland
Italy	10	3	0.2	Uses EU values
Netherlands	10	5	0.5	Netherlands 10 5 0.5 SER
Luxembourg	10	6	0.5	Agents Chimiques, Cancérigènes Ou Mutagènes Au Travail
Norway	10	5	0.1	Veiledning om administrative normer for forurensning i arbeidsatmosfære
Poland	No limit	No limit	0.5	Dziennik Ustaw 2010
Spain	10	3	0.5	INSHT
Sweden	10	5	0.2	AFS 2005:17
Switzerland	10	6	0.25	SUVA - Valeurs limites d'exposition aux postes de travail
UK	10	4	1	EH40/2005

8.1.1 DNEL/DMEL (Derived No-Effect Level/Derived Minimal Effect Level)

SCOEL (Scientific Committee on Occupational Exposure Limits) published a report in 2012 using all available data to set an OEL for RCF, because this substance is a fibre and its hazard is related to inhalation, this OEL is more appropriate than a modelled DNEL. The report concludes as follows: Assuming a 45 years exposure the average cumulative

exposures of 147.9 and 184.8 fmo/ml, respectively, result in an average fibre concentrations of 0.27 and 0.34 f/ml. Considering these values as no observed adverse effect levels SCOEL proposes an OEL of 0.3 f/ml.

8.1.2 Recommended Monitoring Programmes

United Kingdom: MDHS 59 specific for MMVF: "Man-made mineral fibre - Airborne number concentration by phase-contrast light microscopy" and MDHS 14/3 "General methods for sampling and gravimetric analysis of respirable and inhalable dust"

NIOSH

NIOSH 0500 "Particulates not otherwise regulated, total"

NIOSH 0600 "Particulates not otherwise regulated, respirable"

NIOSH 7400 "Asbestos and other fibres by PCM"

8.2 - Exposure controls

8.2.1 Appropriate engineering controls

Review your application(s) 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 compressed air for clean up.

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.

Table of Uses and Risk Management Measures (RMM):

Intended use	RMM - Hierarchy of Controls
<p>Secondary use – Conversion into wet and dry mixtures and articles.</p> <p>Process would include: Mixing forming operations, handling of RCF/ASW products, assembly of RCF/ASW containing products, machine and hand finishing of RCF/ASW products.</p> <p>Reference: ES 2</p>	<ul style="list-style-type: none"> - Where it is practical to do so, automatically feed RCF/ASW in to the process - Where practical to do so, segregate dry and wet processing - Enclose the process where practically possible. - Where practical to do so, segregate machine areas and restrict access to operators involved in the process. - Enclose Machines as far as practically possible. - Install LEV where possible, when machine finishing, handling, compressing and hand cutting to remove dust at source - Employ experienced personnel – trained in the correct use of fibrous products - PPE and RPE used for all dusty tasks - Provide vacuum cleaner connection point to central system where practical or use a portable HEPA vacuum - Regular clean up – using a wet scrubbing unit where practically possible and in general a HEPA vacuum should be used. - Dry brushing and use of compressed air should be prohibited - Waste materials to be contained at source, labelled and stored separately for disposal or recycling.
Intended use	RMM - Hierarchy of Controls
<p>Tertiary use - Maintenance and service life (Industrial or professional use)</p> <p>Process: Small scale repairs involving removal and installation of RCF/ASW products. Use of the product in an enclosed system, where there is occasional control access or no access.</p> <p>Reference: ES 3</p>	<ul style="list-style-type: none"> - Use pre-cut, pre-sized pieces where practically possible. - Allow access only to trained (authorized) operators - Where practically possible, perform all hand cutting in a segregated area, on a down draft bench. - Clean up work area regularly during the shift using a HEPA equipped vacuum cleaner. - Prohibit use of dry brushing and compressed air cleaning. - Bag and seal waste immediately at source. - Use PPE and RPE appropriate to task. - Employ good hygiene practices.

Intended use	RMM - Hierarchy of Controls
<p>Tertiary use- Installation and removal (industrial or professional).</p> <p>Large scale removal and installation of RCF/ASW from Industrial processes.</p> <p>Large scale removal and installation by professionals.</p> <p>Reference: ES 4</p>	<ul style="list-style-type: none"> - Where practically possible enclose or segregate the work area. - Allow only authorized personnel. - Pre-wet insulation prior to removal where practically possible. - Where practically possible use a water lance for removal or vacuum-truck. - Use down draft bench for hand cutting products. - Cover pre-cut section during transport and storage to prevent secondary exposure. - Where practically possible provide multiple vacuum hoses for convenient cleanup of spillage or use portable HEPA filtered vacuums. - Bag waste materials immediately at source - Prohibit use of dry brushing and or compressed air cleaning. - Experienced personnel only - Use appropriate PPE and RPE appropriate to expected concentrations

* Exposure Scenarios are available in full from your Nutec supplier (ES2, ES3 and ES4)

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

This should include:

- The applications involving RCF/ASW-containing products;

- The potential risk to health resulting from the exposure to fibrous dust;
- The requirements regarding smoking, eating and drinking at the workplace;
- The requirements for protective equipment and clothing;
- The good working practices to limit dust release;
- The proper use of protective equipment.

