

Material Safety Data Sheet

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Infosafe No.	CASLX	Issue Date : January 2007	ISSUED by BPAUST
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Product Name : **BP Precoat 245**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	BP Precoat 245
Company Name	BP Australia Pty Ltd (ABN 53 004 085 616)
Address	Melbourne Central, 360 Elizabeth Street, Melbourne, Victoria 3000 Australia
Emergency Tel.	24hr 1800 638 556
Telephone/Fax Number	Tel: 61 3 9268 4111 Fax: (03) 9268 3321
Recommended Use	Bitumen product for road building, industrial and civil engineering materials and processes. For specific application advice see appropriate Technical Data Sheet or consult your BP representative.
Other Information	BP Bitumen Technical Helpline: 1 800 24 88 66 MSDS website www.msds.bp.com.au

This data sheet and the health, safety and environmental information it contains is considered to be accurate as of the date specified above. We have reviewed any information contained herein which we received from sources outside the BP Group of Companies. However, no warranty or representation, expressed or implied is made as to the accuracy or completeness of the data and information contained in this data sheet.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorisation given or implied to practise any patented invention without a valid licence. The BP Group of Companies shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

2. HAZARDS IDENTIFICATION

Hazard Classification	HAZARDOUS SUBSTANCE. DANGEROUS GOODS.
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Flammable liquid at elevated temperatures. As the material has a low flash point, any spillage should be considered a potential fire hazard. Spray applications increase the fire, and possible explosion hazard. Use in hot climates further increases this hazard.

This product can be delivered, stored and used at temperatures above its flash point. Avoid all naked flames, sparks, cigarettes, etc.

Contact with hot product will cause burns.

Harmful if swallowed - aspiration hazard.

Bitumens contain polycyclic aromatic hydrocarbons (PAH's) which become more bio-available when the bitumen is cut back with a petroleum solvent. Some PAH's have been shown by experimental studies to induce skin cancer.

Hydrogen sulphide, an extremely toxic and highly flammable gas, may be present in trace amounts in the overall formulation, and may collect along with other flammable light hydrocarbon gases in the vapour spaces where this product is stored. Hydrogen sulphide has a typical 'bad egg' smell but at high concentrations the sense of smell is rapidly lost, therefore do not rely on sense of smell for detecting hydrogen sulphide. Use specially designed instruments for determining its concentration.

Risk Phrase(s)	R40(3) Possible risk of irreversible effects.
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R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowed.

Safety Phrase(s)	S23 Do not breathe gas/fumes/vapour/spray
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S24 Avoid contact with skin.

S36/37 Wear suitable protective clothing and gloves.

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S51 Use only in well ventilated areas.
S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Information on Composition The product consists of bitumen, a complex black solid consisting predominantly of high molecular weight organic compounds with carbon numbers greater than C25 and high carbon to hydrogen ratios, cut back with hydrocarbon solvents.

Bitumen CAS No. 8052-42-4 <40% w/w
or
Asphalt, oxidized CAS No 64742-93-4 <40% w/w

Fuels, diesel CAS No. 68334-30-5
[Automotive diesel fuel; Gasoil unspecified] >60%

Other ingredients determined not to be hazardous <1%

Hazardous Components
Fuels, diesel Xn R40(3), Possible risk of irreversible effects, R65, Harmful:
May cause lung damage if swallowed.

4. FIRST AID MEASURES

Inhalation If inhalation of mists, fumes or vapour causes irritation to the nose or throat, or coughing, remove to fresh air. If symptoms persist obtain medical advice.
EXPOSURE TO HYDROGEN SULPHIDE
Casualties suffering ill effects as a result of exposure to hydrogen sulphide should be immediately removed to fresh air and medical assistance obtained without delay. Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth-to-mouth method. Administer external cardiac massage if necessary. Seek immediate medical attention.
It is advisable that all who are engaged in operations in which contact with hydrogen sulphide may reasonably be anticipated, should be trained in the techniques of emergency resuscitation and in the care of an unconscious patient.

Ingestion If contamination of the mouth occurs, wash out thoroughly with water. Except as a deliberate act, the ingestion of large amounts of product is unlikely. If it should occur, DO NOT INDUCE VOMITING. Wash out mouth with water. Where vomiting occurs naturally have victim place head below hip level in order to reduce risk of aspiration. Seek immediate medical attention.

