

Safety data sheet

1. Product Information

Description: Loose hardwood shaving (heat treated) combined with crystalline aluminosilicate with binders.

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Substance: • Loose hard wood shaving  
• Crystalline aluminosilicate

Uses: Filter medium for biodiesel purification

2. Information on ingredients

Wood shaving: (CAS No. Not assigned. EINECS classification: Not classified):

Aluminosilicate:

Chemical characterization: Preparation

Description: Crystallise aluminosilicate with binders.

| Components (CAS No. and EINECS No.   |                                       |
|--------------------------------------|---------------------------------------|
| CAS: 1318-02-1<br>EINECS: 215-283-8  | zeolite (crystallise aluminosilicate) |
| CAS: 14808-60-7<br>EINECS: 238-878-4 | quartz (SiO <sub>2</sub> )            |

3. Hazards identification

Under normal working conditions Eco<sub>2</sub>pure™ is not explosive or flammable.

Depending on moisture content and more importantly, particle diameter, wood dust may explode in the presence of an ignition source. An airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the LEL (lower explosive limit) for wood dust.

Eco<sub>2</sub>pure™ is combustible.

Harmful by inhalation and skin contact. Identified as carcinogenic and a sensitiser under HSE EH40 2007. No "R" phrases have been assigned.

Additional information:

The product is very adsorbent and may have a drying effect on skin and eyes.

When exceeding the WEL (Workplace Exposure Limit) a mechanical overburdening of the respiratory system is possible.

In contact with water heat development and therefore burning of the skin and mucous membrane is possible.

This product contains less than 1% quartz which is part of a natural raw material. At present, EU Regulations do not require safety labelling of products containing quartz. However, quartz has been recently classified by IRAC (International Agency for Research on Cancer) as carcinogenic to humans by inhalation (Group I). Furthermore, quartz can cause silicosis and other lung diseases on prolonged exposure.

4. First aid procedures

EYES: Irrigate with water. If discomfort persists obtain medical attention.

INHALATION: Supply fresh air. If discomfort persists seek medical attention.

SKIN: Wash off with soap and water.

INGESTION: Wash out mouth with water. If discomfort persists seek medical attention.

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#### 5. Fire fighting measures

Accumulations of dust are combustible if exposed to an ignition source. Use: Water based extinguishers in the event of a fire. Loose dust arising in the work atmosphere is an explosion hazard.

Extinguishing Media: Foam, Dry Chemical, CO<sub>2</sub>, Water, Sand. Special fire fighting procedures: Tends to smoulder after combustion. Use water to wet down wood to reduce the likelihood of ignition or dispersion of dust into the air. Remove burned or wet dust to open area after fire is extinguished.

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#### 6. Accidental release measures

Vacuum up wood dust for recovery or disposal, avoid generation of dusty conditions through brushing. Provide good general ventilation.

Use NIOSH/MSHA approved respirator and goggles where ventilation is not possible.

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#### 7. Handling and storage

Care should be taken during handling to protect skin. Follow good housekeeping practices; clean up areas where wood dust settles to avoid excessive accumulation of this combustible material. Avoid generation of explosive levels of wood dust in air. Store in a cool, dry, well ventilated area.

##### Information for safe handling:

Prevent formation of dust.

Keep receptacles tightly sealed.

Provide suction extractors if dust is formed.

Any unavoidable deposit of dust must be regularly removed.

Prevent static electric sparks.

##### Information about fire - and explosion protection:

Protect against electrostatic charges.

Earth container to avoid electric sparks, especially in contact with flammable substances.

The product is not flammable.

##### Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Storage away from foodstuffs.

Further information about storage conditions: Keep container tightly sealed.

Store in dry conditions.

This product is hygroscopic.

Storage class: 13



#### 8. Exposure controls

Eco<sub>2</sub>pure™ hard wood shaving: Eco<sub>2</sub>pure™ 5mg/m (8hr TWA) reference HSE EH40.

Respirator: Approved respirator under dusty conditions required with an assigned protection factor (APF) of 10 or more using a P3 filter.

Ventilation: Local Exhaust: Due to explosive potential of wood dust when suspended in air, precautions should be taken to prevent sparks including electrostatic discharges or other ignition sources in ventilation equipment. Use of totally enclosed "ATEX rated" motors is recommended if equipment is being used in a wood dust filled atmosphere.

Hands: General purpose occupational gloves are recommended to reduce skin contact, except where moving machinery parts expose fingers to hazards.

Eyes: Safety glasses or goggles recommended in situations giving rise to high levels of dust.  
 Body: Where whole body contamination with wood dust occurs wear coveralls of synthetic (non cotton) material with low dust retention characteristics.

Additional information: (aluminosilicate)

