

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:

Macadam (Asphalt Concrete)
Hot rolled Asphalts
SMA & Thin Surface Course Asphalt

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Section 2: Hazard information

2.1 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.

2.2 Hazards identification

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/planing 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: Asphalt materials

3.1 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.

3.2 Fire fighting measures

Dry powder or foam extinguishers should be used on bitumen fires. Water extinguishers should not be used since these will make the situation worse.

3.3 Accidental release measures

Personal precautions (see 5.3)

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

Cleaning up

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

Environmental measures

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

Section 4: Precautions

4.1 Storage and handling

Storage

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

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.

Section 5: Exposure controls/personal protection

5.1 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).

5.2 Engineering measures

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.

5.3 Personal protective equipment

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 6: Product information

6.1 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.

6.2 Stability and reactivity

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

6.3 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.

6.4 Ecological information

6.4.1 Aquatic toxicity rating

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.

6.4.2 Biological oxygen demand (BOD)

Not applicable

6.5 Disposal considerations

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

Section 7: Additional information

7.1 Transport information

Not hazardous. Classification for conveyance – not required.

7.2 Regulatory information

7.2.1 Chemicals (Hazard Information and Packaging for Supply) Regulations

Classification: Irritant

7.2.2 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

Section 8: Legislation & other 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)

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.

This datasheet should alert purchasers and/or users to the usual hazards in handling the supplied material when using it within the ordinary range of uses for which such material is normally supplied. If you have purchased or arranged the supply on behalf of a third party who will work with the material supplied it is your duty to pass this information on to them BEFORE such work commences.

For the avoidance of doubt the datasheet DOES NOT constitute the user's own assessment of workplace risk as may be required by other safety legislation and nothing herein shall be construed or relied upon as relieving the purchaser, user or any intermediate supplier or third party from any statutory or other legal duty which may apply to them or from taking care or precautions to protect themselves or others to whom they owe a duty of care.

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Warning

Hot bitumen may cause serious burns in contact with eyes or skin. You MUST wear the appropriate protective clothing at all times.