



EMULSIFIED ASPHALT

1 Identification**GHS Product Identifier**

EMULSIFIED ASPHALT

Other means of identification

ASPHALT GRADES: CRS-2PD, CRS-2R, CQS-1hL (1-4%), CQS-1hP (1-4%)

Recommended use of the chemical and restriction on use

Asphalt/Polymer Water Dispersion

Supplier's details

COBITCO, INC.
 5301 NORTH BANNOCK STREET
 DENVER, CO 80216-1623
 (303) 296-8575

Emergency phone number**CHEMTREC: 1-800-424-9300****2 Hazard(s) identification****Classification of the substance or mixture**

Acute Toxicity (Oral/Dermal/Inhalation)
 Skin Corrosion/Irritation
 Serious Eye Damage/Eye Irritation
 Respiratory or Skin Sensitization

GHS label elements

May cause an allergic skin reaction

May be harmful if swallowed, in contact with skin or if inhaled

Causes skin and eye irritation

Avoid breathing dust/fume/gas/mist/vapours/spray.

Use personal protective equipment as required.

IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.



IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Do NOT induce vomiting.

If skin irritation or rash occurs: Get medical advice/attention.

3 Composition/information on ingredients

Description	CAS Number	EINECS Number	%	Note
Asphalt	8052-42-4		52 - 72	
SBR Polymer Dispersion	9003-55-8		1 - 5	
Cationic Surfactants	Proprietary		0.1 - 2	
Water and other components	N/A		Balanace	

Each of the other components are present in less than 1 percent concentration (or 0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).

None of the other components contribute significant, additional, hazards at the concentrations present in these products. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards and Canadian Workplace Hazardous Materials Identification System Standards (CPR 4).

4 First-aid measures

Description of necessary first-aid measures

Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Immediate first-aid treatment is recommended for overexposures. Take copy of label and SDS to physician or health professional with victim.

Most important symptoms/effects, acute and delayed

EYE EXPOSURE: If these products enter the eyes, *immediately* open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have the contaminated individual "roll" eyes. The recommended minimum flushing time is 15 minutes. If any adverse effect, discomfort or sight changes occur after 15 minutes of rinsing, victim must seek immediate medical attention.

SKIN EXPOSURE: If these products contaminate a small area of the skin, wash thoroughly with soap and water or waterless hand-cleaner. If irritation develops or persists, consult a physician. If these products contaminate a large area of the skin, begin decontamination with running water for at least 15 minutes. Remove or cover gross contamination to avoid exposure to rescuers. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victims must seek medical attention if adverse effect occurs. If exposure has occurred to the hot emulsified asphalt and thermal burns are evident or suspected, immediately cool with cold water. In cases suspecting burns, do not attempt to remove clothing and seek immediate emergency medical treatment if irritation develops.

INHALATION: If vapors generated by heating these products are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Victim must seek immediate medical attention. Rescuers entering a closed vessel or tank to attempt rescue must wear positive-pressure, full facepiece, Self-Contained Breathing Apparatus (SCBA) or supplied air, NIOSH-approved respirators.

INGESTION: If these products are swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING. Have victim rinse mouth with water if conscious. Never induce vomiting or give a diluent (e.g., water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

Indication of immediate medical attention and special treatment needed, if necessary

MEDICALCONDITIONSAGGRAVATEDBYEXPOSURE: Skin, respiratory, and central nervous system conditions may be aggravated by overexposure to these products.

RECOMMENDATIONSTOPHYSICIANS: Treat symptoms. Eliminate overexposure.

5 Fire-fighting measures**Suitable extinguishing media**

Water Spray: YES (for cooling)

Foam: YES

Halon: YES

Carbon Dioxide: YES

Dry Chemical: YES

Other: Any "ABC" Class.

