

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron Asphalt Cement

Product Use: Asphalt

Product Number(s): 204735 [See Section 16 for Additional Product Numbers]

Company Identification

Chevron Canada Ltd.
1200-1050 West Pender Street
Vancouver, BC V6E 3T4
Canada

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

Technical Information: (510) 242-5357

SPECIAL NOTES: This is a generic MSDS which describes the health hazards of all Chevron Asphalt Cements. It applies to all Chevron Paving Grade Asphalt Cement products, including all Penetration Grades, AC (Asphalt Cement graded by original viscosity at 140F), AR (Asphalt Cement graded by viscosity of residue from Rolling Thin Film Oven Test), PG (Performance Graded), PBA (Performance Based Asphalts), and PAC (Polymer Modified Asphalt Cement) products.

This MSDS does not apply to Industrial Asphalts (roofing grades), Emulsified Asphalts, or Cutback Asphalts.

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Target organ toxicant (respiratory irritant): Category 3.



Signal Word: Warning

Health Hazards: May cause respiratory irritation (H335).

PRECAUTIONARY STATEMENTS:

Prevention: Avoid breathing dust/fume/gas/mist/vapours/spray (P261). Use only outdoors or in a well-ventilated area (P271).

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340). Call a POISON CENTER/doctor if you feel unwell (P312).

Storage: Store locked up (P405). Store in a well-ventilated place. Keep container tightly closed (P403+P233).

Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

OTHER HAZARDS: Heating may release highly toxic and flammable hydrogen sulfide (H₂S). Do not attempt rescue without supplied-air respiratory protection.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Asphalt	8052-42-4	100 %wt/wt

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and

flush eyes with water. If heated material should splash into eyes, flush eyes immediately with fresh water for 15 minutes while holding the eyelids open. Remove contact lenses, if worn. Get immediate medical attention.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. If the hot material gets on skin, quickly cool in water. See a doctor for extensive burns. Do not try to peel the solidified material from the skin, or use solvents or thinners to dissolve it. The use of vegetable oil or mineral oil is recommended for removal of this material from the skin.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue. If exposure to hydrogen sulfide (H₂S) gas is possible during an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation. If this material is heated, thermal burns may result from eye contact.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. If this material is heated, thermal burns may result from skin contact.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. If this material is heated, fumes may be unpleasant and produce nausea and irritation of the eye and upper respiratory tract. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure and at high levels, H₂S may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation of the eyes, nose, and throat. Moderate levels can cause headache, dizziness, nausea, and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma, and death. After a serious exposure, symptoms usually begin immediately.

The U.S. National Institute for Occupational Safety and Health (NIOSH) considers air concentrations of hydrogen sulfide gas greater than 100 ppm to be Immediately Dangerous to Life and Health (IDLH).

DELAYED OR OTHER HEALTH EFFECTS:

Cancer: May cause cancer in laboratory animals, but the available information is inadequate to determine if this material can cause cancer in humans. Risk depends on duration and level of exposure. See Section 11 for additional information.

Indication of any immediate medical attention and special treatment needed

Note to Physicians: Administration of 100% oxygen and supportive care is the preferred treatment for

poisoning by hydrogen sulfide gas. For additional information on H₂S, see Chevron MSDS No. 301.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Sulfur, Nitrogen.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material. If this material is released into a work area, evacuate the area immediately. Persons entering the contaminated area to correct the problem or to determine whether it is safe to resume normal activities must comply with all instructions in the Exposure Controls/Personal Protection section.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. If heated material is spilled, allow it to cool before proceeding with disposal methods.

Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: This material is typically stored, transported and used at temperatures between 275F (135C) and 325F (163C). DO NOT ADD OR ALLOW WATER TO MIX WITH HOT ASPHALT. Steam generated eruptions may occur. STORE AND TRANSPORT ASPHALT ONLY IN PROPERLY VENTED CONTAINERS. Combustion of asphalt and asphalt vapors may occur. DO NOT MISHANDLE ASPHALT EQUIPMENT. Observe manufacturer's guidelines on proper equipment use.

