

Asphalt Products

Material Safety Data Sheet

1. Identification of substance/preparation and company/undertaking

1.1. Product Identifier

Products EN 13108 Asphalt and mixtures containing them

Trade names

- Asphalt
- Asphalt Deferred set
- Coloured Asphalt

1.2. Relevant identified uses of the substance or mixture and uses advised against

Asphalts are used by professionals as well as by consumers in building and construction work, mainly outdoors, the identified uses of asphalt mixtures covers the warm and hot products supplied.

Any uses not mentioned above are advised against.

1.3. Details of the supplier of the safety data sheet

Heidelberg Materials UK
Second Floor, Arena Court
Crown Lane, Maidenhead
Berkshire, SL6 8QZ

Tel: 01628 744 100
E-mail: enquiries@uk.heidelbergmaterials.com

1.4. Emergency telephone number

Emergency Telephone Number: 0330 123 2074
Monday - Thursday: 8:45 AM - 5:00 PM
Friday: 8:45 AM - 4:00 PM

Service is provided in English. Please note: The emergency telephone number is not available outside office hours.

2. Hazard identification

2.1. Classification of the substance or mixture

Not classified as dangerous in accordance with EC 1272/2008. However, please note: the main hazards presented by asphalt relate to the temperature of the material. The following hazards may apply:

2.2. Label Elements

According to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms:



Signal words

Danger
Toxic

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 (relates possible lung damage if exposed to respirable silica* that may be released if hardened asphalt is cut, drilled, milled or planed.)

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.)

2.3. Other hazards

2.3.1. Hot materials may burn the skin

Not classified as dangerous in accordance with EC

- 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.
- Asphalt is not a dusty material, but respirable dust may be released by cutting, drilling or planing hardened asphalt. If inhaled in excessive quantities

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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. 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.

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

2.3.2. Deferred set asphalt

Deferred set asphalt contains flux oil, which may be present in quantities of up to approximately 2%. Flux oil in liquid state carries a risk of aspiration, which can lead to rapid and possibly fatal lung damage, and has the hazard classification:

Xn R-65 Harmful: may cause lung damage if swallowed' (In accordance with Directive 67/548/EEC)

GHS08 Health Hazard H304: May be fatal if swallowed and enters airways (in accordance with Regulation (EC) 1272/2008)

Once the flux oil is mixed with bitumen and aggregate, it is not expected to be likely to enter the lungs, so the finished product 'Deferred Set Asphalt is not classified as dangerous.

Deferred set asphalt is produced at elevated temperatures (up to a typical maximum of 120°C). Hot materials may burn the skin.

2.3.3. Coloured set asphalt

Coloured asphalt is a mixture of aggregate and synthetic / bitumen, with colour provided naturally by the aggregate, or by adding pigments to the mixture.

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.

3. 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.

Deferred set Asphalt is as described in section 2 with added fluxed Bitumen or bitumen emulsions.

Coloured Asphalt is as described in section 2 with added synthetic bitumen, with colour provided naturally by aggregate of addition of pigment.

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 planings, inert construction and demolition waste, glass etc.)

Hazardous ingredients:

Substance name	E C No	%	CLP Classification
Crystalline Silica*	238-878-4	Variable	H372; STOT RE1

4. First Aid measures

Inhalation

Immediately remove to fresh air. If breathing difficulties are experienced, seek medical attention. If breathing has stopped, commence artificial resuscitation and seek medical attention immediately.

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. Seek medical attention. Bitumen may be removed under medical supervision.

Eye contact

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

Ingestion

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

5. Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry powder, foam.

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Unsuitable extinguishing media

Do not use water. CO₂ is also not suitable.

5.2 Special exposure hazards in fire

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

5.3 Special protective equipment for fire fighters

Proper protective equipment including suitable respirators or breathing apparatus must be worn.

6.1 Personal precautions

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 precautions

Prevent asphalt from entering watercourses, ditches and drains.

6.3 Methods for 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.

7. Handling and storage

7.1 Precautions for safe handling

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

If the formation of vapours is a risk, then additional ventilation should be provided. Handle away from sources of ignition and heat. Do not smoke, eat or drink during use.

7.2 Conditions for safe storage

No special requirements. Asphalt is normally used upon receipt.

8. Exposure controls/personal protection

8.1 Exposure control limits

Take measures to prevent

- Inhalation of vapours/fumes.
- Inhalation of excessive quantities of dust during cutting, drilling, planing or surface treatment of hardened asphalt.

Please note: Reference to a Technical Standard number in this leaflet is deemed to include the latest published edition and/or any published amendments issued after the standard's publication, unless a date of issue is quoted in which case reference is to the provisions stated in that edition.

Components with workplace exposure limits (WELs)

Asphalt fumes	5mg/m ³	8 hours	TWA
Asphalt fumes	10mg/m ³	15 minutes	STEL
Total dust	10mg/m ³	8 hours	TWA
Respirable dust	4mg/ m ³	8 hours	TWA
Respirable Quartz (Crystalline Silica SiO ₂)	0.1mg/m ³	8 hours	TWA

Please note: Refer to EH40 (2005) latest revision for further information on workplace exposure limits.

