



MATERIAL SAFETY DATA SHEET

Product Name:
Asphalt PG 64-28
(3355)

SECTION 1 – PRODUCT IDENTIFICATION AND USE

Product name	Asphalt PG 64-28	PIN #, UN #	3257
Chemical name	None	TDG, DOT class	Class 9
Common names and synonyms	Bitumen. Pitch. Tar.	Packing group	III
Product use	Component of hot asphalt mix	Shipping name	Elevated temperature liquid N.O.S.
			<u>Not regulated in Canada</u>
WHMIS classification	Combustible solid Class B Division 4 Very toxic material Class D Division 2 Subdivision A Toxic material Class D Division 2 Subdivision B		
Hazard codes	NFPA Health 4 Flammability 4 Reactivity 0	HMIS Health 4 Flammability 4 Reactivity 0	
	<i>NFPA & HMIS Ratings: 0=Insignificant/No Hazard. 1=Slight Hazard. 2=Moderate Hazard. 3=High/Serious Hazard. 4=Extreme/Severe Hazard.</i>		
Supplier	Irving Oil Limited, Refining Division Box 1260, Saint John New Brunswick Canada E2L 4H6	Phone Emergency (Chemtrec) Refinery	(506) 202-2000 1-800-424-9300 (506) 202-3000

SECTION 2 – HAZARDOUS INGREDIENTS

Ingredients	CAS#	Wt (%)	ACGIH-TLVs (2004)	OSHA PELs (2004) (general industry)	NIOSH RELs (2004)	LD ₅₀ (rat, oral) (n/ka)	LC ₅₀ (rat, 4 hr)
Asphalt	8052-42-4	≥95	0.5*† mg/m ³ TWA	None	5F mg/m ³ TWA	Not available	Not available
Sulphur (S)	7704-34-9	4-5	Not available	Not available	Not available	>0.008	Not available
Which may result in the evolution of: Hydrogen sulphide (H ₂ S)	7783-04-6	Not applicable	10 ppm TWA 15 ppm STEL	20 ppm C	10 ppm C	Not applicable	444 ppm
May contain: Polycyclic aromatic hydrocarbons (PAHs)	Various	<10	Various	Various	Various	Various	Various
May also contain minor quantities of: Nickel (Ni)	7440-02-0	Trace	0.5* mg/m ³ TWA	1 mg/m ³ TWA	0.015 mg/m ³ TWA	Not available	Not
Vanadium (V)	1314-62-1	Trace	0.05◇**Δ mg/m ³ TWA	0.5**◇§ mg/m ³ C 0.1† mg/m ³ C	0.05Δ mg/m ³ C	0.1	0.15 mg/m ³

* Inhalable fraction. ** Respirable fraction. † Benzene-soluble aerosol. § Dust. Δ Dust or fume. ◇ Pentoxide. F Fume. C Ceiling.
Asphalt is a complex mixture of high molecular weight hydrocarbons. Its exact composition depends on the source of the crude oil from which it was produced and the refining methods used.

SECTION 3 – PHYSICAL DATA

Form	Solid at room temperature. Viscous liquid above 194°F (90°C)	Specific gravity	Typically, ~1 @ 20°C
Colour	Black	Vapour density	Not available
Odour	H ₂ S smells like rotten eggs. Note: H₂S deadens the sense of smell. Absence of rotten egg smell does <u>not</u> mean absence of H₂S.	Vapour	Not available
Odour threshold	<0.15 ppm for H ₂ S.	Evaporation	Not available
Coefficient of water/oil distribution	Not available	Boiling point	Typically, >400°C (>752°F)
		Freezing point	Typically, ~204°C (~400°F)
		PH	Not applicable

SECTION 4 – FIRE AND EXPLOSION HAZARDS

Flammability	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Conditions	Ignited by heat, sparks or flames when product is heated to about 260°C (500°F)
Flash point	>110°C (>230°F) (oc)	Auto ignition temperature	Typically 485°C (905°F)
Lower flammable limit	Not available	Upper flammable limit	Not available
Explosion data: Sensitivity to:	Mechanical impact	Not expected to be sensitive	Static discharge Vapour may be sensitive
Means of extinction	Carbon dioxide, dry chemical, foam, or water spray.		
Special precautions	Vapour is heavier than air. It will spread along the ground & collect in low or confined areas (sewers, basements). Also travels to source of ignition and flash back. Containers may explode when heated.		
Hazardous combustion products	Carbon monoxide. Nitrogen oxides. PAHs and other aromatic hydrocarbons. Formaldehyde. Acrolein. H ₂ S and sulphur dioxide (SO ₂)		

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SECTION 5 – REACTIVITY INFORMATION

Stability	Stable
Conditions to avoid	Sources of ignition. Static discharges. High temperatures.
Incompatible substances	Not available
Hazardous decomposition	CO. NO _x . PAHs. Other aromatic hydrocarbons. Formaldehyde. Acrolein. H ₂ S. SO ₂ .

