

SAFETY DATA SHEET



ENVIROGRAF®

HS111-01-2019

Product Number: 111 Coated Ceramic Quilt for Steel

Description:

A durable intumescent quilt designed for fire protection around angled steel, RSJs, steel tubes, trunking, ventilation ducting and other steel items.

This product comprises of the following materials and therefore is supported by Health & Safety Data Sheets:

- *(Appendix 84)* Intumescent Ceramic Quilt Material
- *(Appendix 15)* LVFR

*The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the user's own assessment of workplace risk as required by other health and safety legislation.

HEALTH & SAFETY INFORMATION SHEET
APPENDIX 84
INTUMESCENT CERAMIC QUILT MATERIAL

Issue 3; 03/01/2019

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: Intumescent Ceramic Quilt Material
MANUFACTURER/SUPPLIER: Envirograf
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IDENTIFICATION OF THE PRODUCT:

Ceramic Quilt Material contains **Refractory Ceramic Fibres (RCF) / Alumino-silicate wools (ASW)**

Index number 650-017-00-8 (CLP annex VI)

CAS number: 142844-00-6

CAS name: Refractories, fibres, aluminosilicate

Registration number: 01-2119458050

1.2 Identified Use

Use of the products is restricted to "professional users" for application as thermal insulation, heat shields, heat containments. 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 and tertiary use are relevant to users)

- **Secondary use:** Conversion into wet and dry mixtures and articles

- **Tertiary use:** Installation, removal (industrial and professional) / Maintenance and service life (industrial and professional) (refer to section 8)

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) 1272/2008 RCF / ASW has been classified as a 1B carcinogen

2.1.2 Additional information:

The International Agency for Research on Cancer (IARC) reaffirmed that group 2B ("possibly carcinogenic to humans") remains the appropriate classification for RCF / ACW.

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

2.2 Labelling 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 (H305i)

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Description

3.1 Mixture

This article is a felt made of refractory ceramic fibres coated with a cured phenol-formaldehyde resin

Composition

Component	CAS Number	REACH registration number	Hazard Classification According to CLP	% by weight
Refractory ceramic fibres (Alumino-silicate wools)	142 844-00-6	01-2119458050-50	Carc. 1B (H350i)	70-98
Acrylic binder	Not applicable	Not yet available	Not classed as haz.	2-15

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

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

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.

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

Nose & Throat: If nose or throat becomes irritated move to a dust free area, drink water and blow nose. If symptoms persist, seek medical advice.

First aid additional information: If symptoms persist, seek medical advice

4.2 Most important symptoms and effects, both acute and delayed

No symptoms or effects expected either acute or delayed

4.3 Indication of any immediate medical attention and special treatment required

No special treatment required, if exposure occurs wash exposed areas to avoid irritation.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Use extinguishing agent suitable for surrounding combustible materials

5.2 Special hazards arising from the substance or mixture

Noncombustible products. However, virgin product binder may burn and produce gases and/or fumes.

5.3 Advice for firefighters

Packaging and surrounding materials may be combustible

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 material.

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 wind blown

6.4 Reference to other sections

For further information, please refer to sections 7 and 8

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

Store in original packaging in dry area whilst awaiting use. Always use sealed and visibly labelled containers.

Avoid damaging containers. Reduce dust emission during unpacking. Emptied containers, which may contain debris, should be cleaned (see 6.3) 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. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

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 November 2014) in different countries are given below:

COUNTRY	RCF (fibre/ml)	SOURCE
EU BOELV	0.3	Carcinogens and Mutagens Directive (DIRECTIVE 2004/37/EC)
Austria	0.5	Grenzwerteverordnung
Belgium	0.5	Valeurs limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Denmark	1	Grænseværdier for stoffer og materialer
Finland	0.2	Finnish Ministry of Social Affairs and Health
France	0.1	Institut National de Recherche et de Sécurité
Germany*	0.2*	TRGS 900
Hungary	1	<i>EüM-SZCSM rendelet</i>
Ireland	1	HAS – Ireland
Italy	0.2	Uses EU values
Luxembourg	0.5	Agents Chimiques, Cancérigènes Ou Mutagènes Au Travail
Netherlands	0.5	SER
Norway	0.1	Veiledning om administrative normer for forurensning i arbeidsatmosfære
Poland	0.5	Dziennik Ustaw 2010

Spain	0.5	INSHT
Sweden	0.2	AFS 2005:17
Switzerland	0.25	SUVA – Valeurs limites d'exposition aux postes de travail
UK	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.