Specific hazards arising from the chemical

These products will not burn or support combustion until all water has evaporated and the temperature of the remaining asphalt residue exceeds the 218.1°C (425°F) PMCC flash point of petroleum asphalt. At normal Emulsified Asphalt storage temperatures 15.5-82.1°C (60-180°F), there are no flammable or explosive vapors above the liquid surface. When involved in a fire, this material may decompose and produce black, sooty smoke, irritating vapors and toxic gases (e.g., carbon oxides, nitrogen oxides, sulfur oxides). Containers of these products can rupture in a fire situation due to internal water vapor (steam) pressure. Persons responding to a fire involving containers of these products should be aware that solvents may have been used to clean out containers and may increase the fire hazard (refer to "CAUTION" note in Section 7 [Handling and Storage], "Storage and Handling Practices" heading, for further information).

ExplosionSensitivitytoMechanicalImpact: Not sensitive.

ExplosionSensitivitytoStaticDischarge: Not sensitive.

Special protective actions for fire-fighters

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move fire-exposed containers if it can be done without risk to firefighters. If possible, firefighters should control runoff water to prevent environmental contamination. Rinse contaminated equipment with soapy water before returning such equipment to service.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Minimum Personal Protective Equipment should be worn. Clean-up personnel should wear long-sleeved shirt, long pants, steel-toed boot, eye protection and gloves. **Self-Contained Breathing Apparatus must be selected if releases that occur in confined or poorly ventilated areas or in situations in which the level of oxygen is below 19.5%.** NOTE: Allow hot material to cool before clean-up operations begin. Prior to solidification, these products will readily disperse in water, so strong precautions must be taken to avoid contamination of waterways. Close off sewers and take other measures to protect human health and the environment as necessary. Decontaminate the area thoroughly. Place all spill residue in an appropriate container and seal. Dispose of in accordance with applicable U.S. Federal, State, or local procedures or appropriate standards of Canada (see Section 13, Disposal Considerations).

Methods and materials for containment and cleaning up

Small releases can be cleaned up solidifying the material on an absorbent such as dirt or vermiculite. Once solidified, the material can be shoveled-up or scrapped-up and disposed of properly. Larger, uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a large spill, clear the affected area, protect people. Large spills can be absorbed with fly-ash or fine aggregate.

7 Handling and storage

Precautions for safe handling

As with all chemicals, avoid getting these products ON YOU or IN YOU. Wash thoroughly after handling these products. Do not eat, drink, smoke, or apply cosmetics while handling these products. Avoid breathing vapors generated by these products. Use in a well-ventilated location. Remove contaminated clothing immediately. Skin contact should be minimized. If any contact with skin occurs, clean asphalt from skin with waterless hand cleaner, followed by soap and water. Do not use solvents to clean product from skin. Solvents may contain ingredients that are carcinogenic and/or cause skin irritation. Launder or discard contaminated clothing. Discard contaminated leather material.

Conditions for safe storage, including any incompatibilities

All employees who handle this material should be trained to handle it safely. Open containers slowly on a stable surface. Keep container tightly closed when not in use. These products should be stored at temperatures not exceeding 82°C (180°F). Heating of the product to near boiling temperature of water [100°C (212°F)] will cause the product to separate into layers. The surface temperature of any heating element or surface should not exceed [100°C (212°F)]. Agitation (mixing) or circulation of the product during heating is suggested. Keep product from freezing; freezing will cause the product to permanently separate into layers. Store away from incompatible materials (see Section 10, Stability and Reactivity). Material should be stored in secondary containers or in a diked area as appropriate. Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Empty containers may contain residual amounts of these products; therefore, empty containers should be handled with care. CAUTION: When solvents (i.e. diesel fuel, fuel oil, naphtha, etc) are used to clean out the container, tank, transport, pump or piping system and are therefore introduced into the container with emulsified asphalt, the solvent may float to the surface. The vapor space above the liquid surface may have the same fire hazards as a container of the solvent. The container or tank should be labeled and treated in accordance with the hazards of the solvent in addition to the hazards of the emulsified asphalt.