Skin Hot product - Where skin burns occur, the area should be immediately immersed in cold water until the bitumen is thoroughly cooled. Do not attempt to remove the bitumen from the skin as it provides an airtight sterile cover over the burn which will eventually fall away with the scab as the wound heals. If, for any reason, the bitumen must be removed, this can be done using a slightly warmed medicinal liquid paraffin. Kerosene or other solvents should never be used to remove bitumen from skin or clothing. All burns should receive medical attention. It should be noted that bitumen contracts on cooling and where a limb is encased, care should be taken to avoid the development of a tourniquet effect.

Cold product - If the skin becomes contaminated with bitumen at ambient temperature, wash the skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash underlying skin. Seek medical advice if irritation persists.

Eye Hot product - Flood immediately with water to dissipate the heat, if possible, ensuring eyelids are held open. In the event of any product remaining, do not try to remove it other than by continued irrigation with water. Take the casualty to hospital for examination and treatment without delay.

Cold product - Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.

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Advice to Doctor Treatment should in general be symptomatic and directed to relieving effects. Inhalation of hydrogen sulphide may cause central nervous system depression leading to coma and death. It is an irritant to the respiratory tract causing chemical pneumonitis and pulmonary oedema. The onset of pulmonary oedema may be delayed 24 to 48 hours. Treat with oxygen and ventilate as appropriate. Administer broncho-dilators if indicated and consider administration of corticosteroids. Keep casualty under surveillance for 48 hours in case pulmonary oedema develops. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.

5. FIRE FIGHTING MEASURES

Fire Fighting Measures For major fires, call the Fire Brigade immediately. Ensure an escape path is always available from any fire. There is a danger of flashback if sparks or hot surfaces ignite vapour. In case of fire, use foam, dry chemical, carbon dioxide, vaporising liquid or water delivered as a fine spray. DO NOT USE water jets. FIRES IN CONFINED SPACES SHOULD BE DEALT WITH BY TRAINED PERSONNEL WEARING APPROVED BREATHING APPARATUS. Water may be used to cool nearby heat exposed areas/objects/packages. Avoid spraying directly into storage containers because of the danger of boil-over.

Hazards from Combustion Products Toxic fumes may be evolved on burning or exposure to heat. See Stability and Reactivity, Section 10 of this Material Safety Data Sheet.

Hazchem Code 2W

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures As this material has a low flash point, any spillage should be considered as a potential fire or explosion risk. Explosive air/vapour mixtures can occur, particularly in unventilated or confined spaces. Vapour is heavier than air and may travel to remote sources of ignition (eg. along drainage systems, in basements, etc.). Evacuate all non-essential personnel from the immediate area. This product will be a liquid under standard conditions of use. A solid product will be formed if the hydrocarbon solvents are allowed to evaporate. Wear protective equipment. (See Exposure Controls/Personal Protection, Section 8 of this Material Safety Data Sheet for details) Contain and recover liquid using sand or other suitable inert absorbent material. Protect drains from potential spills and prevent entry of product. Do not wash product into drainage system since this may result in a blockage if the hydrocarbon solvents evaporate. Should blockage occur, notify the appropriate authority immediately. Scrape up bulk of solid material and remove the remainder with sand or other suitable absorbent material. It is advised that stocks of suitable absorbent material should be held in quantities sufficient to deal with any spillage, which may be reasonably anticipated. If necessary, clean the resultant area using hot water and detergent; absorb the washings with suitable absorbent material or sand. Do not wash into drains. Spillages of hot product in confined spaces may be especially hazardous because flammable gases including highly toxic hydrogen sulphide may be present. For such spillages, the use of approved breathing apparatus by personnel specially trained in its use may be required. If spillage has occurred in a confined space, ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry. In case of large spills, contact the appropriate authorities. In case of spillage on water, prevent the spread of product by the use of suitable barrier equipment. Recover product from the surface. Protect environmentally sensitive areas and water supplies. Regular surveillance on the location of the spillage should be maintained.

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7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid skin contact. Good working practices, high standards of personal hygiene and plant cleanliness must be maintained at all times. Whilst using, do not eat, drink or smoke. Wear appropriate gloves. Wash hands thoroughly after contact. Removal of bitumen from the skin is best achieved by the use of a suitable hand cleaner. Do not use solvents, such as kerosene. Regular periodic self inspection of the skin is recommended, especially those areas subject to contamination. In the event of any localised changes in appearance or texture of the skin being noticed, medical advice should be sought without delay. Contact with hot product will cause burns.

Ensure good ventilation and avoid, as far as reasonably practicable, the inhalation and contact with vapours, mists or fumes which may be generated during use. If such vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.