8.2.3 Environmental Exposure Controls

RCF/ASW is inorganic, inert and stable and it is not soluble in water (solubility <1mg/litre) and as such does not pose a detrimental effect on the environment.

Processes involving the manufacturing or use of RCF/ASW should be filtered to minimise fibre emissions to air.

Waste RCF/ASW should be stored in closed containers and placed into deep landfills, giving therefore little opportunity for release.

General good practice for spills and waste is to prevent products from being wind blown, by covering and damping the waste materials. Contain spillages to prevent access to drain.

Refer to local, national or European applicable environmental standards for release to air water and soil.

For waste, refer to section 13

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	White fiber/blanket	PARTITION COEFFICIENT	Not applicable
BOILING POINT	Not applicable	ODOUR	None
FLASH POINT	Not applicable	MELTING POINT	>1760° C
AUTOFLAMMABILITY	Not applicable	FLAMMABILITY	Not applicable
OXIDISING PROPERTIES	Not applicable	EXPLOSIVE PROPERTIES	Not applicable
RELATIVE DENSITY	1122 - 1314 kg/m ³	VAPOUR PRESSURE	Not applicable
SOLUBILITY	Less than 1 mg/l	pH	Not applicable
LENGTH WEIGHTED GEOMETRIC MEAN DIAMETER OF FIBRES CONTAINED IN THE PRODUCT:			1,4 – 3 µm

9.2 OTHER SAFETY INFORMATION

These fibres are dense materials and so will settle rapidly from both air and liquid

SECTION 10. STABILITY AND REACTIVITY

10.1 REACTIVITY

RCF/ASW is stable and non reactive.

10.2 CHEMICAL STABILITY

RCF/ASW 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

Thermal decomposition of binder from fires or from first heat of product may release smoke, carbon monoxide, and carbon dioxide. Use adequate ventilation or other precautions to eliminate exposure to vapours resulting from thermal decomposition of binder. Exposure to thermal decomposition fumes may cause respiratory tract irritation, bronchial hyper-reactivity or an asthmatic-type response

SECTION 11. TOXICOLOGICAL INFORMATION

TOXICOKINETICS, METABOLISM AND DISTRIBUTION

11.1 Basis Toxicokinetics

As manufactured, these products may contain a minimal amount of crystalline silica. Exposure is predominantly by inhalation or ingestion, available toxicological information is as follows:

11.2 Human Toxicological data

Epidemiology for crystalline silica Prolonged/repeated inhalation of respirable crystalline silica dust may cause delayed lung injury (silicosis). In evaluating crystalline silica as a cancer risk, the International Agency for Research on Cancer (IARC) reviewed several studies from different industries and concluded that crystalline silica from occupational sources inhaled in the form of quartz or cristobalite is carcinogenic to humans (Group 1) [IARC Monograph; vol.68; June 1997]. However, in reaching its conclusion, IARC stated that the carcinogenicity in humans could not be found in all industries reviewed and that carcinogenicity might be dependent on inherent characteristics of crystalline silica or on external factors affecting biological activity (e.g., cigarette smoking) or distribution of its polymorphs.

11.3 Information on toxicological effects

Experimental studies for crystalline silica Animals exposed to very high concentrations of crystalline silica, artificially or by inhalation, have reported fibrosis and tumours (IARC Monographs 42 and 68).

Inhalation and intratracheal installation of crystalline silica in rats caused lung cancer. However, studies in other species such as mice and hamsters caused no lung cancer. Crystalline silica also caused fibrosis in rats and hamsters in several inhalation and intratracheal installation studies.

ACUTE TOXICITY Lethal dose 50 % (LD50) / lethal concentration 50% (LC50): N.A.

Irritant properties

11.4 HUMAN TOXICOLOGICAL DATA

In order to determine possible human health effects following RCF exposure, the University of Cincinnati has been conducting medical surveillance studies on RCF workers in the U.S. The Institute of Occupational Medicine (IOM) has conducted medical surveillance studies on RCF workers in European manufacturing facilities.

