



MATERIAL SAFETY DATA SHEET (EUROPE)

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material/Product Name(s): Nutec Fibrattec Rigidizer 2300 and 2700.
Chemical family: Inorganic liquid hardening Agent.
General Uses: This product is used to produce a hard surface finish.

Manufacturer/Supplier: Nutec Fibrattec, S.A. de C.V.
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SECTION 2. COMPOSITION

Description: Nutec Fibrattec Rigidizer is an inorganic liquid hardener agent.

Material or Component	*CAS No.	%	Symbol	R Phrases
Silica, Colloidal	7631-86-9	30-60	N.A.	N.A.
Water	N.A.	40-70	N.A.	N.A.

*Chemical Abstract Service Number (CAS)

None of the components are radioactive under the terms of the European directive Eurotom 96/29.

SECTION 3. HAZARDS IDENTIFICATION

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

Pre – existing skin and respiratory conditions might be aggravated by exposure.

SECTION 4. FIRST AID MEASURES

Eye contact: In the case of eye contamination flush with water. Always have an eye bath within easy reach of personnel using insulation wool products and ensure that the bath is kept clean. Never rub the eye as this may cause damage. If in doubt seek medical advice.

Skin contact: In the case of skin irritation rinse affected areas with water and wash gently. Do not rub or scratch the affected area without water or this may increase the irritation.

Inhalation: Remove victim from adverse environment to fresh air and blown nose.

Ingestion: Ingestion is an unlikely route of exposure. If ingested in sufficient quantity and victim is conscious, give 1-2 glasses of water or milk. Never give anything by mouth to an unconscious person. Leave decision to



induce vomiting to qualified medical personnel, since particles may be aspirated into the lungs. Seek immediate medical attention.

SECTION 5. FIRE FIGHTING MEASURES

Nutec Fibrattec Rigidizer is a non combustible product. However, packaging and surrounding materials may be combustible. Use extinguishing agents prescribed for fire fighting such combustible packaging and surrounding materials. Wear self-contained breathing apparatus when entering smoke filled areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protection: wear suitable goggles, gloves and protective clothing.

Method for clean up: contain spillage, absorb in earth or sand and shovel into suitable containers.

Environmental protection: Do not flush spillage to drain and prevent from entering natural water courses.

For wastes disposal refer to section 13.

SECTION 7. HANDLING AND STORAGE

Techniques to reduce dust emission during handling: Handling of dried product can be a source of dust emission. Wherever possible, handling should be carried out under ventilation with filtered exhaust. Technical or organizational control measures together with good house keeping practices will help to comply with exposure limits. Help with such methods is available on request.

Storage: store in original packaging in a dry area. Avoid storage below + 2°C and above + 43°C. The product has a shelf life of approximately a year. Avoid damaging the packaging.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Hygiene standards and exposure limits: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the work place.

Personal Protective Equipment:

Skin Protection: Wear gloves and loose fitting overalls at the neck and wrists.

Eye Protection: Wear goggles or safety glasses.

Respiratory Protection: Use, if necessary, appropriate respiratory protective equipment (RPE).

Information and training of workers:

Workers should be informed about:

- The requirements for the use of protective equipment and clothing.

Workers should be trained on:

- The proper use of protective equipment.

Environmental exposure controls: Refer to local, national or European applicable environmental permitted standards for air, water and soil.



For waste, refer to section 13.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Red and Green

Boiling point: N.A.

Flash point: N.A.

Auto inflammability: N.A.

Oxidizing properties: N.A.

Solubility: Slight

Odour: None

Melting point: N.A.

Flammability: N.A.

Explosive properties: N.A.

Vapour pressure: N.A.

SECTION 10. STABILITY AND REACTIVITY

Conditions and materials to avoid: None

Decomposition products: Continuous use at above 900°C for sustained periods, may lead to the formation of several crystalline phases. If crystalline silica is present you should follow corresponding hygiene regulations and standards applicable to your country.

For further information please refer to section 3 and 11.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity: Lethal dose 50% (LD 50)/lethal concentration 50% (LC 50): N.A.

Chronic Respiratory Health Effects: N.A.

SECTION 12. ECOLOGICAL INFORMATION

These products are inert materials, which remain stable over time.
No adverse ecological effects of this material on the environment are anticipated.

SECTION 13. DISPOSAL INFORMATION

Waste from these materials may be generally disposed 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 ensure national and/or regional regulation are complied with. Taking into account any possible contamination during use, expert guidance should be sought.

Check for national and/or regional regulation which may apply.



SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous goods under relevant international transport regulations (ADR, RID, IATA, IMDG).

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: Regulation relating to transport by air.

SECTION 15. REGULATORY INFORMATION

PROTECTION OF WORKERS:

Protection measures shall be in accordance with several European Directives as amended and their implementation by member states.

- Protection measures shall also be in accordance with 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).
- 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, page 11).

