

ISOFRAX FIBRES

According to regulation (EC) No. 1907/2006 (REACH)

1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Product identifier

Product form : Substance
Trade names : Isofrax fibres
Chemical name : AES wools (synthetic fibres, alkaline earth silicate)
EC-No : 650-016-00-2
CAS number : 436083-99-7
REACH registration number : 01-2119457644-32-0001 and 01-2119457644-32-0002

1.2 Relevant identified use of the substance of mixture and uses advised against

1.2.1 Relevant identified uses

Main use category : For industrial use within high temperature applications

1.2.2 Uses advised against

No additional information available

1.3 Identification of the company

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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance/mixture

Classification according to regulation (EC) No 1272/2008 (CLP)

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available.

2.2 Label elements

Labelling according to Regulation (EC) no. 1272/2008 (CLP)

Listed in Annex VI : EC Index-No.: 650-016-00-2

2.3 Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

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3. COMPOSITION / INFORMATION OF INGREDIENTS

3.1 Substance

NAME	PRODUCT IDENTIFIER	%	Classification according to Regulation (EC) No. 1272/2008 (CLP)
Alkaline earth silicate wool (synthetic fibres, alkaline earth silicate)	CAS-No.: 436083-99-7 EC-No.: 610-130-5 EC Index-No.: 650-016-00-2 REACH-no: 01-211945764432-0001;01-2119457644-32-0002	100	Not classified

3.2 Mixture

Not applicable

4. FIRST AID MEASURES

4.1. Description of first aid measures

First-aid measures general	: When in doubt or if symptoms are observed, get medical advice.
First-aid measures after inhalation	: Move to fresh air.
First-aid measures after skin contact clothing and wash it before reuse.	: Gently wash with plenty of soap and water. Take off contaminated
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation mechanical irritation.	: Irritating to the respiratory system and mucous membranes.
Symptoms/effects after skin contact	: May cause slight temporary irritation. mechanical irritation.
Symptoms/effects after eye contact mechanical irritation.	: May cause slight temporary irritation to ocular mucous membranes.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: The product is not flammable. Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Water spray.
Unsuitable extinguishing media: Do not use a heavy water stream.

5.2 Special hazards arising from the substance or mixture

Fire hazard	: Non flammable.
Explosion hazard	: Product is not explosive.
Hazardous decomposition products in case of fire	: None.

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5.3. Advice for firefighters

Firefighting instructions : Prevent fire fighting water from entering the environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Protective equipment: Concerning personal equipment to use, see section 8.
Emergency procedures: Prohibit unauthorized persons.

6.1.2 For emergency responders

Protective equipment: Ensure adequate ventilation. Concerning personal protective equipment to use, see section 8.
Emergency procedures: Manipulations are to be done only by qualified and authorised persons.

6.2 Environmental precautions

Prevent entry to sewers and public waters. Avoid sub-soil penetration.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Mechanically recover the product. Minimize generation of dust. High efficiency particulate air filter (HEPA filter)
Other information: Disposal must be done according to official regulations

6.4 Reference to other sections

See heading 7, 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Additional hazards when processed: Extraction to remove dust at its source.
Precautions for safe handling: Obtain special instructions before use. Ensure good ventilation of the work station. Use personal protective equipment as required. Do not breathe dust. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Clean contaminated areas thoroughly.
Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Product must only be kept in the original packaging. Store tightly closed in a dry and cool place.
Information about storage in one common storage: Keep away from food, drink and animal feeding stuffs. facility

7.3. Specific end use(s)

For professional users only. See Section 8.

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8. EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

8.1.1 National occupational exposure and biological limit values

United Kingdom - Occupational Exposure Limits	
Local name	MMMF (Machine-made mineral fibre)
WEL TWA (OEL TWA) [1]	5 mg/m ³ (except for refractory ceramic fibres and special purpose fibres)
WEL TWA (OEL TWA) [2]	2 fibers/ml (except for refractory ceramic fibres and special purpose fibres)

8.1.2. Recommended monitoring procedures No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Safety glasses with side shields

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing
Hand protection: protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:
Dust formation: dust mask. (FFP2)

8.2.2.4. Thermal hazards

No additional information available 8.2.3. Environmental exposure controls
Environmental exposure controls: Avoid release to the environment.