Do not breathe vapor or fumes from heated material. Smoking, eating and drinking, etc. should be prohibited when skin contact with the product or fume condensate is possible. Workers should clean hands and face before smoking, eating and drinking, etc. Do not use solvents to clean hands and face. Use vegetable oils or mineral oil, followed by a thorough washing with soap and water. Avoid contact of heated

material with eyes, skin, and clothing. Do not breathe vapor or fumes. Do not breathe gas. Wash thoroughly after handling.

Unusual Handling Hazards: An ignition source should be considered present in large tanks where asphalt is stored at temperatures above 350 F (176.7C). Deposits can form in the vapor space of large asphalt tanks which may ignite as low as 350 F. Pyrophoric iron sulfide, commonly present in such tanks, may cause ignition below 350 F.

Toxic quantities of hydrogen sulfide (H₂S) may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these compartments should first determine if H₂S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H₂S without wearing approved supplied-air or self-contained breathing equipment. If there is a potential for exceeding one-half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H₂S, the concentration should be measured by the use of fixed or portable devices.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice. If this material is heated, wear chemical goggles or safety glasses or a face shield.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Clothing and gloves to protect against hot material. If this material is heated, wear insulated clothing to prevent skin contact if engineering controls or work practices are not adequate to prevent skin contact.

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Dusts and Mists.

If material is heated and emits hydrogen sulfide, determine if airborne concentrations are below the occupational exposure limit for hydrogen sulfide. If not, wear an approved positive pressure air-supplying respirator. For more information on hydrogen sulfide, see Chevron MSDS No. 301.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Asphalt	ACGIH	.5 mg/m3	--	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard Z94.4-2011 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Black

Physical State: Semi-solid

Odor: Low odor

Odor Threshold: No data available

pH: Not Applicable

Vapor Pressure: <0.01 psia

Vapor Density (Air = 1): Not Applicable

Initial Boiling Point: 343°C (649.4°F)

Solubility: Soluble in halogenated hydrocarbons and benzene; insoluble in water and alcohols.

Melting Point: 37.8°C (100°F) - 93.3°C (199.9°F) (Softening Point)

Specific Gravity: 0.96 - 1.04 @ 15.6°C (60.1°F)

Viscosity: 50 - 20000 poise @ 60°C (140°F)

Evaporation Rate: No data available

Decomposition temperature: No data available

Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) > 232 °C (> 450 °F)

Autoignition: 371 °C (700 °F)

Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: Hydrogen Sulfide (Elevated temperatures)

Hazardous Polymerization: Hazardous polymerization will not occur.

Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components. For additional information on the acute toxicity of the components, call the technical information center.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:



There is concern about the carcinogenicity of chemical compounds found in asphalts. The International Agency for Research on Cancer (IARC) reviewed the carcinogenic potential of asphalts in 1985 and again in 1987. At that time, they concluded there was inadequate evidence to decide that asphalts were carcinogenic to humans. Overall, findings from health monitoring studies of asphalt workers are not conclusive. However, asphalt fume condensates and certain chemical components of asphalt fume have been shown to cause cancer in mice when repeatedly applied to the skin and allowed to remain on the skin for a prolonged period of time. In addition, asphalt fume condensates have been shown to be weakly positive in Ames mutagenicity tests. Skin contact and breathing of fumes, mists and vapors should be reduced to a minimum.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms.

