

Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier

- Product name: Asphalt.
- Asphalt is a mixture of aggregates and bitumen.

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified uses

The primary use (70%) of asphalt/bitumen is in road construction, where it is used as the glue or binder mixed with aggregate particles to create asphalt concrete. Its other main uses are for bituminous waterproofing products, including production of roofing felt and for sealing flat roofs.

Uses advised against

No specific uses advised against are identified.

1.3 Details of the Supplier of the Safety Data Sheet

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1.4 Document

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1.5 Contact Person

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Section 2: Composition/ Information on Ingredients

Asphalts are mixtures of aggregates and bitumen. Bitumen is a hydrocarbon derived from the distillation of petroleum crude oil, but may be synthetic or modified by the use of polymers and other chemicals. Bitumen content is typically <10%. Other materials such as cellulose fibres, latex and other additives may be added to the product. Aggregates used in asphalt may be naturally occurring (e.g. limestone, gritstone, granite, sand etc), artificial (e.g. slag aggregates) or recycled (e.g. road planning, inert construction and demolition waste, glass etc).

2.1 Calcium Carbonate

- Substance with National workplace exposure limits.
- Classification
Not classified

2.2 Magnesium Carbonate

- Skin Irritant 2 – H315
- Eye irritant 2 – H319
- Eye Dam 1 – H318
- STOT SE 2 – Lungs H317
- STOT SE 3 – Respiratory H335

2.3 Silica SiO₂

Not Classified.

2.4 Calcium Dihydroxide

Classification

- Skin Irrit. 2 – H315
- Eye Dam. 1 – H318
- STOT SE 3 – H335

2.5 Aluminium Oxide

Classification

STOT SE 3 – H335 Lungs and Inhalation

2.5 Iron Oxide Fe₂O₃

Not Classified.

2.6 Trace Minerals

These can be small particles of quartz, feldspar, clay minerals, pyrite, siderite, and other minerals. It can also contain large nodules of chert, pyrite, or siderite.

2.7 Bitumen

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS). Not expected to be a health hazard at ambient temperature.

Section 3: Hazard Identification

3.1. Classification of the Substance or Mixture Classification (Regulation (EC) No 1272/2008)

Physical hazards

- Not Classified Not expected to be a health hazard at ambient temperature.
- When product is heated, can cause thermal burns which may result in permanent skin damage.
- Cutting, grinding, finishing and drilling cause harmful dust.
- Do not allow molten material to contact water or liquids as this can cause violent eruptions, splatter hot material, or ignite flammable material.

3.2 Health Hazards of Generated Dust

Asphalt is not a dusty material, but respirable dust may be released by cutting, drilling or planning hardened asphalt. If inhaled in excessive quantities over a prolonged period or extended period, respirable dust can constitute a long term health hazard. Dusts containing Respirable Crystalline Silica* (quartz) present a greater hazard. Long-term exposure to respirable dust can lead to respiratory system damage and disease. Respirable crystalline silica* has been associated with the lung disease silicosis.

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The quartz content of the product will vary, and is related to the type of aggregate used in the production of the asphalt. Advice on the quartz content and other chemical information is available from the supplying unit.

*Any references to respirable silica only apply if hardened asphalt is cut, drilled, milled or planed.

Eye Damage

Eye exposures may require immediate first aid and medical attention to prevent damage to the eyes. Direct contact may cause corneal damage by mechanical abrasion.

Skin Contact

Hot, Asphalt may burn the skin. Cold, Asphalt is unlikely to be hazardous
Inhalation. H335

(Acute)

- P261 avoid breathing dust
- Fumes from Asphalt are unlikely to be hazardous when laid in open air situations, but there may be a risk to health by continuous inhalation of high vapour concentrations which might arise in poorly ventilated, confined or semi-confined spaces.

(Chronic)

- Risk of injury depends on the level of exposure and duration.
- This product contains crystalline silica. Repeated or prolonged inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease. See section 4 for more information.
- Limestone contains trace amounts of crystalline silica and as known carcinogens.

Ingestion

Non Toxic

Do not ingest. Ingestion of small amounts is not known to be harmful, large quantities can cause discomfort, vomiting, nausea and irritation. Seek medical advice in the unlikely event of copious quantities being ingested.

3.3 Environmental Hazards

Not Classified.

3.4 Other Hazards

- Contact with hot material can cause thermal burns which may result in permanent skin damage.
- Hot product may cause severe eye burns and/or blindness.
- Not classified as flammable but will burn.
- Do not allow molten material to contact water or liquids as this may cause violent eruptions, splatter hot material, or ignite flammable material.
- Hydrogen sulphide (H₂S), an extremely flammable and toxic gas, and other hazardous vapours may evolve and collect in the headspace of storage tanks, transport vessels and other enclosed containers.

