



# MATERIAL SAFETY DATA SHEET

Product Name:  
Asphalt PG 58-28  
(3280)

## SECTION 1 – PRODUCT IDENTIFICATION AND USE

<b>Product name</b>	Asphalt PG 58-28	<b>PIN #, UN #</b>	3257
<b>Chemical name</b>	None	<b>TDG, DOT class</b>	Class 9
<b>Common names</b>	Bitumen. Pitch. Tar.	<b>Packing group</b>	III
<b>And synonyms</b>	150/200 Asphalt	<b>Shipping name</b>	Elevated temperature liquid N.O.S.
<b>Product use</b>	Component of hot asphalt mix	<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

<b>Hazard codes</b>	<b>NFPA</b>	Health 4	<b>HMIS</b>	Health 4
		Flammability 4		Flammability 4
		Reactivity 0		Reactivity 0

NFPA & HMIS Ratings: 0=Insignificant/No Hazard. 1=Slight Hazard. 2=Moderate Hazard. 3=High/Serious Hazard. 4=Extreme/Severe Hazard.

<b>Supplier</b>	Irving Oil Limited, Refining Division	<b>Phone</b>	(506) 202-2000
	Box 1260, Saint John	<b>Emergency (Chemtrec)</b>	1-800-424-9300
	New Brunswick Canada E2L 4H6	<b>Refinery</b>	(506) 202-3000

## SECTION 2 – HAZARDOUS INGREDIENTS

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

\* 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

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

## SECTION 4 – FIRE AND EXPLOSION HAZARDS

**Flammability**  Yes  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** NAV **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 and acrolein. H<sub>2</sub>S and sulphur dioxide (SO<sub>2</sub>)



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## SECTION 5 – REACTIVITY INFORMATION

<b>Stability</b>	Stable
<b>Conditions to avoid</b>	Sources of ignition. Static discharges. High temperatures.
<b>Incompatible substances</b>	Not available
<b>Hazardous decomposition products</b>	CO. NO <sub>x</sub> . PAHs. Other aromatic hydrocarbons. Formaldehyde. Acrolein. H <sub>2</sub> S. SO <sub>2</sub> .

## SECTION 6 – HEALTH HAZARD INFORMATION

<b>Route of Entry</b>	<input checked="" type="checkbox"/> Inhalation <input type="checkbox"/> Ingestion	<b>Hazardous Contact</b>	<input checked="" type="checkbox"/> Eye
	<input checked="" type="checkbox"/> Skin absorption <input type="checkbox"/> Eye		<input checked="" type="checkbox"/> Skin
<b>Acute exposure</b>	Second- and third-degree burns from contact with hot asphalt. Dermatitis. H <sub>2</sub> 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.		
<b>Chronic exposure</b>	Dermatitis. Acne-like lesions. Pigmentation of skin.		
<b>Carcinogenicity</b>	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.	<b>Irritancy</b>	Vapour or fume causes eye, skin, and respiratory tract irritation.
		<b>Sensitization</b>	Yes, including photosensitization (extreme sensitivity to sunlight)
		<b>Reproductive Toxicity</b>	Not available
<b>Mutagenicity</b>	Certain PAHs are known to be carcinogenic. Asphalt fume is reported to be mutagenic.	<b>Teratogenicity</b>	Not available
		<b>Toxicologically synergistic</b>	Not available

## SECTION 7 – FIRST AID

<b>Inhalation</b>	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.
<b>Ingestion</b>	Not applicable
<b>Eye</b>	Flush eye with lukewarm, gently flowing fresh water for at least 10 minutes. Get medical help.
<b>Skin</b>	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 H<sub>2</sub>S knockdown victim without the use of proper respiratory protective equipment.**

<b>Personal protective equipment</b>	<b>Gloves</b> Heat-protective gloves.
	<b>Eye</b> Face shield, as a good general safety practice.
	<b>Respirator</b> 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.
	<b>Clothing &amp; footwear</b> 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.
<b>Engineering controls</b>	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.
<b>Handling procedures &amp; equipment</b>	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.
<b>Leak &amp; spill Procedure</b>	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.
<b>Waste</b>	Allow product to cool and solidify. Consult local authorities for advice on disposal methods.
<b>Storage</b>	Usually stored at elevated temperatures. Containers should be vented and equipped with a flame arrester.
<b>Shipping</b>	May be transported hot. Stable during transport.

## SECTION 9 – PREPARATION DATE OF MSDS

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

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