

**MATERIAL SAFETY DATA SHEET
(EUROPEAN)**

MSDS Number: 07/3

Date of Issue: June 1998

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SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material/Product Name(s): NUTEC Moldable SMG.
Chemical family: Inorganic. A new composition of amorphous man-made vitreous fiber, Calcium-Magnesium-Silicate wool
General Uses: A high-temperature insulating material. This product is used to form troughs or liners for non ferrous metal transfer, gaskets and seals around Burner blocks, protection of metallic parts from heat, pump into voids in badly damaged back up insulation, gaskets and seals for chimneys and stacks, boiler doors, seals and thermal insulation and to fill voids and cracks in refractory surface.

Manufacturer/Supplier: Nutec Europe, S.A. de C.V.
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Language: English
Opening hours: Only available during office hours.

SECTION 2. COMPOSITION

Description: NUTEC Moldable SMG is made of Alkaline Earth Silicate fibres. Once dried out, this product may generate dust.

Material or Component	*CAS No.	%	Symbol	Phrases R
Amorphous calcium- magnesium-silicate Mixture	142844-00-6	30-90	N.A.	N.A.
Silica, Colloidal	7631-86-9	10-30	N.A.	N.A.
Organic Material	N.A.	0-10	N.A.	N.A.
Water	N.A.	10-50	N.A.	N.A.
Ethylene Glycol	203-473-3	0-3	Xn	R22

*CAS, Chemical Abstract Service Number.

SECTION 3. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE/MIXTURE

2.1.1 CLASSIFICATION ACCORDING TO REGULATION (EC) NO 1272/2008

Not applicable

2.1.2 CLASSIFICATION ACCORDING TO DIRECTIVE 1999/45/EC

Not applicable

LABELLING ELEMENTS

Not applicable

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.

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 Moldable SMG is a non combustible product. However, virgin product binder may burn and produce gases and/or fumes. 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

6.1 - PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Where abnormally high dust concentrations occur, provide the workers with appropriate protective equipment as detailed in section 8.

- 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.
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6.3 - METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

- Pick up large pieces and use a vacuum cleaner.
- If brushing is used, ensure that the area is wetted down first.
- Do not use compressed air for clean up.
- Do not allow being windblown.

Refer to section 13 for disposal.

SECTION 7. HANDLING AND STORAGE

Handling: Do not handle wet product with bare hand. The process or processes should be designing to limit the amount of handle. Regular good house keeping will minimize secondary dispersal.

Storage: store in original packaging in a dry and cold area. Always use sealed and clearly labelled container. Avoid storage below + 5°C (risk of solidification) or above +40°C. Avoid damaging the packaging. . Keep container closed when not in use. Emptied containers, which may contain debris, should be cleaned before disposal or recycling.

SECTION 8. RISK MANAGEMENT MEASURES, EXPOSURE CONTROLS AND 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) to mineral wools 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
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 membrane filter method or the total inhalable dust using standard gravimetric techniques.*

8.2 - EXPOSURE CONTROLS

8.2.1 APPROPRIATE ENGINEERING CONTROLS

Review your applications in order to identify potential sources of dust exposure.

Local exhaust ventilation, which collects dust at source, can be used. For example down draft tables, emission controlling tools and materials handling equipment.

Keep the workplace clean. Use a vacuum cleaner fitted with a HEPA filter. Avoid brushing and compressed air. 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 gloves and work clothes, which are loose fitting at the neck and wrists. Soiled clothes should be cleaned to remove excess fibres before being taken off (e.g. use vacuum cleaning, not compressed air).

Eye protection: As necessary wear goggles or safety glasses with side shields.

Respiratory protection: For dust concentrations below the exposure limit value, RPE is not required but FFP2 respirators may be used on a voluntary basis. For short-term operations where excursions are less than ten times the limit value use FFP2 respirators. In case of higher concentrations or where the concentration is not known, please seek advice from your company and/or local Nutec supplier.

Information And Training Of Workers

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

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: A wet, brownish-grayish, moldable, mixture of colloidal silica and amorphous calcium-magnesium-silicate; odorless.

Melting Point: >1275 °C

Relative density (g/cm³): 2.5 - 2.7

Water Solubility: Slight

Volatile by volume: 0

pH: N.A.

Evaporation rate: N.A.

SECTION 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.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 - TOXICOKINETICS, METABOLISM AND DISTRIBUTION

11.1.1 BASIC TOXICOKINETICS

Exposure is predominantly by inhalation or ingestion. Man made 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 biopersistence 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. Subchronic 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.

AES 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.

Irritant Properties

Supermag fibres are negative when tested using approved methods (Directive 67/548/EC, 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.

SECTION 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.

SECTION 13. DISPOSAL INFORMATION

NUTEC Moldable SMG does not exhibit any characteristics of hazardous waste. It is recommended that the product should be contained in bags or suitable closed containers to prevent creating any airborne dust during



disposal. The product is suitable for land fill disposal however you should seek advice from your local health and safety executive on regulations in your area.

As with other silica bearing refractories care should be taken when disposing of materials that have been to temperatures in excess of 900 °C other dangerous materials may have formed. As such it is necessary to bag this material and dispose of in specially designed land fill sites licensed for the disposal of such waste. Laws will differ in each country and you should seek advice on disposal from your local health and safety executive.

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

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.

SECTION 14. TRANSPORT INFORMATION

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

SECTION 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.

A Chemical Safety Assessment has been carried out for AES and CSR can be provided on request.

SECTION 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, labeling 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 (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 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 PROGRAMME (“Controlled and Reduced Exposure”)

The trade association representing the European high temperature insulation wool industry (ECFIA) has undertaken an extensive hygiene programme for High Temperature Insulation Wool (HTIW).

The objectives are twofold: (i) to monitor workplace dust concentrations at both manufacturers’ and customers’ premises, and (ii) to document manufacturing and use of HTIW 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 NUTEC supplier.

WEBSITES:

For more information connect to:

www.nuteceurope.com

Or the ECFIA’s website: (<http://www.ecfia.org/>)

Or Deutsche KeramikFaser-Gesellschaft e.V’ website: (<http://www.dkfg.de/>)

Revision Summary

General Update of SDS to comply with REACH Regulation, changes to sections 1-16, and Logo changes.

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 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 (however, this shall not act to restrict the vendor’s potential liability for negligence or under statute).

Last Revision: February 2014

** This product is manufactures in Mexico by Nutec under patent license (US Patent Nos. 5332699, 5714421, 599247, 6180546, 7259118 and equivalent patent elsewhere).*