

ASPHALT MATERIALS MATERIAL SAFETY DATASHEET



It is important that you, or any persons working for you or to whom you have supplied asphalt materials, become familiar with the information given on both pages of this datasheet before handling, using or disposing of the product(s).

Section 1: Asphalt materials

Identification of substance/preparation and company

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Product:

Asphalt Concrete (Macadam)
Hot Rolled Asphalt
Stone Mastic Asphalt

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Section 2: Hazard information

2.1 Classification of the substance or mixture Not classified as dangerous according to EC 1272/2008.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)



Hazard Statements

H304: May be fatal if swallowed and enters airways.
H314: Causes severe skin burns and eye damage.
H317: May cause skin irritation.
H335: May cause respiratory irritation.
H372: Causes damage to organs through prolonged or repeated exposure (inhalation of dust).

Precautionary Statements

P261: Avoid breathing dust/fume/ gas/mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.
P281 - Use personal protective equipment as required

2.3 Other Hazards

Vapours, mists or fumes may be given off from the hot product and these may condense on cooling, contaminating skin or clothing. This may be harmful. Hot products may cause burns to the skin. Prolonged or repeated contact with bituminous products may give rise to dermatitis, skin lesions or skin cancer in extreme cases.

Inhalation of silica particles in dust created by cutting/planning hardened asphalt materials containing high silica aggregates may cause respiratory damage. Long-term prolonged exposure to high levels of respirable crystalline silica, which can arise from a failure to implement adequate control measures or wear the correct respiratory protection, can lead to silicosis and ultimately an increased risk of developing lung cancer.

Section 3: Composition/information on ingredients

Asphalt materials are a mixture of coarse and/or fine aggregates bound together with bitumen. The bitumen is typically of penetration grade, and may be modified by chemical polymers or fluxing oil. Asphalt materials will typically contain 3-7% of bitumen by mass. Natural aggregates contain a combination of various minerals including silica.

Section 4: First aid measures

Eye contact: The affected area should be irrigated immediately with cold running water or sterile eye wash and medical attention sought.

Skin contact: All bitumen burns should receive prompt medical attention. The affected area should be placed into cold running water until the ambulance service arrives. No attempt should be made to remove adhering bitumen unless this is essential to allow breathing.

Ingestion: Ingestion is highly unlikely in any normal circumstances.

Inhalation: Remove the affected person to fresh air. If breathing has stopped start artificial resuscitation. If the person is breathing but unconscious, place in the recovery position. Obtain medical assistance immediately.

Section 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media:
Dry powder, foam

Unsuitable extinguishing media:

Do not use water. CO₂ is also not suitable.

5.2 Special exposure to hazards in fire

Hydrocarbon fumes may be released, along with hazardous combustion products including smoke

5.3 Special Protective Equipment for Fire Fighters

Protective equipment including suitable respirators or breathing apparatus must be worn

Section 6: Accidental release measures

6.1 Personal precautions

Wear impervious heat resistant gauntlets which protect the wrist area, overalls and heat resistant safety boots. Prevent contact with ignition sources and ensure that suitable respiratory protection is used if vapours/fires are present

6.2 Environmental precautions

Bitumen oil is harmful to aquatic life. Avoid contamination of ponds, water courses, ditches and drains.

6.3 Methods for cleaning

In the event of a spillage avoid skin contact. Scrape up bulk material and dispose of according to regulatory restrictions.

Section 7: Precautions

7.1 Precautions for Safe Handling

Avoid skin contact with coated products. Eating, drinking and smoking should be avoided where there is a risk of cross-contamination. Deferred set mixes having an extended working life should be stored in properly constructed open air containment bays which should be sheeted. Access to these materials should be restricted to authorised personnel. Appropriate protective clothing (see 5.3) should therefore be used whilst handling.

7.2 Conditions for Safe storage

For bagged macadam only, store in a safe and stable manner, away from any moisture.

Section 8: Exposure controls/personal protection

8.1 Workplace exposure limits

A long term (8 hour TWA) Workplace Exposure Limit (WEL) of 5mg/m³ and short term (15 minute) WEL of 10mg/m³ are listed in EH40 for asphalt/petroleum fumes. Respirable silica is assigned a WEL's of 0.1mg/m³ (8 hour TWA).

8.2 Exposure controls

8.2.1 Engineering controls

When cutting or planing hardened asphalt materials containing high silica aggregates, where reasonably practicable dust exposures should be controlled by engineering methods, such as local exhaust ventilation.

8.2.2 Individual protection methods (PPE)

Respiratory protection: Suitable respiratory protection (HSE approved standard) should be worn to ensure that personal exposure is less than the workplace exposure limit values. Always ensure good ventilation.