The product has not been tested. The statement has been derived from products of a similar structure and composition.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from products of a similar structure and composition.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by USEPA under RCRA (40CFR261), Environment Canada, or other State, Provincial, and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: SEE IMO/IMDG SHIPPING DESCRIPTION OR REFERENCE BILL OF LADING

IMO/IMDG Shipping Description: UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S. (ASPHALT), 9, III POTENTIAL HYDROGEN SULPHIDE INHALATION HAZARD

ICAO/IATA Shipping Description: FORBIDDEN IF OFFERED AT TEMPERATURES EQUAL TO OR EXCEEDING 100 C

DOT Shipping Description: UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S. (ASPHALT), 9, III POTENTIAL HYDROGEN SULFIDE INHALATION HAZARD

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

- 01-1=IARC Group 1
- 01-2A=IARC Group 2A
- 01-2B=IARC Group 2B
- 35=WHMIS IDL

The following components of this material are found on the regulatory lists indicated.

Asphalt 01-2B

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

SECTION 16 OTHER INFORMATION

Additional Product Number(s): 290003, 290005, 290007, 290008, 290010, 290011, 290012, 290013, 290014, 290015, 290016, 290020, 290021, 290022, 290026, 290029, 290030, 290031, 290032, 291000, 291006, 291009, 291041, 291058, 291075, 291079, 291081, 291084, 291086, 291087, 291099, 291101, 291102, 291108, 291115, 291129, 291153, 291164, 291165, 291167, 291173, 291174, 291175, 291176, 291177, 291190, 291192, 291201, 291208, 291209, 291210, 291231, 291233, 291234, 291235, 291262, 291266, 291269, 291271, 291272, 291273, 291279, 291282, 291295, 291298, 291309, 291316, 291317, 291318, 291319, 291320, 291321, 291322, 291323, 291324, 291325, 291326, 291329, 291330, 291331, 291333, 291336, 291343, 291345, 291352, 291354, 291357, 291358, 291360, 291362, 291363, 291367, 291368, 291369, 291370, 291374, 291375, 291376, 291377, 291378, 291379, 291380, 291381, 291382, 291386, 291387, 291388, 291389, 291390, 291391, 291392, 291393, 291398, 291399, 291401, 291402, 291404, 291406, 291415, 291417, 291419, 291420, 291426, 291427, 291428, 291429, 291430, 291432, 291433, 291434, 291435, 291436, 291437, 291438, 291439, 291440, 291441, 291442, 291444, 291445, 291447, 291448, 291449, 291450, 291451, 291452, 291453, 291454, 291455, 291456, 291457, 291458, 291459, 291460, 291461, 291462, 291463, 291464, 291465, 291466, 291467, 291468, 291469, 291470,

291471, 291472, 291473, 291474, 291475, 291476, 291477, 291478, 291479, 291481, 291482, 291483, 291484, 291485, 291486, 291487, 291488, 291489, 291490, 291491, 291492, 291493, 291494, 291495, 291496, 291497, 291498, 291499, 291500, 291501, 291502, 291503, 291504, 291505, 291506, 291507, 291508, 291509, 291510, 291511, 291512, 291513, 291514, 291515, 291516, 291517, 291518, 291519, 291520, 291521, 291522, 291523, 291524, 291525, 291526, 291565, 291593, 291594, 291595, 291599, 291601, 291602, 291603, 291604, 291605, 291609, 291679, 291684, 291687, 291688, 291692, 291693, 291694, 291697, 291700, 291702, 291705, 291707, 291708, 291710, 291712, 291715, 291717, 291719, 291725, 291730, 291742, 291750, 291751, 291803, 291880, 292133, 292206, 292610, 292611, 292612, 293222, 294521, 294525, 294527, 294544, 294546, 294547, 294548, 294549, 294566, 294568, 294569, 294578, 294602, 294604, 294606, 294608, 294610, 294612, 294614, 294616, 294618, 294620, 294622, 294624, 294626, 294628, 294634, 294674, 294676, 294678, 294680, 294682, 294684, 295154, 295248, 295678, 295679, 295680, 295683

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1-16

Revision Date: FEBRUARY 15, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
WHMIS - Workplace Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to WHMIS 2015 by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.