BULK SHIPMENTS: Bulk shipments of these products should be loaded and unloaded in strict accordance with truck manufacturer recommendation and all established onsite safety procedures. Appropriate personal protective equipment must be used (see Section 8). All loading and unloading equipment must be inspected, prior to each use. Loading and unloading operations must be attended at all times. Trucks must be level and wheels must be locked or blocked prior to loading or unloading. Truck and material-handling equipment must be verified to be correct for receiving these products and be properly prepared prior to starting the transfer operations. Hoses must be verified to be free of incompatible chemicals prior to connection to the truck. Valves and hoses must be verified to be in the correct positions before starting transfer operations.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely if necessary. Collect all rinsates and dispose of according to applicable U.S. Federal, State, or local procedures or appropriate Canadian standards.

WEATHER CONSIDERATIONS DURING USE: Emulsified asphalt is dispersible in water until the water phase evaporates ("cures"), and/or the asphalt phase plates onto substrate ("breaks"). Do not use emulsified asphalt products when precipitation is expected before the emulsion will cure or break. Precipitation on uncured/unbroken emulsified asphalt may result in emulsion being carried with runoff water into storm sewer or other bodies of water.

8 Exposure controls/personal protection

Appropriate engineering controls

These products are normally used and applied outdoors; mechanical or other type of ventilation should not be needed. If these products are used in an area which does lead to inhalation hazard, use adequate ventilation to ensure exposure levels are maintained below the limits provided in Section 2 (Composition and Information on Ingredients), if applicable. A source of water should be nearby use for rinsing of contaminated skin or eyes.

Individual protection measures

RESPIRATORY PROTECTION: None normally required for routine industrial use. Airborne contaminant concentrations must be maintained below guidelines listed in Section 2 (Composition and Information on Ingredients). If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, and the Canadian CSA Standard Z94.4-93. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with

auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

EYE PROTECTION: Splash goggles or safety glasses and full coverage faceshield must be worn at all times when handling these products. If necessary, refer to U.S. OSHA 29 CFR 1910.133, and appropriate Canadian Standard.

HANDPROTECTION: Employees should wear lined, nitrile or leather gloves for routine industrial use. Insulated gloves should be used when handling hot Emulsified Asphalt. Use triple gloves for spill response, as stated in Section 6 of this SDS.

BODY PROTECTION: Clothing such as protective coveralls with long sleeves and full length legs should be worn to minimize contact with skin and to protect from thermal burns.

9 Physical and chemical properties

Physical and chemical properties

RELATIVE VAPOR DENSITY (air=1): Similar to water.

pH: 2.1-5.5

SPECIFIC GRAVITY @ 60°F (water = 1): 1.02; 8.5 lb/gal

MELTING POINT: Not determined.

SOLUBILITY IN WATER: Dispersible.

BOILING POINT: 99.9°C (212°F)

VISCOSITY 122°F: 10-400 SSF

FLASH POINT: Greater than 204.2°C (400°F)

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %): Lower (LEL): Not applicable. Upper (UEL): Not applicable.

PARTITION COEFFICIENT (n-octanol/water): Not determined

EVAPORATION RATE (n-BuAc=1): In water phase, these products will evaporate at a slower rate than water.

VAPOR PRESSURE: Equal to water; water is the continuous phase.

APPEARANCE, ODOR and COLOR: These products are dark brown to medium brown liquids with a slight hydrocarbon odor.

HOW TO DETECT THIS SUBSTANCE (warning properties): The appearance may act as a warning property associated with these products.

10 Stability and reactivity

Reactivity

Not reactive under normal conditions.

Chemical stability

Stable.

Conditions to avoid

Avoid exposure to and contact with extreme temperatures and incompatible materials.

Incompatible materials

These products are not compatible with strong oxidizers, strong acids, strong bases, and amines.

Hazardous decomposition products

The products of thermal decomposition from these products include black, sooty smoke, irritating vapors and toxic gases (e.g., carbon oxides, nitrogen oxides, sulfur oxides).

11 Toxicological information

Toxicological (health) effects

Due to the low temperature of these products, the toxicological effects from these products are expected to be of low order.

Delayed and immediate effects and also chronic effects from short and long term exposure

SUSPECTEDCANCERAGENT: The components of these products are listed as follows:

ASPHALT (FUMES ONLY): NIOSH X Compound (Carcinogen Defined with no Further Categorization); **MAK-3** (Substances that Cause Concern that they could be Carcinogenic); **ACGIH TLV-A4** (Not Classifiable as a Human Carcinogen); **IARC-2B** (Possibly Carcinogenic to Humans)

The other components of these products are not found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, and therefore are neither considered to be nor suspected to be cancer causing agents by these agencies.

