



MATERIAL SAFETY DATA SHEET

ROADWAYS PTY LTD

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IMPORTANT NOTICE: This Material Safety Data Sheet (MSDS) is issued by Roadways Proprietary Limited, in accordance with Worksafe Australia guidelines. As such, the information contained herein must not be altered, deleted or added to. Roadways Proprietary Limited, will issue new MSDS when there is a change in product specifications and/or Worksafe Australia guidelines/regulations. Roadways Proprietary Limited will not accept any responsibility for any changes made to its MSDS in content by any other person or organisation.

IDENTIFICATION

Product name:	Asphalt
Chemical name:	Not applicable
UN number:	None allocated
Trade names:	Roadways Asphalt Asphaltic Concrete Bituminous Concrete
Dangerous goods class:	None allocated
Subsidiary risk:	None
Hazchem code:	None allocated
Poisons schedule number:	Not scheduled
Use:	Asphalt is used for a variety of applications in construction and surfacing of pavements for vehicular and pedestrian traffic

Physical Description/Properties:

Appearance:	Generally black semi-solid material which sets hard on cooling and compaction. May be coloured with oxide pigments.
Odour:	Slight asphaltic odour when hot. Some additives may create odour peculiar to that additive. The odour increases with increases in temperature of application.

Boiling point:)	
)	
Melting point:)	Difficult to determine because of complexity and variability of the bitumen and other ingredients.
)	
Vapour pressure)	The potential for fume will vary with different ingredients and temperature of application.
)	
Flashpoint:)	
Flammability limits in air.		Not flammable under conditions of use
Specific gravity (water = 1)		1.6 – 2.6
Molecular weight:		Not determined
Solubility in water:		Negligible
PH(1% aqueous solution):		Not applicable
Auto-ignition temperature:		Does not auto ignite

Ingredients:

Chemical Entity:	CAS No:	Proportion (by weight)
Crushed stone, gravel		40-95%
Sand	14808-60-7	< 60%
Bitumen (petroleum asphalt)	8052-42-4	3-8%
Other ingredients may also be added:		
Lime	1305-78-3	< 8%
Portland Cement	65997-15-1	< 8%
Diesel Fuel	68334-30-5	< 2%
Kerosene	8008-20-6	< 2%
Polymer	-	< 1%
Adhesion agents	-	< 0.1%
Metallic oxide pigments	-	< 3%
Mineral fibre	-	< 0.5%
Cellulose fibre	-	< 0.5%

- Crystalline silica (quartz) may be a constituent of the sand, crushed stone and gravel used in any particular asphalt mix.

HEALTH HAZARD INFORMATION

Notes: Exposure may occur from inhalation of bitumen fumes, mists or vapours or through skin contact. The amount of fume will depend on temperature and the bitumen used in the mix.

Cutting hardened asphalt has the potential for exposure to dry dust.

Acute Health Effects:

Swallowed: Unlikely under normal conditions of use but swallowing asphalt will result in abdominal discomfort.

Eyes: The fumes, mists or vapours may be irritating to the eyes resulting in redness and watering.

Skin: Contact with hot material may cause burns. Prolonged or repeated contact of bitumen components with the skin may cause irritation and dermatitis particularly if associated with poor personal hygiene or use of petroleum solvents for skin cleaning.

Inhaled: Fumes, mists and vapours from hot bitumen contain mixed hydrocarbons which may be irritating to the nose, throat and respiratory tract. Inhalation may also result in headaches and nausea.

Chronic Health Effects:

Inhaled: Hardened asphalt is not a health hazard, but repeated inhalation of dry dust from cutting or breaking asphalt may result in silicosis and an increased risk of lung cancer if the dust contains sufficiently high concentrations of respirable crystalline silica (quartz). The International Agency for Research on Cancer (IARC) has evaluated crystalline silica and concluded: (a) there is sufficient evidence for the carcinogenicity of crystalline silica to experimental animals, and (b) there is limited evidence for the carcinogenicity of crystalline silica to humans. The IARC evaluated crystalline silica is "probably carcinogenic to humans - Group 2A".