Hand and skin protection: When placing hot materials, impervious heat resistant gloves/gauntlets for the hands/arms, overalls/long-sleeved jacket and chemical/heat resistant boots should all be worn.

Eye protection: Goggles or face shield eye protection should be worn if there is a risk of material splashing.

Section 9: Physical and chemical properties

Asphalt materials contain crushed stone or sand, bound by hot bitumen, which cools to form a hard durable solid. In the heated state the mixture is mobile but at ambient temperatures it becomes a solid. The bitumen may be modified by chemical polymers or fluxing oil. The pH is neutral or mildly acidic.

Appearance	Black, granular solid
Odour	Strong, characteristic
pH	Neutral
Boiling point/Range	N/A
Melting point/ Range	90 - 100°C
Flashpoint	Above 200°C
Auto Flammability	Above 230°C
Flammability	Not determined
Explosive Properties	Not determined
Oxidising Properties	Not determined
Vapour Pressure	N/A
Relative Density	Above 2
Water Solubility	Insoluble
Fat Solubility	Not determined

Section 10: Stability and reactivity

Conditions contributing to chemical instability: None
Hazardous decomposition products: None
Special precautions: None

10.1 Reactivity

No known reactivity under standard usage conditions

10.2 Chemical Stability

Stable under normal ambient and anticipated storage and handling conditions.

10.3 Possibility of hazardous reactions

Hydrocarbon fumes may be released, along with hazardous combustion products including smoke

10.4 Conditions to avoid

Sources of ignition and temperatures above 200°C

10.5 Incompatible materials

Strong oxidising agents / Mineral acids

10.6 Hazardous decomposition products

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, Vanadium Pentoxide.

Section 11: Toxicological information

Eye contact: May be irritating to the eyes. Contact with the eyes may cause burns.

Skin: Prolonged or repeated contact may give rise to dermatitis, skin lesions or cancer. Hot products may cause burns.

Ingestion: Extremely unlikely. Seek medical advice.

Inhalation: When placing material there are no acute hazard at ambient temperatures. At elevated temperatures volatile organic fumes and vapours may be irritating to the respiratory tract. Small quantities of hydrogen sulphides may be released which may accumulate to hazardous concentrations in poorly ventilated enclosed spaces. Inhalation of large quantities of dust or dust containing respirable silica (generated by cutting, planning, etc.) may cause progressive lung damage, leading to permanent disability and, in extreme cases, to premature death.

Section 12: Ecological information

Environment assessment:

When used and disposed of as intended, no environmental effects are foreseen, and asphalt should not pose an ecological hazard.

12.1 Toxicity

LC50 aquatic toxicity rating not determined. There are no significant hazards when the product is at ambient temperatures. At elevated temperatures hot bitumen oil is harmful to aquatic life.

12.2 Persistence and degradability

Resistant to degradation and will persist in the environment

12.3 Bioaccumulate potential

Not applicable

12.4 Mobility

Low mobility. Will sink in water and form a solid layer on the surface of the ground. Flux oil content will spread on water.

Section 13: Disposal considerations

Asphalts are not classified as hazardous for disposal. Local Authority requirements should be observed. Keep out of reach of children.

Section 14: Transport information

Not hazardous. Classification for conveyance – not required.

Section 15: Regulatory information

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

Asphalt is a mixture according to REACH and is not subject to registration.

15.2 National Regulatory Information

- Health & Safety at Work, etc. Act 1974
- Consumer Protection Act 1987
- Control of Substances Hazardous to Health Regulations (COSHH) 2002
- Control of Substances Hazardous to Health (Amendment) Regulations 2004
- Environmental Protection Act 1990
- HSE Guidance Note EH40 (Workplace Exposure Limits)
- Any authorised manual on First Aid by St.John's/ St.Andrews/Red Cross

- Manual Handling Operations Regulations 1992 (as amended)

Section 16: Other information

16.1 Risk/Safety phrases

Risk phrases

Contact with Bitumen may cause irritation, dermatitis or burns

Safety Phrases

- Avoid eye and skin contact by wearing suitable eye protection, clothing and gloves
- Avoid breathing dust
- Keep out of reach of children
- On contact with eyes or skin, rinse immediately with plenty of clean water. Seek medical advice after eye contact
- Contaminated clothing should not be allowed to come into contact with the skin

Guidance references

Available from HMSO, HSE area offices, or local authority Environmental Health Departments:

- EH40/: Workplace Exposure Limits
- A step-by-step guide to COSHH Assessment (HS[G]97)

Important notes

The purpose of this datasheet is to provide Health, Safety and Environmental guidance on the safe handling, use and disposal of asphalt materials supplied by subsidiary or affiliate companies of Cemex in the United Kingdom.

The information contained in this datasheet is correct at the date of, and applies only in relation to, the supply of material referred to in the delivery docket to which this datasheet is attached and forms part.

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