

SAFETY DATA SHEET - Asphalt

1. Identification of the Substance / Mixture & Company / Undertaking

1.1 Product identifiers

Product Name: Asphalt

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

Identified uses: hot and cold road surfacing, resurfacing and top dressing

Details of the supplier of the safety data sheet:

Marchington Stone Limited
105 Buxton Road
High Lane
Stockport
SK6 8DX
☎ 01663 765000
✉ sales@marchington.net

Hours of operation:
07:30 – 18:00 Weekdays
08:00- 10:00 Saturday

1.3 Emergency phone number

UK National Poisons Information Service 0344 892 0111 (Healthcare professionals only – 24 hours a day)

2. Hazards Identification

2.1 Classification of the substance or mixture

Not classified as hazardous according to Regulation (EC) No. 1272/2008.

The main hazards presented by Asphalt relate to the temperature of the material.

The following hazards may apply:

- Hot material may burn the skin
- 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. Fumes from hot material may contain traces of hydrogen sulphide from the bitumen binder.

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- Asphalt is not a dusty material, but respirable dust may be released by cutting, drilling or planing 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.
- The quartz content of the product will vary and is related to the type of aggregate used in the production of asphalt. Advice on the quartz content and other chemical information is specific to the source and available upon request.

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



2.2 Label elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other hazards

None.

3. Composition/Information on Ingredients

3.1 Mixtures

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

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Hazardous Ingredients				
Substance Name	EC No	%	CAS No:	CLP Classification
Asphalt	232-490-9	<10%	8052-42-4	
Crystalline Silica (respirable fraction)	238-878-4	<5%	14808-60-7 (quartz)	STOT-RE 1, H372i
Hydrogen sulphide	231-977-3	trace amounts	7783-06-4	Flam Gas 1, H220 Acute tox.2, H330 Aquatic Acute1, H400

Text of H-code(s) above:

H372i Causes damage to organs through prolonged or repeated exposure by inhalation
H220 Extremely flammable gas
H330 Fatal if inhaled
H400 Very toxic to aquatic life

4. First Aid Measures

4.1 Description of first aid measures

<u>METHOD OF CONTACT</u>	<u>IMMEDIATE ACTION</u>	<u>FURTHER ACTION</u>
Inhalation: Excessive inhalation vapours from heated material	Remove to fresh air and allow to rest	If recovery is not rapid, obtain prompt medical attention
Skin contact: In case exposure to hot material	Remove contaminated clothing. Wash with soap /cleanser and rinse with plenty of water Burns caused by contact with hot material. Do not attempt to remove material from skin unless required to allow breathing. Seek medical attention. Cool the hot material immediately flushing with large amounts of cold water	If irritation persists, obtain prompt medical attention In case of burns bitumen may be removed under medical supervision

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Eye contact: In case exposure to cold material	Thoroughly irrigate with clean water or eye wash solution for at least 15 minutes. Take care not to wash debris from one eye to another	If irritation persists, obtain prompt medical attention
In case exposure to hot material	Do not attempt to remove material. Seek medical attention. Cool the hot material immediately flushing with large amounts of cold water	Bitumen may be removed under medical supervision
Swallowing: Ingestion of significant quantities of aggregate that could cause harm is very unlikely	If material enters the mouth, do not induce vomiting Remove to fresh air. If person is conscious rinse mouth and give plenty of water to drink	If feeling unwell seek medical advice

4.2 Most important symptoms and effects, both acute and delayed

The product when properly handled is not dangerous for the human health. Harmful effects are expected only in case of misuse. The main danger will be from thermal burns from hot material.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

5. Fire Fighting Measures

5.1 Extinguishing Media

Suitable media: dry powder or foam extinguishers
Unsuitable media: CO2, water extinguishers

5.2 Special Exposure Hazards in Fire

Hydrocarbon fumes and other hazardous combustion products including smoke may be released. Inclusion of water into molten material may create pockets of superheated steam which may cause an explosion.

5.3 Advice for Fire Fighters

Full flame-retardant protective clothing including suitable respirator or breathing apparatus. Prevent run off from fire control from entering waterways.

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6. Accidental Release Measures

6.1 Personal Precautions

For hot material: avoid breathing vapours, dusts or fumes and skin contact.
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 7 for guidance on handling the product.
See section 8 for guidance on exposure controls and personal protective equipment.