Avoid contact with eyes. If splashing is likely to occur wear a full face visor or chemical goggles as appropriate.

Do not siphon product by mouth.

Use disposable cloths and discard when soiled. Do not put soiled cloths into pockets.

Take all necessary precautions against accidental spillage into soil or water.

Conditions for Safe Storage

Store under cover away from moisture and sources of ignition. Do not overheat in storage.

Under no circumstances should water be allowed to contact hot product because of the danger of boil-over. Particular care should be taken to ensure that bulk storage tanks are watertight and that any steam heating coils are regularly checked for leaks.

For bulk product, the storage temperature should not fluctuate above and below 100°C as this increases the risk of water condensation leading to boil-over. Care must always be exercised when heating product through 100°C.

Highly toxic hydrogen sulphide gas may be emitted from hot product and accumulate in enclosed spaces or tanks. Extreme care must therefore be taken during venting of tanks and enclosed spaces which have, at any time, contained hot product. Under no circumstances should entry be made into small enclosures without taking full precautions.

Confined spaces contaminated with hydrogen sulphide must always be considered as constituting potentially life-threatening environments. Entry into such spaces must never be undertaken except under extreme emergency when no alternative is possible and then by trained operators wearing air-supplied breathing apparatus of an approved type and following procedures strictly in accordance with statutory regulations. Always have sufficient personnel standing by outside the tank with appropriate breathing apparatus and equipment to effect a quick rescue.

It is advisable that all who are engaged in operations in which contact with hydrogen sulphide may reasonably be expected, should be trained in the techniques of emergency resuscitation and in the care of an unconscious patient.

Other Information

Fire Prevention

Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards, even at temperatures below the normal flash point. (Note: flash point must not be regarded as a reliable indicator of the potential flammability of vapour in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electric discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Hoses should be electrically continuous and ensure equipment used is properly earthed or bonded to the tank structure.

Will present a flammability hazard if heated above the flash point but bulk liquids at normal storage temperatures present a low fire hazard.

Product should not be overheated in storage because of the risk of fire.

For advice on storage temperatures, please contact your local BP representative.

As with all similar products which may be spray applied, this product will ignite when sprayed into a naked flame. Do not spray on or near a naked flame or any incandescent (red hot) material or other sources of ignition.

Do not smoke. While the product is being sprayed, exclude all ignition sources

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from the vicinity.

Product soaked rags, paper or material used to absorb spillages, represent a fire hazard and should not be allowed to accumulate. Dispose of safely after use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards Ensure good ventilation.

Avoid, as far as reasonably practicable, inhalation of vapour, mists or fumes generated during use. If vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.

NOHSC recommend an exposure standard for an 8 hour time weighted average (TWA) of 10 ppm for hydrogen sulphide and 5 mg/m³ for bitumen fumes. The short term exposure limit for hydrogen sulphide is 15 ppm.

Biological Limit Values Unknown.

Engineering Controls Provide sufficient ventilation to keep airborne levels as low as reasonably practicable. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 2430.3.1: Classification of hazardous areas - Examples of area classification - General, for further information concerning ventilation requirements.

Respiratory Protection If operations are such that the excessive generation and inhalation of vapour mist or fume may be anticipated, then respiratory equipment meeting appropriate Australian Standards for mists and organic vapours should be worn. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices. The use of respiratory equipment must be strictly in accordance with the manufacturer's instructions and any statutory requirements governing its selection and use.

Personal Protective Equipment When handling cutback bitumen, suitable protective clothing of an appropriate standard should be worn. Depending on the type of operation this may include:

- Visor to protect face and head covering with neck flap,
- Gauntlets (heat resistant and impervious to solvent),
- Overalls, impervious to bitumen, covering full body and limbs with legs worn over boots to prevent burns to the legs and feet;
- Protective boots.

If skin contact is likely, wear impervious protective clothing and/or gloves. Protective clothing should be regularly dry cleaned and laundered. Change heavily contaminated clothing as soon as reasonably practicable and launder before re-use. Wash any contaminated underlying skin with soap and water.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Black liquid @ 25°C
Odour	Strong hydrocarbon
Freezing Point	Not available
Solubility in Water	Insoluble
pH Value	Not relevant
Vapour Pressure	< 0.1 kPa @ 20°C (ASTM D323)
Vapour Density (Air=1)	Heavier than air.
Density	0.87 kg/L @ 15°C (ASTM D 1298)
Flash Point	>61.5°C (ASTM D 93)
Auto-Ignition Temperature	235°C (Diesel)
Flammable Limits - Lower	55% (Diesel)