Section 4: First Aid Measures



4.1 General Advice

DO NOT DELAY

- Keep victim calm. Obtain medical treatment immediately. Vaporisation of H₂S that has been trapped in clothing can be dangerous to rescuers. Maintain respiratory protection to avoid contamination from the victim to rescuer. Mechanical ventilation should be used to resuscitate if at all possible.

- Protection of first-aiders: When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

4.1 Ingestion

Remove to fresh air. If person is conscious, rinse out mouth and give water to drink. Seek medical advice.

4.2 Inhalation

Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.

4.3 Skin Contact

Burns caused by contact with hot material should be cooled by immediately flushing with large amounts of cold water. Do not attempt to remove anything from the burn area unless required to allow breathing and stop constriction of blood flow. Seek medical attention. Bitumen may be removed under medical supervision.

4.4 Eye Contact

- If the material is cold, immediately and thoroughly irrigate with eye wash solution or clean water. If symptoms develop or persist, seek medical attention.
- If material is hot, apply the same measures as 'skin contact' above.

Section 5: Firefighting Measures



Do not use water on fire

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5.1 General Hazard

Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silica dissolves readily in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride.

5.2 Extinguishing Media

Dry powder, foam. Do not use water. CO₂ is also not suitable.

5.3 Firefighting Equipment

- Special Exposure Hazards in Fire: Hydrocarbon fumes may be released, along with other hazardous combustion products including smoke.
- Special Protective Equipment for Fire Fighters: Proper protective equipment including suitable respirators or breathing apparatus must be worn.

Section 6: Accidental Release Measures

6.1 General

Wear overalls, heat resistant safety boots and heat resistant, impervious gloves. Wear suitable respiratory protection in poorly ventilated or enclosed areas. Keep away from ignition sources. See Section 8 for guidance on personal protective equipment. See Section 7 for guidance on handling the product.

6.2 Environmental

Prevent Asphalt from entering waterways, sewers and drains.

6.3 Disposal

Asphalt made with bitumen is classed as 'non-hazardous' but should be disposed of in accordance with local and national legal requirements. Hardened asphalt can be readily recycled.

6.4 Cleaning

Scrape up using suitable mechanical methods. Bitumen may be removed from tools and machinery with a proprietary bitumen remover, but ensure you refer to the suppliers safety data sheet before using.

Section 7: Handling and Storage

7.1 Handling

Skin contact with the product should be avoided. Inhalation of fumes should be avoided as far as is reasonably practicable.

7.2 Storage:

No special requirements.

7.3 Storage Pressure and Temperature

Unlimited.

7.4 Clothing

Remove and launder clothing that is contaminated with dust. Wash skin after exposure to dust.

Section 8: Exposure Controls and Personal Protection

8.1 Exposure Limits Values

- **Respirable Quartz:** WEL 0.1 mg/m³ 8Hr
- **Respirable dust:** WEL 4.0 mg/m³ 8hr
- **Asphalt Fumes:** WEL 5.0mg/m³ 8hr
- **Asphalt Fumes:** WEL 10.0 mg/m³ 15 minutes

WEL = workplace exposure limits

8.2 General

- Dust caused by cutting, drilling, planning or dressing should be controlled by containment, suppression and extraction/ filtration where possible.

- Avoid contact with skin and eyes, minimise generation of dust. Wear Personal Protective Equipment and wash exposed skin, hands and face after use.
- Asphalt should only be laid in well ventilated areas.

8.3 Reparatory Protection

Only use in well ventilated areas. Avoid breathing fumes/vapours. When cutting, grinding, finishing and drilling. Use respiratory protection compliant with appropriate British standards. Air stream helmets should be used for prolonged or heavy exposure.

8.4 Hand Protection

Hand protection is recommended for prolonged exposure. Gloves should be impermeable and heat resistant. As good practice wash hands after use.

8.5 Eye Protection

Goggles should be worn when handling product. When cutting, grinding, finishing and drilling, goggles with side protection or a full face shield are recommended. Access to emergency eye wash is recommended.

8.6 Skin Protection

Overalls and/or long-sleeved jackets and full length trousers should be worn to protect skin from burns. Clean overalls as necessary to prevent bitumen permeating to clothing or skin underneath. Heat resistant safety boots should be worn to protect feet. The use of skin barrier cream is also recommended. Hands should be washed thoroughly before handling or eating food or drink.

8.7 Environmental Exposure Controls

Follow best practice for site management and disposal of waste.

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Section 9: Chemical and Physical Properties

9.1 Physical State

Granular solid.

9.2 Appearance

- Cold: black granular solid.
- Hot: viscous liquid.

9.3 Odour

Strong and characteristic.

9.4 Vapour Pressure, Evaporation Rate and Vapour Density

Not applicable.

9.5 Relative Density

Above 2.0.

9.6 pH

Neutral.

9.7 Melting Point

90 – 100°C

9.8 Viscosity

Variable.

9.10 Boiling Point

Not applicable.

9.10 Flash Point

Above 230°C.

Section 10: Stability and Reactivity

10.1 Stability

- Stable under normal conditions.
- Avoid sources of ignition and temperatures above 200°C.