Bitumen fumes contain mixtures of aromatic and aliphatic hydrocarbon compounds which could have the potential for long term health effects, though no definite irreversible health effects have been found.

First Aid:

Swallowed: Give water to drink.

Eye: Flush thoroughly with water for at least 15 minutes. If irritation persists seek medical attention.

Skin: If burned by contact with hot material, cool as quickly as possible with water and seek medical attention for removal of adhering material and treatment of burn.

Inhaled: Remove from further exposure. If respiratory irritation, dizziness, nausea or unconsciousness occurs, seek immediate medical assistance.

Advice to Doctor:
Treat symptomatically.

PRECAUTIONS FOR USE

Exposure standards:

Keep exposures to bitumen fume as low as practicable.

Keep exposure to dust as low as practicable.

Worksafe Australia Exposure Standard:

Bitumen fume: 5 mg/m² – 8 hr time-weighted average (TWA)

(Research has found that more accurate estimates of exposure are obtained by using the BHP Environmental Health Laboratories (EHL) sampling method for total and specific organic compounds rather than the Worksafe Australia recommended method which determines only inspirable particulates. Research is continuing to determine a recommended maximum exposure level using the BHP EHL sampling method).

Crystalline silica: the exposure standard is under review

State & Territory Exposure Standards:

Crystalline silica: the exposure standards range from 0.1 to 0.2 mg/m³ in different Australian States and Territories and within States varies with different legislation applying to different industries.

Engineering controls:

All work with asphalt should be carried out in such a way as to minimise exposure to fumes and dust.

Respiratory protection:

Wear an approved organic vapour respirator conforming with Australian Standards AS/NZS 1715 and AS/NZS 1716 when exposed to fume.

If working where dust is generated wear appropriate respiratory protection approved for Silica dust exposures (AS/NZS 1715 and 1716).

Skin protection:

Wear loose comfortable clothing and boots. Long-sleeved shirts, long trousers and gloves (AS2161) are recommended to avoid skin contact. Wash skin with mild soap and water after working with asphalt.

Launder work clothes regularly and separately from other clothes.

Eye protection:

Safety glasses or non-fogging goggles (AS/NZS 1337) should be worn if a risk of eye irritation exists from bitumen fume or asphalt dust.

Flammability:

Not flammable under normal conditions of use.

SAFE HANDLING INFORMATION

Storage and transport:

There are no special transport requirements. Hot mixed asphalt may set hard on cooling.

Spills and disposal:

Recover spilled material where possible. Shovel up and return to mixing plant for recycling or dispose of in an authorised landfill site in accordance with local authority guidelines.

Fire/explosion hazard:

The material is non flammable.

LABELLING REQUIREMENTS

WARNING

WORK SAFELY WITH ASPHALT AND SPRAY SEAL WHEN ROAD PROFILING

Why you should take care:

- When asphalt products are cut, drilled, sawed, routed, shaved, munched, broken up or ground, silica dust may be released. Breathing silica dust over time may lead to lung diseases including bronchitis, silicosis and lung cancer.
- Asphalt fumes may irritate eyes, skin, nose, throat and lungs.

Protect yourself against breathing fumes and dust and against burns.

- Wear protective clothing, gloves (AS 2161) and eye protection (AS/NZS 1337)
- Working with hot asphalt - also wear an organic vapour respirator (AS/NZS 1715/1716)
- Cutting, grinding etc. hardened asphalt – also wear a P2 dust mask (As/NZS 1715/1716)

First Aid

- Eyes and Skin – wash with plenty of water
- Dust or fumes breathed in – move straight to fresh air.

Clean up every day

- Wash your work clothes often – it's best not to put them in the same wash with other clothes.
- When working in an enclosed area wet and sweep or dry vacuum all dust, collect solid waste and put all in a covered container – wear all protective gear.
- Follow local authority requirements for getting rid of waste.

CONTACT POINT

Further information may be obtained from Hobart and Burnie offices:

	Telephone	Facsimile
Hobart	03 6271 3500	03 6272 9606
Burnie	03 6431 5077	03 6431 6759

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