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Flammable Limits - Upper	60% (Diesel)
Initial Boiling Point	225 °C (ASTM D 86)
Kinematic Viscosity	4.5 - 6.5 mm ² /s @ 60 °C (ASTM D445)

10. STABILITY AND REACTIVITY

Chemical Stability	Products of this type are stable and unlikely to react in a hazardous manner under normal conditions of use. Hazardous polymerisation reactions will not occur. This material is flammable.
Conditions to Avoid	Sources of ignition.
Incompatible Materials	Avoid contact with strong oxidising agents.
Hazardous Decomposition Products	Thermal decomposition can produce a variety of compounds, the precise nature of which will depend on the decomposition conditions. Incomplete combustion/thermal decomposition will generate smoke, carbon dioxide and hazardous gases which will include carbon monoxide, hydrogen sulphide and oxides of sulphur. Overheating in storage may cause partial vaporisation and decomposition with the production of toxic hydrogen sulphide gas.

11. TOXICOLOGICAL INFORMATION

Inhalation	May cause irritation to eyes, nose and throat due to exposure to vapour, mists or fumes. May cause nausea, dizziness, headaches and drowsiness if high concentrations of vapour are inhaled. This material contains polycyclic aromatic hydrocarbons (PAH's) at low levels. The handling procedures and personal protective measures described should be followed to minimise employee exposure.
Ingestion	Unlikely to be accidentally swallowed in view of the high handling temperatures. Except as a deliberate act, the ingestion of large amounts of product is unlikely. Ingestion of product may cause nausea and diarrhoea. Will injure the lungs if aspiration occurs eg. during vomiting. Ingestion of hot product will cause burns to the mouth, throat and stomach.
Skin	May cause redness, itching and irritation. Will cause burns if hot material contacts skin.
Eye	Unlikely to cause more than transient stinging or redness if accidental eye contact occurs with cold product. May be irritating to eyes at high concentrations of vapour mists or fumes. Will cause burns if hot material contacts eyes.
Chronic Effects	It is important to recognise that this product contains diesel fuel and so is classified as R40 - Possible risk of irreversible effects Category 3 Carcinogen according to National Occupational Health And Safety Commission (NOHSC). That is, there is some evidence from appropriate animal studies that human exposure can result in the development of cancer, but this evidence is insufficient to place the substance in Category 2. This product contains polycyclic aromatic hydrocarbons (PAH's). Some PAH's have been shown by experimental studies to induce skin cancer. Prolonged or repeated skin contact may cause defatting leading to dermatitis or may cause more serious irreversible skin disorders.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.
Persistence / Degradability	This product is not biodegradable.
Mobility	Spillages are unlikely to penetrate the soil.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Dispose of via an authorised person/licensed waste disposal contractor in accordance with local regulations. Incineration may be carried out under controlled conditions provided that local regulations for emissions are met.
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Where possible, arrange for the product to be recycled. Dispose of the product and container carefully and responsibly. Do not dispose of near or into waterways, ditches or down drains.

14. TRANSPORT INFORMATION

Transport Information This material is a Class 3 - Flammable Liquid according to The Australian Code for the Transport of Dangerous Goods by Road and Rail.
Class 3 - Flammable Liquids are incompatible in a placard load with any of the following:

- Class 1, Explosives
- Class 2.1, Flammable Gases, if both the Class 3 and Class 2.1 dangerous goods are in bulk
- Class 2.3, Toxic Gases
- Class 4.2 Spontaneously Combustible Substances
- Class 5.1 Oxidising Agents and Class 5.2, Organic Peroxides
- Class 6 Toxic Substances (where the flammable liquid is nitromethane)
- Class 7 Radioactive Substances.

U.N. Number 1999

Proper Shipping Name TARS, LIQUID

DG Class 3

Hazchem Code 2W

Packaging Method 3.8.3RT9

Packing Group III

EPG Number 3T1

IERG Number 16

15. REGULATORY INFORMATION

Regulatory Information This product is classified as Hazardous according to National Occupational Health and Safety Commission (NOHSC) criteria.
Not classified using the criteria in the Standard Uniform Schedule for Drugs and Poisons (SUSDP).

Poisons Schedule Not Scheduled

Hazard Category Harmful

AICS (Australia) All components in this product are listed on AICS (Australian Inventory of Chemical Substances).

16. OTHER INFORMATION

Date of preparation or last revision of MSDS MSDS Creation: October 2005

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