8.2 Control measures

Dust caused by cutting or planing hardened asphalt should be controlled by containment, suppression and extraction/filtration where possible.

Asphalt should only be laid in well ventilated areas.

Inhalation

Use only in well-ventilated areas.

Eyes, skin, and hands

Wear suitable protective clothing, gloves and eye/face protection.



Respiratory Protection: Always ensure adequate ventilation and avoid breathing vapour/fumes and dust. Suitable respiratory protection should be used if required to ensure exposure is below the Workplace Exposure Levels given at the start of this section.



Hand Protection: Impermeable, heat resistant gloves should be worn.



Eye Protection: Goggles / Safety Glasses should be worn if there is a risk of product entering the eyes (including dust).



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.

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9. Physical and chemical properties

Appearance	Black, granular solid (or in the case of coloured asphalt, colour will vary)
Odour	Strong, characteristic
pH	Neutral
Boiling point/range	Not applicable
Melting point/range	90-100°C
Flash point	Above 200°C
Auto flammability	Above 230°C
Flammability	Not determined
Explosive properties	Not determined
Oxidising properties	Not determined
Vapour pressure	Not applicable
Relative density	Above 2.0
Water solubility	Insoluble
Fat solubility	Not determined

10. Chemical stability

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

Refer to section 5.2

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..

11. Toxicological information

Inhalation

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.

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.

Skin Contact

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

Eye Contact

Contact with hot asphalt may cause burns. Product entering the eyes may cause irritation.

Ingestion

Ingestion is very unlikely. Seek medical attention.

12. Ecological information

Environmental Assessment

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

12.1 Toxicity

Asphalt: Not expected to be toxic to aquatic organisms.

(Deferred set - Flux oil)

LC50 96 hours fish >100mg/l Biodegradability. OECD test.28 days 61% Bioaccumulable

12.2 Persistence and Degradability

Resistant to degradation and will persist in the environment.

12.3 Bioaccumulation potential

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.

13. Disposal consideration

Safe Handling of Residues / Waste Product

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.

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14. Transport information

Special Carriage Requirements

Not classified as dangerous for transport. 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.

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.

Control of Substances Hazardous to Health Regulations (COSHH) 2002 (As amended)

Environmental Protection Act 1990

HSE Guidance Note EH40 2005 (Workplace Exposure Limits)

PPE Regulations 1992

HSE Crystalline Silica EH59

Dangerous Substances Directive (DSD) 67/548/EEC
Classification, Labelling and Packaging Regulations (CLP)
EC1272/2008

16. Other information

16.1 Training Advice

Wear and use of PPE.

16.2 Recommended Uses and Applications

Industrial and construction applications.

16.3 Abbreviations and Acronyms

- ACGIH: American Conference of Governmental Industrial Hygienists
- ADR/RID: European Agreements on the transport of Dangerous goods by Road/Railway
- APF: Assigned protection factor
- CAS: Chemical Abstracts Service
- CLP: Classification, labelling and packaging (Regulation (EC) No 1272/2008)
- COPD: Chronic Obstructive Pulmonary Disease
- DNEL: Derived no-effect level
- EC50: Half maximal effective concentration
- ECHA: European Chemicals Agency
- EINECS: European Inventory of Existing Commercial chemical Substances EPA Type of high efficiency air filter
- ES: Exposure scenario
- EWC: European Waste Catalogue

- RFFP: Filtering facepiece against particles (disposable)
- FMP: Filtering mask against particles with filter cartridge
- HEPA: Type of high efficiency air filter
- H&S: Health and Safety
- IMDG: International agreement on the Maritime transport of Dangerous Goods
- LC50: Median lethal dose
- MEASE: Metals estimation and assessment of substance exposure
- EBRC: Consulting GmbH for Eurometaux. [Http://www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php](http://www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php)
- MS: Member State
- MSDS: Material safety Data Sheet
- OELV: Occupational exposure limit value
- PBT: Persistent, bio-accumulative and toxic
- PNEC: Predicted no-effect concentration
- PROC: Process category
- RE: Repeated exposure
- REACH: Registration, Evaluation and Authorisation of Chemicals
- RPE: Respiratory protective equipment
- SCOEL: Scientific Committee on Occupational Exposure Limit Values
- SDS: Safety Data Sheet
- SE: Single exposure
- STP: Sewage treatment plant
- STOT: Specific Target Organ Toxicity
- TLV-TWA: Threshold Limit Value-Time-Weighted Average
- VLE-MP: Exposure limit value-weighted average in mg by cubic meter of air
- vPvB: Very persistent, very bio-accumulative
- WEL: Workplace exposure limit
- w/w :Weight by weight
- WWTP: Waste water treatment plant

16.4 Further Information

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

Prepared in accordance with Annex II of the REACH Regulation (EC) 1907/2006.

17. Disclaimer

The information in this Safety Data Sheet was believed to be correct at the time of issue. 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.

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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.