Safety Data Sheet

SDS No. AGT013 **Effective Date: 10/02/2023**

1. IDENTIFICATION

(a) Product identifier used on the label	**AGNI-Shield**
(b) Other means of identification	**AGNI-Shield**
(c) Recommended use of the chemical and restrictions on use	Wrap used to fire seal around combustible services, penetrating fire-separating elements.
d) Name, address, and telephone number	Agnitek Pty Ltd 8 Clare Street Bayswater, VIC 3153, Australia Tel: +61 (0) 7045 4242 **Information department:** info@agnitek.com.au **Emergency telephone number:** Tel: +61 (03) 7045 4242

2. HAZARDS IDENTIFICATION

Classification of substance or mixture:

Component	Classification	Hazard pictogram & Symbol	R Phrase & H Statement
Refractory ceramic fibres (Alumino-silicate wools)	(EC)No. 1272/2008	GHS 08	H350i
	Directive 67/548/EEC	T	R49

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical composition of Refractory Ceramic Fibres (RCF/ASW) SiO_2 45-60& - Al_2O_3 28-55%, ZrO_2<18%

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

COMPONENT	CAS NUMBER	Index number in CLP Annex VI	% by weight
Refractory ceramic fibres (Alumino-silicate wools)	142844-00-6	650-017-00-8	100

4. FIRST AID MEASURES

Description of first aid measures:

Skin:
In case of skin irritation, gently rinse affected area(s) with water. Do not cause hard friction to the exposed skin

Eyes:
In case of eye contact, flush with water. Do not rub eyes.

Nose and throat:
In case of inhalation, move to dust free area, drink water and blow nose.

If symptoms persist, seek medical advice.

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5. FIRE-FIGHTING MEASURES

AGNI-Shield is not combustible, but the packaging might burn.

Extinguishing media:

Suitable extinguishing agents CO2: Extinguishing powder or water spray.
Special hazards arising from the substance or mixture: None.

Advice for firefighters:

Protective equipment	Ensure adequate ventilation.

6. ACCIDENTAL RELEASE MEASURES

Wear protective clothing and breathing apparatus.

Restrict access to the area to a minimum number of workers.

Allow dust/fiber to settle before carefully cleaning in such a way to reduce releasing airborne particles.

7. HANDLING AND STORAGE

Precautions for safe handling:

Handling methods should be designed to limit the number of fibers becoming airborne.

Hygiene measures:

Wash contaminated clothing before reuse. Do not eat, drink, or smoke when using this product. Always wash your hands after handling the product.

Conditions for safe storage, including any incompatibilities:Store

in original packaging in dry area whilst awaiting use.

Avoid damaging containers.

Reduce agitation of product during unpacking.

Clean packaging before disposal/recycling.

8 EXPOSURE CONTROLS/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.

COUNTRY	OEL*
Austria	0.5 f/ml
Belgium	0.5 f/ml
Czech Republic	1.0 f/ml
Denmark	1.0 f/ml
Finland	0.2 f/ml
France***	0.1 f/ml
Germany***	0.2 f/ml (max. tolerance-concentration)**
Italy	0.2 f/ml
Poland	0.5 f/ml
Spain	0.5 f/ml
Sweden	0.2 f/ml
The Netherlands	0.5 f/ml
UK***	1.0 f/ml

Reactivity:

The product is non-reactive under normal conditions of use, storage and transport. The product is non-reactive under normal conditions of use, storage and transport.

Chemical stability:

Stable under normal conditions.

Possibility of hazardous reactions:

No dangerous reactions are known under normal conditions of use.

Conditions to avoid:

None under recommended storage and handling conditions (see section 7).

Hazardous decomposition products: Upon heating above 900^{o}C for prolonged periods, material may begin to transform to mixtures of crystalline phases.

11 TOXICOLOGICAL INFORMATION

11.1 Toxicokinetic, metabolism and distribution

11.1.1 Basic toxicokinetic

Exposure is predominantly by inhalation or ingestion. Man made vitreous fibers 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 fibers (> 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 exposure was evidenced in the USA longitudinal study.

The USA mortality study did not show evidence of increased lung tumor 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 fiber (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
- G*erm 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/m^3, 9 mg/m^3 and 16 mg/m^3
    - Routes of administration: Nose only inhalation
    - Results: Fibrosis just reached significant levels at 16 and 9 mg/m^3 but not at 3 mg/m^3. None of the parenchymal tumor incidences were higher than the historical control values for this strain of animal.
    - Method: Inhalation. Single dose
    - Species: Rat
    - Dose: 30 mg/m^3
    - Routes of administration: Nose only inhalation
    - Results: This study was designed to test the chronic toxicity and carcinogenicity of RCF at extreme exposures. Tumor 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/m^3
    - Routes of administration: Nose only inhalation
    - Results: This low quality study in hamsters (no justification for exposure concentration used and pre existing and concurrent infections in the test animals) produced mesothelial lesions of uncertain significance. Subsequent studies in hamsters with glass fibers 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 tumors 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 fibers. Exposure to these fibers is via inhalation and effects seen are in the lung. Clearance of fibers 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 exposures 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 fiber exposure.

12 ECOLOGICAL INFORMATION (Non-mandatory)

These products are inert materials that remain stable overtime.

These products are insoluble in the natural environment and are chemically identical to inorganic compounds found in the soil and sediment.

RCF/ASW is inorganic and a dense material, which will settle rapidly from both air and liquid. No adverse effects of this material on the environment are anticipated.

13 DISPOSAL CONSIDERATIONS (Non-mandatory)

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.

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14 TRANSPORT INFORMATION (Non-mandatory)

ADR Road transport:

UN number	Not regulated.
UN proper shipping name	Not regulated.
Transport hazard class(es)	Not regulated.
Packing Group	Not regulated.
Environmental hazard	Not applicable.

Special precautions for user None.

RID Rail transport:

UN number	Not regulated.
UN proper shipping name	Not regulated.
Transport hazard class(es)	Not regulated.
Packing Group	Not regulated.

Environmental hazard	Not applicable.
Special precautions for user	None.

IMDG Sea transport:

UN number	Not regulated.
UN proper shipping name	Not regulated.
Transport hazard class(es)	Not regulated.
Packing Group	Not regulated.
Marine pollutants	Not applicable.
Special precautions for user	None.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.

No information is available.

IATA Air transport:

UN number	Not regulated.
UN proper shipping name	Not regulated.
Transport hazard class(es)	Not regulated.
Packing Group	Not regulated.
Environmental hazard	Not applicable.
Special precautions for user	None.

15 REGULATORY INFORMATION (Non-mandatory)

Safety, health, and environmental national regulations specific to the product No additional information is available.

Chemical safety assessment	No additional information is available.

14 OTHER INFORMATION

To be used as a component of fire-stopping systems installed in masonry, wood, metal, and plasterboard fire-separating elements.