Information on monitoring procedures

United Kingdom

MDHS 59 specific for MMVF: "Man-made mineral fibre - Airborne number concentration by phase-contrast light microscopy" and

MDHS 14/4 "General methods for sampling and gravimetric analysis of respirable and inhalable dust"

NIOSH

NIOSH 0500 "Particulates not otherwise regulate, total"

NIOSH 0600 "Particulates not otherwise regulate, 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.

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 HIERACHY OF CONTROLS
Tertiary use – maintenance and service life (Industrial or professional use) Process: small scale repairs involving removal & installation of RCF/ASW products. Use of the product in an enclosed system where there is occasional control access or no access	<ul style="list-style-type: none"> - Use pre-cut, pre-sized pieces where practically possible - Allow access only to trained (authorised) 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 & compressed air cleaning - Bag & seal waste immediately at source - Use PPE & RPE appropriate to task - Employ good hygiene practices.
INTENDED USE	RMM HIERACHY OF CONTROLS
Tertiary use – installation & removal (Industrial or professional) Large scale removal & installation by professionals	<ul style="list-style-type: none"> - Where practically possible enclose of segregate work area - Allow only authorised personnel - Use down draft bench for hand cutting products - Cover pre-cut sections during transport & storage to prevent secondary exposure - use portable HEPA filtered vacuums - Prohibit use of dry brushing & compressed air cleaning - Bag & seal waste immediately at source - Use PPE & RPE appropriate to task - Employ good hygiene practices.

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 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 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 in deep landfills giving therefore little opportunity for release.

General good practice for spills and waste is to prevent products from being windblown, by covering a dampening the waste materials. Contain spillages to prevent access to drains.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties	Not applicable
Appearance	White/tan
Odour	None
Odour threshold	Not applicable
pH	Not applicable
Melting point/freezing point	> 1650°C
Initial boiling point and boiling point range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	The material will burn for a short period only until the polymeric binder is burnt out or the resulting expansion self-extinguishes
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	150-300 kg/m ³
Solubility(ies)	Less than 1mg/l
Partition co-efficient: n-octanol/water	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
Viscosity	Not applicable
Explosive properties	Not applicable
Oxidising properties	Not applicable

10. STABILITY AND REACTIVITY

10.1 Reactivity

RCF/ASW is stable and non-reactive

10.2 Chemical stability

RCF/ASE 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

Concentrated mineral acids or bases

10.6 Hazardous decomposition products

Upon heating above 900°C for sustained periods, this amorphous material can begin 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 toxicokinetic

Exposure is predominantly by inhalation or ingestion. Man-made vitreous fibres of a similar size to RCF/ASW have not been shown to migrate from the lung and/or gut and do not become located in other parts of the body.

When compared to many naturally occurring minerals, RCF/ASW has a low ability to persist and accumulate in the body (half-life of long fibres (> 20 µm) in 3 week rat inhalation test is approx. 60 days.)

11.1.2 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 USA have demonstrated an absence of interstitial fibrosis and no decrement in lung function associated with current exposures, but have indicated a reduction of lung capacity among smokers.

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

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

11.2 Information on Toxicological effects

Acute toxicity: short term inhalation

- No data available: Short term tests have been undertaken to determine fibre (bio) solubility rather than toxicity; repeat dose inhalation tests have been undertaken to determine chronic toxicity and carcinogenicity

Acute toxicity: oral

- No data available: Repeated dose studies have been carried out using gavage. No effect was found.

Skin corrosion / irritation:

- Not possible to obtain acute toxicity information due to the nature of the substance

Serious eye damage / irritation:

- Not possible to obtain acute toxicity information due to the nature of the substance

Respiratory or skin sensitisation:-

- No evidence from human epidemiological studies of any respiratory or skin sensitisation potential

Germ cell mutagenicity

- Method: In vitro micronucleus test
- Species: Hamster (CHO)
- Dose: 1-35 mg/ml
- Routes of administration: In suspension
- Results: Negative

Carcinogenicity

- Method: inhalation. Multi-dose
- Species: Rat,
- Dose: 3 mg/m³, 9 mg/m³ and 16 mg/m³
- Routes of administration: Nose only inhalation
- Results: Fibrosis just reached significant levels at 16 and 9 mg/m³ but not at 3 mg/m³. None of the parenchymal tumour incidences were higher than the historical control values for this strain of animal.