OTHER POSSIBLE REGULATIONS:

Member states are in charge of implementing European Directives into their own national regulations within a period of time normally specified in the directive.

Member states may impose more stringent requirements. Please always refer to any applicable regulations.

SECTION 16. OTHER INFORMATION

Useful references

Non exhaustive list of some regulations:

- German
Gefahrstoffverordnung; Arbeitsmedizinische Vorsorge.
Berufsgenossenschaftliche Grundsätze: G 1.1 Gesundheitsgefährlicher mineralischer Staub, Teil 1: Silikaogener Staub.
- France
Décret N° 97-331, du 10 Avril 1997 Relatif à la protection de certains travailleurs exposés à l'inhalation de siliceuses sur leurs lieux de travail.
Arrêté 10 avril 1997 relatif au contrôle de l'exposition des travailleurs exposés aux poussières de silice cristalline.
- United Kingdom
COSHH Regulation
HSE EH44 : Dust : General principles of protection.
HSE EH59 : Crystalline silica guidance note.



MDHS 14/3 : Health and Safety Executive (2000) : “ General methods for the sampling and gravimetric analysis of respirable and total inhalable dust.” Methods for the Determination of Hazardous Substances N° 14/3. HMSO, London.

MDHS 51/2: Health and Safety Executive (1988): “ Quartz is respirable airborne dusts “. Laboratory method using X-Ray diffraction (Direct method). Methods for the Determination of Hazardous Substances N° 51/2, London.

Hazards from the use of Refractory Ceramic Fibre. Health and Safety executive: Information document, HSE 267 (1998).- UK

- Working with refractory ceramic fibres; ECFIA; code of practice (February 1998).
- Maxim LD et al (1998). CARE – a European programme for monitoring and reducing refractory ceramic fibre dust at the work place initial results. Gefahrstoffe-Reinhaltung, 58-3, 97-103.
- Recognition and control of exposure to RCF, ECFIA, November 1999.
- 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, page 1).
- Council Directive 67/548/EEC on the “ approximation of the laws, regulations and administrative provision relating to the classification, packaging and labelling of dangerous substance as modified and adapted to the technical progress” (OJEC L 196 of 16 August 1967, page 1 and its modifications and adaptations to technical progress).
- Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC (OJEC L 343 of 13 December 1997)
- 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, page 11).
- Council Directive 2004/37/EC dated 29 April 2004 “on the protection of workers from the risks related to exposure to carcinogens at work” (OJEC L 158 of 30 April 2008).
- TRGS 521: Faserstäube 5/2002 - Germany.
- Refractory Ceramic Fibres: A substitute study, RCFC, March 1996.

Precautionary measures to be taken after service and upon removal:

As produced, all RCF fibres are Vitreous (Glassy) materials which, if raised up to continue exposure to elevated temperatures (above 900°C), might de-vitrify. 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 notes “in making the overall evaluation, the working group noted that carcinogenicity in humans was not detected in all industrial circumstances studied”.

In most Jurisdictions there are specific occupational exposure limits for crystalline silica (quartz, cristobalite) which may vary between countries and local jurisdictions. Check which exposure levels apply to your facility and comply with local regulation.

Simulated after-service RCF, containing 27% of crystalline silica, showed little, or no, activity where exposure was by inhalation or by intraperitoneal injection. After-service RCF was not cytotoxic to macrophage-like cells.



High concentrations of fiber and other dusts may be generated when after service products and mechanically disturbed during operations such as wrecking. These dusts may contain crystalline Silica. ECFIA recommends:

- Control measures are taken to reduce emissions.
- All personal directly involved wear an appropriate respirator to minimize exposure and comply with local regulatory limits.

These procedures will ensure compliance with local regulatory exposure standards for free crystalline silica. And because devitrified fibers containing silica mixed with amorphous and other crystalline phases are far less biological active than free crystalline dusts, these measures will provide a high degree of protection.

CARE PROGRAMME (Controlled and Reduced Exposure)

The European Ceramic Fibres Industrial Association (ECFIA) has undertaken an extensive industrial Hygiene programme for High Temperature insulation Wool (HTIW). The objectives are twofold:

- To monitor workplace dust concentration at both manufacturers' and costumers' premises
- To document manufacturing and use of HTIW products from an industrial hygiene perspective in order to establish appropriate recommendation to reduce exposures.

If you wish to participate in the CARE programme, contact ECFIA or your supplier.

REFERENCES:

- The European Ceramic Fibres Industry Association (ECFIA), <http://www.ecfia.eu>
- Deutschen Verbands der Hersteller und Verarbeiter von Hochtemperaturwolle eV., <http://www.dkfg.de>

NOTICE:

Although reasonable care has been taken in the preparation of the information contained herein, Nutec extends no warranties, makes no representation and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.

Revised by: F. Miranda
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