| Ingredients with limit values that require monitoring at the workplace: |  |
|---|--|
| 1318-02-1 zeolite (crystallise aluminosilicate)                         |  |
| WEL (Great Britain)   | Long-term value: *10 **4 mg/m <sup>3</sup><br>*inhalable **respirable  |
| AGW (ALVEO) (Germany)   | Short-term value: 6 A mg/m <sup>3</sup><br>Long-term value: 3 A mg/m <sup>3</sup><br>Allg. Staubg.: TRGS 900 2.4 AGS         |
| AGW (EINATEM)   | Short-term value: 20 E mg/m <sup>3</sup><br>Long-term value: 10 E mg/m <sup>3</sup><br>Allg. Staubg.: TRGS 900 2.4 AGS       |
| 14808-60-7 quartz (SiO <sub>2</sub> )                                   |  |
| AGW (ALVEO) (Germany)   | Short-term value: 6 A mg/m <sup>3</sup><br>Long-term value: 3 A mg/m <sup>3</sup><br>Allg. Staubg.: TRGS 900 2.4 AGS         |
| AGW (EINATEM) (Germany)   | Short-term value: 20 E mg/m <sup>3</sup><br>Long-term value: 10 E mg/m <sup>3</sup><br>Allg. Staubg.: TRGS 900 2.4 AGS       |
| 14808-60-7 quartz (SiO <sub>2</sub> )                                   |  |
| WEL (Great Britain)   | Long-term value: 0.3 E mg/m <sup>3</sup><br>EH40/2005  |
| BAT (Germany)   | alveo. Anteil, z. Zt. nicht festgelegt (TRGS 906)  |
| MAK (ALVEO) (Germany)   | Short-term value: 6 A mg/m <sup>3</sup><br>Long-term value: 3 A mg/m <sup>3</sup><br>ausser Kraft, als Richtwert zu benutzen |

## 9. Physical and chemical properties: Tan coloured wood shaving

General information:

|                                       | Aluminosilicate                              | Hard wood shavings                                 |
|---------------------------------------|--|--|
| Form:                                 | Bead   | Wood shavings                                      |
| Colour:                               | Beige  | Brown  |
| Odour:                                | Odourless                                    | Slight aromatics                                   |
| Change in condition                   |  |  |
| Melting point/Melting range:          | 2000°C                                       | n/a  |
| Boiling point/Boiling range:          | Undetermined                                 | n/a  |
| Flash point:                          | Not applicable                               | n/a  |
| Flammability (solid, gaseous):        | Product is not flammable                     | Product is not flammable                           |
| Self-igniting:                        | Product is not self-igniting                 | Variable typically 204°- 260°C (400°- 500°F)       |
| Danger of explosion:                  | Product does not present an explosion hazard | LEL 40g (40,000 mg) of dust per cubic meter of air |
| Vapour pressure at 20°C:              | --hPa  | n/a  |
| Density at 20°C:                      | 2.1g/cm <sup>3</sup>                         | 0.67g/cm <sup>3</sup>                              |
| Solubility in/Miscibility with water: | Insoluble                                    | Insoluble  |
| pH-value at 20°C:                     | 7-11   | n/a  |
| Viscosity: Dynamic at 20°C:           | --mPas                                       | n/a  |

## 10. Stability and reactivity

Stable and non-reactive at ambient conditions.

Keep away from sources of ignition.

Conditions and materials to avoid - None in designated use.

It is highly recommended that spent Eco<sub>2</sub>pure™ should not be left to “compost”. In sufficient quantity a mass of spent Eco<sub>2</sub>Pure™, with more than 0.2% flammable liquid (such as Methanol) is subject to pyrophoric properties ie. capable of igniting spontaneously.

## 11. Toxicological information

Quantitative data on the toxicity of hard wood shavings are not available. Wood dusts have historically been causes of nasal cancer and are known respiratory sensitisers causing asthma. Chronic skin exposure to Wood dust may cause dermatitis.

Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version. When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

Aluminosilicate:

Acute toxicity:

| LD/Lc50 values relevant for classification:     |            |   |
|---|------------|---|
| 1318-02-1 zeolite (crystallise aluminosilicate) |            |   |
| Oral  | LD50       | > 5110 mg/kg (rat)<br>IUCLID Datasheet 18-Feb-2000<br>OECD TG 401 |
| Dermal  | LD50       | > 2000 mg/kg<br>IUCLID Datasheet 18-Feb-2000                      |
| Inhalative                                      | LC50 (1 h) | > 18.3 mg/l (rat)<br>IUCLID Datasheet 18-Feb-2000                 |
| 14808-607 quartz (SiO <sub>2</sub> )            |            |   |
| Oral  | LD50       | 500 mg/kg (rat)<br>IUCLID Datasheet 18-Feb-2000                   |

Primary irritant effect:

on the skin: No irritant effect

on the eye: Irritating effect

Sensitisation: Buehler test, guinea pig: No sensitisation observed, OECD 406 (zeolite).

Subacute to chronic toxicity:

Subchronic toxicity (zeolite): Rat, oral, 90 day feeding experiment: NOEL 5000 ppm. Rat, inhalative, 11 weeks, no follow up period: Lung effects, inflammation. Lung effects, inflammation (zeolite): No negative effects were determined during test for carcinogenicity and teratogenicity.

Additional toxicological information:

Danger through skin adsorption.

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

## 12. Environmental exposure controls

Quantitative data on the ecological impact of this product are not available. Adverse effects on the environment cannot be excluded but unlikely when handled, stored, and disposed of appropriately.

### 13. Disposal considerations

If recycling is not possible the material should be sent for energy recovery. Landfill can be used as a last resort. It is however the user's responsibility to ensure wastes are disposed of in accordance with local and national legal requirements and if in doubt contact their local Environment Agency office.

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### 14. Transport information

No transport warning sign required.

Freight classification: NMFC - 48210 Column 55

DOT: Not Regulated.

NMF Classification: Class 50 – Item 113200

Cedar is Class 70 - Item 113220

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### 15. Regulatory information

Within the UK, the use of this material at work must be assessed under the Control of Substances Hazardous to Health (COSHH) Regulations.

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### 16. Additional information / comments

Wood dust in the work atmosphere is a strong to severe explosion hazard if dust "cloud" contacts an ignition source.

Partially burned dust is especially hazardous if dispersed in air. 212°F (100°C) has been suggested as the upper temperature limit for continuous exposure of wood without risk of ignition. (Wood dust may require still a lower temperature.)

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