- Method: Inhalation. Single dose
- Species: Rat
- Dose: 30 mg/m³
- Routes of administration: Nose only inhalation
- Results: This study was designed to test the chronic toxicity and carcinogenicity of RCF at extreme exposures. Tumour incidence (incl. mesothelioma) was raised at this dose level. The presence of overload conditions (only detected after the experiment was completed) whereby the delivered dose exceeded the clearance capability of the lung, makes meaningful conclusions in terms of hazard and risk assessment difficult.

- Method: Inhalation. Single dose
- Species: Hamster
- Dose: 30 mg/m³
- Routes of administration: Nose only inhalation
- Results: This low quality study in hamsters (no justification for exposure concentration used and preexisting and concurrent infections in the test animals) produced mesothelial lesions of uncertain significance. Subsequent studies in hamsters with glass fibres indicated that the lung burdens of RCF in this experiment were between 5 and 10 times more than that needed to produce overload, and the results are therefore difficult to interpret.

There are reports of injection studies with some similar materials. While some intraperitoneal injection (IP) studies reported the development of tumours in rats, the relationship of these results to classification remains controversial.

Reproductive toxicity

- Method: Gavage
- Species: Rat,
- Dose: 250mg/kg/day
- Routes of administration: Oral
- Results: No effects were seen in an OECD 421 screening study. There are no reports of any reproductive toxic effects of mineral fibres. Exposure to these fibres is via inhalation and effects seen are in the lung. Clearance of fibres is via the gut and the faeces, so exposure of the reproductive organs is extremely unlikely.

STOT-Single exposure: NA

STOT-Repeated exposure: NA

Aspiration hazard: NA

Irritant Properties

Negative results have been obtained in animal studies (EU method B 4) for skin irritation. Inhalation exposures using the nose only route produce simultaneous heavy exposure to the eyes, but no reports of excess eye irritation exist. Animals exposed by inhalation similarly show no evidence of respiratory tract irritation. Human data confirm that only mechanical irritation resulting in itching, occurs in humans. Screening at manufacturers' plants in the UK has failed to show any human cases of skin conditions related to fibre exposure.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

These products are insoluble materials that remain stable over time 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 contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)

This mixture contains no substance considered to be very persistent and very bioaccumulative (vPvB)

12.6 Other adverse effects

No additional information available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment

Waste containing > 0.1% RCF.ASW is categorised as a stable non-reactive hazardous waste, 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 authorised disposal sites, dusty wastes may be treated differently in order to ensure 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.

13.2 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

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

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 entered into force on 25 September 2009.

Integration of RCF/ASW in to ANNEXE XV of the REACH Regulation:

RCF are classified as a carcinogenic substance CLP 1B (See section 15 above). On the 13th of January 2010 ECHA updated the candidate list for authorisation (Annexe XV of the REACH regulation) and added 14 new substances in this list including aluminosilicate refractory ceramic fibres and zirconia aluminosilicate refractory ceramic fibres.

As a consequence, EU (European Union) or EEA (European Economical Area) suppliers of articles which contain aluminosilicate refractory ceramic fibres and zirconia aluminosilicate refractory ceramic fibres in a concentration above 0.1% (w/w) have to provide sufficient information, available to them, to their customers or upon requests to a consumer within 45 days of the receipt of the request. This information must ensure safe use of the article and as minimum contains the name of the substance.

Restriction on Marketing of RCF/ASW

Marketing and use of RCF/ASW is controlled by Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations as modified (21st amending, Directive 2001/41/EC, 19 June 2001) and is restricted to professional use only.

15.2 - Chemical Safety Assessment

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

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 Program

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 Thermal Ceramics' supplier.

Uses advised against

ECFIA recommends that this fibre should not be used for spraying

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).