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Other information:

Do not eat, drink or smoke when using this product. Do not take working clothes home. Wash contaminated clothing before reuse. Separate working clothes from town clothes. Launder separately.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Solid
Colour	:	white.
Appearance	:	Fibres.
Odour	:	odourless.
Odour threshold	:	Not available
Melting point	:	1500 – 1550 °C
Freezing point	:	Not applicable
Boiling point	:	Not applicable
Flammability	:	Not applicable
Explosive properties	:	Product is not explosive
Oxidising properties	:	Non oxidizing.
Explosive limits	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not self-igniting
Decomposition temperature	:	Not available
pH	:	Not applicable
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	Not applicable
Solubility	:	Water: < 1 mg/l
Partition coefficient n-octanol/water (Log Kow)	:	Not applicable
Vapour pressure	:	Not applicable
Vapour pressure at 50 °C	:	Not available
Density	:	Not available
Relative density	:	2.6
Relative vapour density at 20 °C	:	Not applicable
Particle size	:	Not available
Particle size distribution	:	Not available
Particle shape	:	Not available
Particle aspect ratio	:	Not available
Particle aggregation state	:	Not available
Particle agglomeration state	:	Not available
Particle specific surface area	:	Not available
Particle dustiness	:	Not available

9.2 Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

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9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : Not applicable
Relative evaporation rate (ether=1) : Not applicable

Other properties:

Length weighted geometric mean diameter of fibres contained in the product: 1.9 - 6 µm

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions of use.

10.2 Chemical stability

The product is stable at normal handling and storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions known.

10.4 Conditions to avoid

No additional information available.

10.5 Incompatible materials

None

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Not classified (Based on available data, the classification criteria are not met)

Skin corrosion/ irritation:

Not classified (Based on available data, the classification criteria are not met)

Serious eye damage/ irritation:

Not classified (Based on available data, the classification criteria are not met)

Respiratory or skin sensitisation:

Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity:

Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity:

Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity:

Not classified (Based on available data, the classification criteria are not met)

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Additional information

STOT-single exposure

Not classified (Not relevant)

STOT-repeated exposure

Aspiration hazard

AES wool (synthetic fibres, alkaline earth silicate) (436083-99-7)	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Other information:

Irritant Properties

When tested using approved methods (Directive 67/548/EC, Annex V, Method B4), fibres contained in this material give negative results. Man made mineral fibres, can produce a mild irritation resulting in itching or rarely, in some sensitive individuals, in slight reddening. Unlike other irritant reactions this is not the result of allergy or chemical skin damage but is caused by a temporary mechanical effect.

Other Animal Studies

These materials have been designed to allow rapid clearance from lung tissue. And 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. In lifetime chronic studies there was no exposure-related effect more than would be seen with any "inert" dust.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)

Hazardous to the aquatic environment, long-term (chronic)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

AES wool (synthetic fibres, alkaline earth silicate) (436083-99-7)	
Partition coefficient n-octanol/water (Log Kow)	Not applicable

12.4. Mobility in soil

No additional information available

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12.5. Results of PBT and vPvB assessment

AES wool (synthetic fibres, alkaline earth silicate) (436083-99-7)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties:

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product/Packaging disposal recommendations:

Dispose in a safe manner in accordance with local/national regulations.

European List of Waste (LoW) code : 10 11 03 - waste glass-based fibrous materials

European List of Waste (LoW) code:

10 11 03 – waste glass based fibrous materials.

14. TRANSPORT INFORMATION

In accordance with ADR, RID, IATA, IMDG, ADN.

ADR	IMDG	IATA	AND	RID
14.1 UN Number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2 UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3 Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4 Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5 Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available.				

14.6 Special precautions for user

- Overland transport

Transport regulation (ADR): Not applicable

- Transport by sea

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Transport regulations (IMDG):	Not applicable
- Air transport	
Transport regulations (IATA):	Not applicable
- Inland waterway transport	
Transport regulations (ADN):	Not applicable
- Rail transport	
Transport regulations (RID):	Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

AES wool (synthetic fibres, alkaline earth silicate) is not on the REACH Candidate List

AES wool (synthetic fibres, alkaline earth silicate) is not on the REACH Annex XIV List

Isofrax 1400 is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Isofrax 1400 is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

AES wool (synthetic fibres, alkaline earth silicate) is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

16. OTHER INFORMATION

Indication of changes:

General revision

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

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DNEL	Derived-No Effect Level
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rai
PBT	Persistent Bio accumulative Toxic
vPvB	Very persistent and Very Bio accumulative

Data source:

Information provided by the manufacturer. European Chemicals Agency, <http://echa.europa.eu/>.

. CARE PROGRAMME

ECFIA, representing the high temperature insulation wool (HTIW) industry, has undertaken an extensive industrial hygiene programme to provide assistance to the users of all products containing HTIW.

The objectives are twofold:

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

. PRECAUTIONARY MEASURES TO BE TAKEN AFTER SERVICE UPON REMOVAL

In almost all applications high temperature insulating wools products (HTIW) are used as an insulating material helping to maintain temperature at 900°C or more in a closed space. As produced, HTIW are vitreous (glassy) materials which, upon continued 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. As only a thin layer of the insulation hot face side is exposed to high temperature, respirable dust generated during removal operations does not typically 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 de-vitrification 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 and in vivo. The results from different combinations of factors like increased brittleness of fibres, or microcrystals 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 removals operations generally do not contain detectable levels of crystalline silica..

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:

- control measures are taken to reduce dust emissions; and
- all personnel directly involved wear an appropriate respirator to minimise exposure and comply with local regulatory limits.