6.2 Environmental Precautions

Entry into watercourses, ditches and drains should be avoided.

6.3 Methods and materials for containment and cleaning

Spray with water to prevent the generation of dust.
Do not dry sweep residues.
Use a vacuum where practical.
Contain to avoid the generation of dust (i.e., cover, enclose or suppress).
Scoop up and place in container to await transfer.
Bitumen may be removed from tools and machinery with a proprietary bitumen remover (refer to the product's Safety Data Sheet before using).
Recycle and reuse material where possible.

7. Handling and Storage

7.1 Precautions for safe handling

Use heavy duty gloves - 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 immediately upon delivery.
Refer to the relevant Technical Data Sheet for the specific product.

7.3 Specific end use(s)

No data available.

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8. Exposure Controls / Personal Protection

8.1 Control parameters

Components with occupational exposure limits

Component	CAS No.	Exposure limit	Reference period	Basis
Respirable Silica	14808-60-7	0.1 mg/m ³	8 hrs T.W.A	UK. EH40 W.E.L.
Asphalt fume	8052-42-4	5mg/m ³ 10mg/m ³	7 hrs T.W.A 8 15minsSTEL	UK. EH40 W.E.L.
Total dust	Total Fraction	10 mg/m ³	8 hrs T.W.A	UK. EH40 W.E.L.
Respirable dust		4mg/m ³	8 hrs T.W.A	UK. EH40 W.E.L.
Oil mist (flux oil)		5mg/m ³	8 hrs T.W.A	
W.E.L = Workplace Exposure Limit T.W.A = Time Weighted Average				

8.2 Exposure controls

Appropriate engineering controls

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



Use in well-ventilated areas.

Use mechanical ventilation in poorly ventilated areas.

Hydrogen sulphide inhalation risk should be assessed to determine control appropriate to local circumstances.

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Personal Protective Equipment (PPE)

AREA OF CONTACT	PPE STANDARD FOR PROTECTION	OTHER RELEVANT INFORMATION
Eyes 	EN166	Goggles/safety glasses to be worn if there is a risk of product entry into eyes
Skin	Impervious heavy-duty, heat resistant gloves to EU Directive 89/686/EEC and standard EN 374	<p>Gloves must be inspected prior to use</p> <p>Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with good practices</p> <p>Wash hands thoroughly before handling or eating any food and drink</p> <p>Use of skin barrier cream is recommended</p>
Body	Overalls/impervious clothing, long sleeved jackets, long trousers and heat resistant boots	<p>Type of protective equipment must be selected according to the prevalent conditions at the specific workplace including temperature of heated material</p> <p>Wash hands thoroughly before handling or eating any food and drink</p> <p>Use of skin barrier cream is recommended</p>
Respiratory 	<p>No respiratory protection is required for cold material use</p> <p>For hot material use, suitable respiratory protection should be used (type Ap or equivalent)</p>	<p>Always ensure adequate ventilation and avoid breathing vapour/fumes</p> <p>Where a risk assessment in accordance with the hierarchy of controls established within the Chemical Agents Directive shows a requirement</p>

General Hygiene Measures

Wash hands thoroughly before handling or eating any food and drink

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9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

a	Appearance	Black granular solid
b	Odour	Strong, characteristic
c	Odour threshold	No data available
d	pH	Neutral
e	Melting point/freezing point	90-100 ^o C (softening point)
f	Initial boiling point and boiling range	Not applicable
g	Flash point	>200 ^o C
h	Evaporation point	No data available
i	Flammability (solid/gas)	No data available
j	Upper/lower flammability or explosive limits	Non-explosive
k	Vapour pressure	No data available
l	Vapour density	No data available
m	Relative Density	>2
n	Water Solubility	Insoluble in water
o	Fat solubility	No data available
P	Partition coefficient : (n – octanol/water)	No data available
q	Auto-ignition temperature	>230 ^o C
r	Decomposition temperature	No data available
s	Viscosity	No data available
t	Explosive properties	None
u	Oxidizing properties	None

9.2 Other safety information

No data available.

10. Stability and Reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable at normal temperatures and under recommended storage conditions.

10.3 Possibility of hazardous reactions

None expected under normal conditions.