SECTION 6 – HEALTH HAZARD INFORMATION

Route of Entry	<input checked="" type="checkbox"/> Inhalation	<input type="checkbox"/> Ingestion	Hazardous Contact	<input checked="" type="checkbox"/> Eye
	<input checked="" type="checkbox"/> Skin absorption	<input type="checkbox"/> Eye		<input checked="" type="checkbox"/> Skin contact
Acute exposure	Second- and third-degree burns from contact with hot asphalt. Dermatitis. H ₂ S is very toxic. At concentrations as low as 1 to 5 ppm, nausea and severe eye irritation may occur. Sense of smell may be impaired at about 20 ppm, with headache and respiratory tract irritation. At 250 to 500 ppm, potentially fatal pulmonary edema (fluid in the lungs) may occur. Dizziness, sudden (often fatal) collapse, unconsciousness, and death occur at higher concentrations. Note: Pulmonary edema may be delayed as long as 48 hours after exposure.			
Chronic exposure	Dermatitis. Acne-like lesions. Pigmentation of skin.			
Carcinogenicity	EPA and NIOSH identify asphalt fumes as carcinogenic. IARC's classification is "possibly carcinogenic to humans". ACGIH: Not classifiable as a human carcinogen. Not included on OSHA's or NTP's carcinogen lists. Certain PAHs are known to be carcinogenic.	Irritancy	Vapour or fume causes eye, skin, and respiratory tract irritation.	
		Sensitization	Yes, including photosensitization (extreme sensitivity to sunlight)	
		Reproductive	Not available	
		Teratogenicity	Not available	
Mutagenicity	Asphalt fume is reported to be mutagenic.	Toxicologically synergistic	Not available	

SECTION 7 – FIRST AID

Inhalation	Move victim to fresh air Give artificial respiration if breathing has stopped and if a qualified AR administrator is available. Apply CPR if both pulse and breathing have stopped. Obtain medical attention immediately.
Ingestion	Not applicable
Eye	Flush eye with lukewarm, gently flowing fresh water for at least 10 minutes. Get medical help.
Skin	Use ice or cold water to cool the affected area as quickly as possible. Gently remove contaminated clothing and shoes. Do not attempt to remove product from skin without medical assistance. Wash skin gently and thoroughly with water and non-abrasive soap to remove product dust. Get medical help.

SECTION 8 – PRECAUTIONARY MEASURES

Do not attempt rescue of an H₂S knockdown victim without the use of proper respiratory protective equipment.

Personal protective equipment	Gloves Heat-protective gloves. Eye Face shield, as a good general safety practice. Respiratory NIOSH-approved. SCBA or air line respirator with escape cylinder for confined spaces. A qualified occupational health and safety professional should advise on respirator selection. If an air-purifying respirator is appropriate, use a "P series" filter & organic vapour cartridges.
Clothing & footwear	Coveralls to prevent skin contact. Neck closed and sleeves rolled down. Natural fibres are preferred. If clothing or footwear becomes contaminated with product, completely decontaminate it before re-use, or discard it.
Engineering controls	Enclose processes. Use local exhaust ventilation to remove vapour at its site of generation. Handle laboratory samples in a fume hood. Use mechanical ventilation in confined spaces.
Handling procedures & equipment	Avoid over-heating product, in order to minimize vapour and fume production. Use non-sparking equipment, explosion-proof ventilation, and intrinsically safe electrical equipment. Ground handling equipment. Have clean emergency eyewash and shower readily available in the work area.
Leak & spill Procedure	Keep unauthorized persons away Eliminate all sources of ignition. Ventilate area. Stop leak if it can be done safely. Prevent entry into sewers, waterways, or confined spaces. Absorb or cover with dry earth, sand or other non-combustible material and use clean, non-sparking tools to transfer to container.
Waste disposal	Allow product to cool and solidify. Consult local authorities for advice on disposal methods.
Storage	Usually stored at elevated temperatures. Containers should be vented and equipped with a flame arrester.
Shipping	May be transported hot. Stable during transport.

SECTION 9 – PREPARATION DATE OF MSDS

Prepared by	Irving Oil Limited, Refining Division	Phone	(506) 202-3000
Revision date	November 16, 2006	To re-order MSDS, phone	(506) 202-2000

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