HEALTH & SAFETY INFORMATION SHEET
APPENDIX 15
LVFR

October 2018. ISSUE 3

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: LVFR
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EMERGENCY PHONE NUMBER: 01304 842555 (Monday to Friday 8.30 – 5.30)

2. HAZARDS IDENTIFICATION

HAZARD SYMBOL: EUH208 May produce allergic reaction



HEALTH EFFECTS:

SKIN: May cause slight irritation on prolonged / repeated contact.

EYES: May cause some irritation.

INHALATION: No hazard under normal conditions of use.

INGESTION: Low toxicity.

PHYSICAL/CHEMICAL EFFECTS: Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL CHARACTERIZATION: Aqueous polymer coating for exterior surfaces.

Chemical Name	CAS No.	EC No.	%	Classification
2-Methylisothiazol-3(2H)-one	2682-20-4		<0.00006%	H330/H318/H411/H317
Pyrrithione Zinc	13463-41-7		<0.00006%	H301/H330/H318/H400/H410
1,2-benzisothiazol-3(2H)-one	2634-33-5		<0.00006%	H330/H318/H400/H411/H302/H315/H317

4. FIRST AID MEASURES

SKIN CONTACT: Remove contaminated clothing and wash contaminated skin with soap and water.

EYE CONTACT: Wash immediately with water for 15 minutes. If irritation persists seek medical advice.

INHALATION: Remove the casualty to fresh air.

INGESTION: Rinse out mouth with water and if conscious drink plenty of water. Seek medical attention.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam, carbon dioxide, powder, and water spray.

EXTINGUISHING MEDIA WHICH MUST NOT BE USED FOR SAFETY REASONS: None known

SPECIAL EXPOSURE HAZARDS: None known.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: Chemical protection suit / gloves / boots and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Use personal protection equipment.

ENVIRONMENTAL PRECAUTIONS: Do not dispose of into surface water or sanitary sewer system.

METHODS FOR CLEANING UP: Scrape up excess and dispose of at an approved site.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS: Not applicable.

STORAGE CONDITIONS: Store in original closed containers between + 5°C and + 30°C in dry conditions. Avoid extremes of temperature.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS: Refer to current edition of HSE Guidance Note EH40 Occupational Exposure Limits (UK)

ENGINEERING MEASURES: Not applicable.

PERSONAL PROTECTION EQUIPMENT:

RESPIRATORY PROTECTION: Mask where appropriate.

HAND PROTECTION: Gloves.

EYE PROTECTION: Goggles.

SKIN AND BODY PROTECTION: Wearing of closed work clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour	White, Red or Yellow.
Form	Shear thinning paste.
Odour	Low odour.
pH as supplied	Approximately 6.5–8.0
Boiling point/range	Not determined.
Melting point/range	Not applicable.
Flash point	Not applicable.
Flammability (solid, gas)	Not self-igniting.
Auto ignition temperature	Not applicable.
Explosive properties	Not applicable.
Oxidizing properties	Not applicable.
Vapour pressure	Not applicable.
Specific Gravity	1.26 to 1.30
Solubility:	
Water solubility	Miscible.
Partition coefficient (n-octanol/water)	Not applicable.

Other data

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Avoid extremes of temperature especially frost and freezing conditions.

MATERIALS TO AVOID: None, under normal conditions of use.

HAZARDOUS DECOMPOSITION PRODUCTS: No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Not applicable

12. ECOLOGICAL INFORMATION

Not applicable

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations at approved sites.

14. TRANSPORT INFORMATION

UK ROAD/RAIL	Not applicable. None hazardous.
IMDG	Not applicable. None hazardous.
ICAO	Not applicable. None hazardous.
ADR	Not applicable. None hazardous.

15. REGULATORY INFORMATION

Supply classification:
Hazard symbol(s) EUH208 **May produce allergic reaction**

16. OTHER INFORMATION

Recommended use	Coating with fire retardant / intumescent properties.
Further information	Consult technical data sheet.

History

Date of printing	03 January 2019
Date of issue	October 2018
Version	3
Prepared by	Intumescent Systems Limited

The information contained in the Health and Safety Data Sheet is provided in accordance with the requirements of the most recent REACH Regulations. The product should not be used for purposes other than those shown without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. This information contained in the safety data sheet is based on present knowledge and current EU legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications

The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the user's own assessment of workplace risk as required by other health and safety legislation. The information given in this safety data sheet is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.