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10.4 Conditions to avoid

Temperatures above 200°C.
Sources of ignition.

10.5 Incompatible materials

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

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:

Carbon Dioxide, Carbon Monoxide, Water, Particulate Matter, Hydrogen Sulphide, Sulphur Oxides, Polycyclic Aromatic Hydrocarbons, Unburnt Hydrocarbons, Nitrogen Oxides, Vanadium Pentoxide.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity	None
Skin contact	Hot material may cause burns Prolonged contact may cause skin lesions, dermatitis or malignant warts
Eye contact	May cause mild transient irritation and/or scratch eyes Excessive contact may cause mechanical irritation Hot material may cause burns
Ingestion	Ingestion is very unlikely If ingested may cause severe nausea & gastric pain. Seek medical attention
Germ cell mutagenicity	Not applicable
Carcinogenicity	Although respirable silica is classified as a Group 1 carcinogen the potential for hazardous exposure in this product is negligible as the respirable silica is not available in a free form Bitumen in its free non-oxidising form is not classified as carcinogenic
Reproductive toxicity	Not applicable
Specific target organ toxicity – single exposure	Not applicable

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<p>Specific target organ toxicity - respiratory - repeated exposure</p>	<p>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</p> <p>Heated bitumen may release small amounts of hydrogen sulphide gas. With good ventilation this is unlikely to cause harm. In poorly ventilated spaces concentrations may build up to hazardous levels</p>
<p>Aspiration Hazard</p>	<p>Not applicable</p>

12. Ecological Information

When used and disposed of as intended, no adverse environmental effects are foreseen. Asphalt should not pose a significant ecological hazard.

12.1 Toxicity

Bituminous binder may be hazardous to the aquatic environment.

12.2 Persistence and degradability

Asphalts are resistant to degradation and will persist in the environment.

12.3 Bioaccumulative potential

Not applicable

12.4 Mobility in Soil

Low mobility.

Asphalts will sink in water and form a solid layer on the surface of the ground.

12.5 Results of PBT and vPvB assessment

Will not meet PBT or vPvB criteria.

12.6 Other adverse effects

Avoid release into the environment.

Do not empty in watercourses

Flux oil

Acute toxicity LC50 96 hours fish > 100mg/l

Biodegradability OECD test 28 days 61%

Bioaccumable

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13. Disposal Considerations

13.1 Waste treatment methods

Product:

Not classified as Hazardous Waste, can be disposed of as normal industrial waste in line with local and national legislation.

Do not empty in watercourses.

Hardened asphalt can be readily recycled.

Contaminated packaging:

Dispose of as unused product.

14. Transport Information

Not classified as dangerous to transport.

Open vehicles should be sheeted to avoid creation of nuisance dust and contain material.

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

Prepared in accordance with the requirements of Retained REACH EU Regulation (UK)

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

- Health & Safety at Work etc. Act 1974
- HSE Guidance Note EH40/2005 Workplace Exposure Limits (as amended)
- Control of Substances Hazardous to Health Regulations (COSHH) 2002 (As amended)
- Environmental Protection Act 1990
- Classification, Labelling and Packaging of Substances and Mixtures Regulations 2008 (as amended)
- Chemicals (Hazard Information and Packaging for Supply) Regulations 2009
- Hazardous Waste Regulations 2005 (as amended)

15.2 Chemical Safety Assessment

No data available.

16. Other Information

16.1 Recommended restrictions on use

Use in accordance with manufacturer's technical instructions

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Legal Notice

The information in this Safety Data Sheet should be provided to those who will use, handle, store, transport or otherwise be exposed to the product. It has been prepared for the guidance of plant engineering, operations, management and for the people working with and handling the product and was believed to be correct at the time of issue. However, no guarantee or warranty is made, expressed or implied as to the accuracy or completeness of this information and Marchington Stone Ltd assume no responsibility resulting from its use.

This Safety Data Sheet is based on proper handling and anticipated uses and is for the material without chemical additions or alterations. Users should make their own investigations to determine the suitability of the information for their particular purpose. 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 precautions when using this product and a suitable risk assessment / COSHH assessment should be compiled prior to using this product.

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.

Further copies of this Safety Data Sheet may be obtained from Marchington Stone Limited.

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