10.2 Incompatibility

Strong oxidising agents, e.g. chlorates which may be used in agriculture.

10.3 hazardous Decomposition and Hazardous Polymerization

- The substances arising from the thermal decomposition of the bitumen binder in asphalt will largely depend on the particular conditions but may contain the following: Hydrogen Sulphide, Carbon Dioxide, Carbon Monoxide, Water, Particulate Matter, Sulphur Oxides, Polycyclic Aromatic Hydrocarbons, Unburnt Hydrocarbons, Nitrogen Oxides, and Vanadium Pentoxide.

Section 11: Toxicological Information

Information on toxicological effects (dust)

- | | |
|------------------------|------------|
| • LD50 oral (rat) | >6450mg/kg |
| • ATE oral (rat) | >2000mg/kg |
| • ATE dermal (rabbit) | >2000mg/kg |
| • ATE inhalation (rat) | >5mg/L 4h |

Acute toxicity

N/A

11.1 Eye Contact

- Direct contact with dust may cause corneal damage by mechanical abrasion, inflammation or irritation.
- Contact with hot asphalt may cause burns. Product entering the eyes may cause irritation.

11.2 Skin Contact

Contact with hot asphalt may cause burns. Prolonged skin contact may cause dermatitis and malignant warts.

11.3 Inhalation and Respiratory Sensitisation

Bitumen used in asphalt may release small amounts of hydrogen sulphide gas. With good general ventilation, this is not likely to cause any problems, but in poorly ventilated enclosed spaces, concentrations may build up to hazardous levels. Inhalation of respirable dust from aggregate contained in asphalt whilst cutting or planing hardened asphalt can lead to respiratory system damage and disease. Inhalation of fumes over a prolonged period may cause irritation of the respiratory system.

11.4 Ingestion

Ingestion is unlikely, practice good hygiene. In occurrence seek medical advice.

Chronic toxicity

Chronic exposure to dust in excess of the occupational exposure limits may cause irreversible damage to the respiratory tract.

Section 12: Ecological

Environmental Assessment

12.1 When Used and Disposed of as Intended

No adverse environmental effects are foreseen. However, material dust should be refrained from entering watercourses or drains.

12.2 Mobility

Low mobility. Not buoyant. Dust may become airborne.

12.3 Persistence and Degradability

Resistant to degradation and will persist in the environment.

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12.4 Eco Toxicity

Not expected to be toxic to aquatic organisms.

12.5 Bio Accumulative Potential

No data available.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods

Dispose of waste material at an authorised waste site or according to local and national regulations.

13.3 Contaminated Packaging

Dispose of empty sacks/bags at an authorised waste site or according to local and national regulations.

Section 14: Transport Information

14.1 General

- Not classified as hazardous. Product should be kept covered.
- Flammable materials, and containers that do or may become pressurised should be kept away from hot asphalt to avoid the risk of fire and explosion.

14.2 UN Number

N/A

14.3 UN Proper Shipping Name

N/A

14.4 Packing Group

N/A

14.5 Environmental Hazards

N/A

Section 15: Regulatory Information

15.1 Classification

Dust: Directive 67/548/EEC Irritant Xi

Section 16: Other Information

16.1 Risk Phrases

- R36 Irritating to the eyes.
- R37 Irritating to the respiratory system.
- R34 May cause burns.

16.2 Safety Phrases

- S22 Do not breathe dust.
- S25 Avoid contact with eyes.
- S36/ 37/ 39 – Wear suitable protective clothing, gloves and eye/face protection.
- S51 – Use in well ventilated areas.

16.3 Hazard Phrases

- H317 May cause allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation
- H372 Causes damage to organs through prolonged or repeated exposure (relates possible lung damage if exposed to respirable silica* that may be released if hardened asphalt is cut, drilled, milled or planed.)

16.3 Guidance and reference

- PPE Regulations.
- COSHH Regulations.

16.4 Precautionary Statements

- P261 – Avoid breathing dust/fume/ vapours.
- P271 – Use only outdoors or in a well ventilated area.
- P281 – Use personal protective equipment as required (see Section 8).

Further Information

Contact Product Technical Support at using the details given in Section 1.

Data sheet updated in accordance with REACH Directive Annex 11. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness it does not, however, give assurances of product properties and establishes no contract legal rights.

If you have purchased this product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and any of the precautions which should be taken.

This Safety Data Sheet does not constitute the user's own assessment of workplace risk, and it is the user's sole responsibility to take all necessary safety precautions when using this product.

The product is to be used exclusively for the applications named in the technical leaflet or in the processing instructions. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use. This Material Safety Data Sheet does not constitute the user's own assessment of workplace risk, and it is the user's sole responsibility to take all necessary safety precautions when using this product. The receiver of our product is singularly responsible for adhering to existing laws and regulations and to carry out suitable assessment of risk prior to use, calling on all relevant information.

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