

PRODUCT: BITUMEN COATED MATERIALS SUCH AS MACADAM, ASPHALT AND OTHER RELATED PRODUCTS, MANUFACTURED, SUPPLIED AND INSTALLED IN A HOT STATE

PRODUCER

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APPLICATION

Coated macadam, asphalt, and other related products, are designed for use in the construction and repair of roads and other paved areas. They are normally supplied in a hot state for immediate delivery and installation. They should be installed in accordance with relevant National and/or European Standards, Codes of Practice, or other appropriate guidance.

PHYSICAL AND CHEMICAL CHARACTERISTICS

Coated macadam and asphalt, and other related products, are heated mixtures of aggregates and binder. The binder is normally bitumen, which is a highly viscous, high-flash-point hydrocarbon derived from the distillation of crude oil. Non-bituminous binders, or binders containing additives, are not within the scope of this data sheet. Normally black and granular in appearance, product is mobile and granular only when in the hot state. On cooling to ambient temperature, product stiffens and hardens into a solid state. Mix temperature can reach 200° Celsius (depending on application).

MAIN HAZARDS

The main hazards presented by hot mixed material are:

Burns.

Bitumen fume. This is unlikely to be hazardous for work in the open air, but there could be a risk to health by inhalation of high concentrations that might arise in confined or partially confined spaces.

Additionally, aggregates and asphalt sands used in the manufacture of coated materials contain free silica (quartz or SiO₂) in varying proportions. Sand is a major component of Hot Rolled Asphalt supplied in the United Kingdom and the Republic of Ireland. Sand is a naturally occurring product dug from sand pits or dredged from the sea. Most asphalt sands are substantially composed of silica in the form of quartz grains. The proportion of asphalt sand in the supplied product will vary

according to the type of Hot Rolled Asphalt supplied.

Although coated products, as supplied, are bound with bitumen and therefore dust-free, crushing, drilling, or sawing of supplied product can produce dust that may contain silica. If inhaled in sufficient quantity, respirable dust containing silica can constitute a serious health hazard. (See PDS1 NATURAL AGGREGATES for approximate silica content of aggregates supplied by Northstone).

Breaking, drilling, or cutting of cooled and hardened bitumen coated products can give rise to projectiles and subsequent injury to the eyes or other parts of the body.

HANDLING AND STORAGE OF PRODUCTS

Hot mix products supplied by Northstone are manufactured and supplied in bulk loads. They require handling in accordance with suitable and sufficient method statements and risk assessments. Only suitably trained and competent persons should be involved in the handling and installation of these products.

Where breaking, drilling or sawing of product is required, wet dust suppression techniques should be used wherever possible to prevent dust becoming airborne, e.g., applying water when sawing. Where airborne dust is unavoidable or excessive, engineering controls, such as containment and local exhaust ventilation should be applied, particularly when airborne dust and/or silica exposure levels are approached.

FIRST AID MEASURES

- **Eye contact with hot material**

Immediately wash with cold running water for at least 10 minutes and seek medical attention for assessment and further treatment of the burn at the nearest hospital.

- **Eye contact (projectiles)**

Seek medical attention immediately.

- **Fume inhalation**

Remove from exposure area to fresh air.

- **Skin contact**

The affected part should be immediately plunged into cold running water until thoroughly cold, but avoid body hypothermia if large areas are affected. Seek medical attention for assessment and further treatment of the burn at the nearest hospital.

Note: In all cases of doubt, or where symptoms persist, medical advice should be obtained.

Bitumen burns first aid information is available on request.

FIRE FIGHTING MEASURES

Aggregate and asphalt sand are non-flammable. Bitumen binder is flammable, but constitutes only a small proportion of any hot mix product (around 8% for asphalt, 4-5% for bitmac). If fire is intense, there is a possibility of oxidising the limestone filler in asphalt, producing a caustic alkaline residue.

Attempt to extinguish fire by using dry chemical powder, foam, inert gas, or water spray (fog).

Never use water jets.

Call emergency services.

Avoid breathing fumes generated by fire.

ACCIDENTAL RELEASE MEASURES

As product is supplied in bulk tipper loads, accidental release may occur when tipping, or in the event of a vehicle accident. Main danger would be from risk of engulfment in hot material. In first instance, all unnecessary personnel and the public should be kept away from tipping operation. In the event of an accidental release, immediately evacuate personnel and public from the vicinity. If safe to do so, prevent hot material touching volatile combustible materials.

Spilled product should preferably be recovered while it is in the hot state by use of mechanical means, e.g., tractor shovel bucket, and transferred into an empty tipper truck for reuse or for disposal.

Cold hardened masses will necessarily have to be broken up prior to loading for disposal.

ENVIRONMENTAL MEASURES

It is recommended that coated material surplus to requirements is used as fill material on the installation site. Transport of surplus material from the site must be in accordance with Duty of Care requirements. Surplus material may be returned to a Northstone Recycling Depot (normally the supplying depot) by prior arrangement.

EXPOSURE CONTROLS

All in accordance with The Personal Protective Equipment Regulations (1992).

- **Personal protection**

Personal protective equipment should be worn when laying hot mixed products, particularly on

the arms, hands, legs and feet. All in accordance with user's risk assessment.

If laying products in confined or partially confined spaces, a suitable respirator may be required if adequate ventilation cannot be provided by any other means. Respiratory protection to HSE approved standard.

- **Eye protection**

HSE approved standard for dust and projectiles.

- **Occupational exposure**

Dust, total inhalable: UK EH40:WEL 10mg/m³ 8h TWA

Dust, total respirable: UK EH40: WEL 4mg/m³ 8h TWA

Silica, total respirable: UK EH40:WEL 0.1mg/m³ 8h TWA

Asphalt (bitumen) fume: UK EH40: WEL 5mg/m³ 8h TWA

ECOLOGICAL INFORMATION

Hardened bituminous road materials have no known ecological effect.

TRANSPORTATION

The carriage of these products is not subject to the Hazardous Substance Conveyance Regulations and vehicle labelling is not required.

REGULATORY INFORMATION

None specific.

OTHER INFORMATION

Purchasers of products covered by this sheet, who supply third parties, have a duty to ensure that the information on this sheet is passed on to them.

If you are an employer, you have a duty to inform your employees, and any others who may be affected, of the hazards and precautions that should be taken regarding the supply and use of the products covered on this sheet.

Possession of this Product Data Sheet does not constitute a risk or COSHH assessment.

The data and advice given above apply when these products are used as intended.

PDS2 Nov 06