Thermal Ceramics

MATERIAL SAFETY DATA SHEET
(Following 91/155/EEC)

KAOWOOL HARDENER

MSDS NUMBER 1007-1-EURO
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1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

IDENTIFICATION OF THE PRODUCT
The above mentioned product is a hardener.

USE OF THE PRODUCT
This product is used to produce a hard surface finish.

IDENTIFICATION OF THE COMPANY

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2. COMPOSITION / INFORMATION ON INGREDIENTS

DESCRIPTION
This product is an inorganic liquid hardening agent.

COMPOSITION

COMPONENT	%	EINECS Number	SYMBOL	R PHRASES
Water	60-80	N.A.	N.A.	N.A.
Colloïdal silica	20-40	231-545-4	N.A.	N.A.

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

3. HAZARDS IDENTIFICATION

ACUTE EFFECTS
Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure to high dust concentrations of dried product.
These effects are usually temporary.
Pre-existing skin and respiratory conditions including dermatitis, asthma or chronic lung disease might be aggravated by exposure.

4. FIRST-AID MEASURES

SKIN:
In case of skin irritation rinse affected areas with water and wash gently. Do not rub or scratch exposed skin.

EYES:
In case of eye contact flush abundantly with water; have eye bath available. Do not rub eyes.

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

If symptoms persist, seek medical advice.

5. FIRE-FIGHTING MEASURES

Non combustible products.
Packaging and surrounding materials may be combustible.
Use extinguishing agent suitable for surrounding combustible materials.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION
Wear suitable goggles, gloves and protective clothing.

METHODS FOR CLEANING 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 watercourses.
For wastes disposal refer to section 13.

7. HANDLING AND STORAGE

HANDLING/TECHNIQUES TO REDUCE DUST EMISSIONS DURING HANDLING OF DRIED PRODUCT
Handling of dried product can be a source of dust emission. The process or processes should be designed to limit the amount of handling. Wherever possible handling should be carried out under ventilation with filtered exhaust. Regular good housekeeping will minimise secondary dust dispersal.

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 12 months. Avoid damaging the packaging.

SPECIFIC USE:
Please refer to your local Thermal Ceramics' supplier or ECFIA's website.

8. EXPOSURE CONTROLS / 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 workplace.

PERSONAL PROTECTIVE EQUIPMENT
Skin protection:
Use of gloves and work clothes is recommended.

Eye protection:
Wear safety glasses.

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

INFORMATION AND TRAINING OF WORKERS
Workers should be informed on:
- 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*.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	White liquid		
MELTING POINT	N.A.	**ODOUR**	None
pH	9,7		

10. STABILITY AND REACTIVITY

CONDITIONS OR MATERIALS TO AVOID
None

DECOMPOSITION PRODUCTS
Continuous use of these products at temperature above 900°C may lead to the formation of several crystalline phases. For further information please refer to sections 3 and 11.

11. TOXICOLOGICAL INFORMATION

Available toxicological information is as follows

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

CHRONIC RESPIRATORY HEALTH EFFECTS
N.A.

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

Waste from these materials may be generally disposed of 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 regulation are complied with.

Taking into account any possible contamination during use, expert guidance should be sought. Check for national and/or regional regulations, which may apply.

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

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

Non exhaustive list of some regulations:

- **Germany**

Gefahrstoffverordnung; Arbeitsmedizinische Vorsorge.
Berufsgenossenschaftliche Grundsätze: G 1.1 Gesundsheitsgefährlicher mineralischer Staub, Teil 1: Silikogener Staub.

- **France**

Décret n° 97-331, du 10 avril 1997 relatif à la protection de certains travailleurs exposés à l'inhalation de poussières 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 EH 44: Dust: general principles of protection.
HSE EH 59: 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 No. 14/3. HMSO, London.
MDHS 51/2: Health and Safety Executive (1988): “Quartz in respirable airborne dusts”. Laboratory method using X-ray diffraction (direct method). Methods for the Determination of Hazardous Substances No. 51/2, London.
MDHS 76: Health and Safety Executive (1994): “Cristobalite in respirable airborne dusts”. Laboratory method using X-ray diffraction (direct method). Methods for the Determination of Hazardous Substances No. 76, London.
MS (A) 15 - Silica dust and you.
HS (G) 72 - Control of respirable silica dust in heavy clay and refractory processes.

PRECAUTIONARY MEASURES TO BE TAKEN AFTER SERVICE AND UPON REMOVAL

Because high concentrations of dust may be generated when after-service products are mechanically disturbed during operations such as wrecking, it is recommended that:

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.

WEBSITE:
For more information connect to:
The Thermal Ceramics' website: (http://www.thermalceramics.com/)

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).