Pulmonary morbidity studies among production workers in Europe and U.S.A. have demonstrated an absence of interstitial fibrosis. In the European study a reduction of lung capacity among smokers has been identified, however, based on the latest results in the U.S.A. study this reduction is no longer statistically significant.

A statistically significant correlation between pleural plaques and cumulative RCF exposure was evidenced in the USA longitudinal study.

The U.S.A. mortality study did not show evidence of increased lung tumour development either in the lung parenchyma or in the pleura.

SECTION 12. ECOLOGICAL INFORMATION

12.1 TOXICITY

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.

12.2 PERSISTENCE AND DEGRADABILITY

Not established

12.3 BIOACCUMULATIVE POTENTIAL.

Not established

12.4 MOBILITY IN SOIL

No information available

12.5 RESULTS OF PBT AND vPvB ASSESSMENT

This mixture is not considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture is not considered to be very persistent and very bioaccumulative (vPvB).

12.6 OTHER ADVERSE EFFECTS

No additional information available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Waste from these materials may be generally disposed off at a landfill, which has been licensed for this purpose. Please refer to the European list (Decision N° 2000/532/CE as modified) to identify your appropriate waste number, and insure national and/or regional regulations are complied with.

Unless wetted, such a waste is normally dusty and so should be properly sealed in containers for disposal. At some authorised disposal sites, dusty waste may be treated differently in order to ensure they are dealt with promptly to avoid them being windblown. Check for any national and/or regional regulations, which may apply.

SECTION 14. TRANSPORT INFORMATION

TRANSPORT

14.1 UN number

Not Applicable

14.2 UN proper shipping name

Not Applicable

14.3 Transport hazard class(es)

Not Applicable

14.4 Packing group

Not Applicable

14.5 Environmental hazards

Not Applicable

14.6 Special precautions for user

Not Applicable

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

Not Applicable

SECTION 15. REGULATORY INFORMATION

15.1 - Safety health and environment regulations/legislation specific for the substances or mixtures

EU regulations:

- 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)

- Annex of Regulation (EU) 2015/830
- 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.

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.

15.2 - Chemical Safety Assessment

Chemical Safety Reports have been requested from suppliers, as soon as this information is available it will be shared with downstream users.

SECTION 16. OTHER INFORMATION**USEFUL REFERENCES** (the directives which are cited must be considered in their amended version)

- Hazards from the use of Refractory Ceramic Fibre. Health and Safety Executive: Information document, HSE 267 (1998).
- Working with High Temperature Insulation wools 2006;
- ECFIA; Code of Practice.
- Maxim LD et al (1998). CARE – A European programme for monitoring and reducing Refractory Ceramic Fibre dust at the workplace initial results; Gefahrstoffe – Reinhaltung der Luft, 58:3,97-103.
- Recognition and control of exposure to RCF, ECFIA, April 2009

PRECAUTIONARY MEASURES**Additional information and precautions to be considered upon removal of after service material**

As produced, all Refractory Ceramic Fibres are vitreous (glassy) materials which, upon continued exposure to elevated temperatures (above 900°C), may devitrify. The occurrence and extent of crystalline phase formation is dependent on the duration and temperature of exposure, fibre chemistry and/or the presence of fluxing agents. The presence of crystalline phases can be confirmed only through laboratory analysis of the "hot-face" fibre.

IARC's evaluation of crystalline silica states "Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)" and additionally mentioned, "in making the overall evaluation, the Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied..."

As only, a thin layer of the insulation (hot face side) is exposed to high temperatures, respirable dust generated during removal operations does not contain detectable levels of crystalline silica (CS).

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 RCF/ASW material has not shown any increased toxicity in vitro.

The lack of toxicological effects may be explained by the following factors;

Increased brittleness of fibres after service life, favours fast fibre translocation through macrophage. Micro crystals, including crystalline silica, are embedded in the glass structure of the fibre and are therefore not biologically available.

The IARC evaluation as provided in Monograph 68 is not relevant as CS is not biologically available in after- service RCF/ASW.

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;
- b) all personnel directly involved wear an appropriate respirator to minimise exposure; and
- c) Compliance with local regulatory limits.

CARE PROGRAMME

ECFIA, representing the high temperature insulation wool (HTIW) industry, has undertaken an extensive industrial hygiene programme to provide assistance to the users of all products containing HTIW.

The objectives are twofold:

- To monitor workplace dust concentrations at both manufacturers' and customers' premises.

- To document manufacturing and use of RCF 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 supplier.

Websites

For more information, connect to:

The Nutec Europe website: (www.nutec.com)

Or ECFIA's website: (www.ecfia.eu)

Revision Summary

Website in the sections 1.3 was updated.

NOTICE:

The information presented here in is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. However, 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 licence. 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.