IRRITANCY OF PRODUCT: These products may cause mechanical irritation to contaminated tissue, especially after prolonged or repeated exposure.

SENSITIZATION TO THE PRODUCT: Some components of these products may be skin sensitizers; subsequent exposure to very small amounts may cause allergic reaction in susceptible individuals.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of these products and their components on the human reproductive system.

Mutagenicity: These products are not expected to cause mutagenic effects in humans. Mutagenic data are available for the Asphalt component of these products; these data are from fumes of Asphalt.

Embryotoxicity: These products are not expected to produce embryotoxic effects in humans.

Teratogenicity: These products are not expected to cause teratogenic effects in humans.

Reproductive Toxicity: These products are not expected to cause adverse reproductive effects in humans.

*A **mutagen** is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An **embryotoxin** is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A **teratogen** is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A **reproductive toxin** is any substance which interferes in any way with the reproductive process.*

BIOLOGICAL EXPOSURE INDICES: Currently, there are no Biological Exposure Indices (BEIs) determined for the components of these products.

Numerical measures of toxicity (such as acute toxicity estimates)

The following information is available for the components of these products present in concentrations greater than 1 percent.

ASPHALT:

TDLo (Skin-Mouse) 130 gm/kg/81 weeks-intermittent: Tumorigenic: Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration: tumors; Skin and Appendages: tumors

ASPHALT (continued):

TDLo (Skin-Mouse) 905 gm/kg/2 years-intermittent: Tumorigenic: neoplastic by RTECS criteria; Lungs, Thorax, or Respiration: tumors; Skin and Appendages: tumors

ASPHALT (continued):

TDLo (Intramuscular-Rat) 5400 mg/kg/24 weeks-intermittent: Tumorigenic: neoplastic by RTECS criteria, facilitates action of known carcinogen

ASPHALT (continued):

TDLo (Intramuscular-Mouse) 12 gm/kg/12 weeks-intermittent: Tumorigenic: neoplastic by RTECS criteria, tumors at site of application

ASPHALT (continued):

TD (Skin-Mouse) 69 gm/kg/43 weeks-intermittent: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration: tumors; Skin and Appendages: tumors

ASPHALT (continued):

DNA Adduct (Skin-Mouse) 600 mg/kg

SBR POLYMER DISPERSION:

LD₅₀ (Oral) > 2000 mg/kg

LD₅₀ (Dermal) > 2000 mg/kg

12 Ecological information

Toxicity

ENVIRONMENTAL STABILITY: Hydrocarbons (such as the main components of these products) are not photolyzed or hydrolyzed to any great extent. These products will not evaporate or biodegrade readily in the environment. All work practices should be aimed at preventing releases to the environment. In the event of a release to soil, the contaminated soil should be removed if possible. Additional environmental data for components of these products are provided as follows:

ASPHALT:

Solubility: Insoluble.

Biodegradation: The biodegradation of both an n-alkane and several carboxylated cycloalkanes was examined within tailings produced by the extraction of bitumen from the Athabasca oil sands. The carboxylated cycloalkanes examined were structurally similar to naphthenic acids that have been associated with the acute toxicity of oil sand tailings. The biodegradation potential of naphthenic acids was estimated by determining the biodegradation of both the carboxylated cycloalkanes and hexadecane in oil sand tailings. Carboxylated cycloalkanes were biodegraded within oil sand tailings, although compounds with methyl substitutions on the cycloalkane ring were more resistant to microbial degradation. Microbial activity against hexadecane and certain carboxylated cycloalkanes was found to be nitrogen- and phosphorus-limited. (Type of asphalt used in this test report is not indicated).

EFFECT OF MATERIAL ON PLANTS OR ANIMALS: Large releases may have adverse effects on plant and animal life.

EFFECT OF CHEMICAL ON AQUATIC LIFE: These products may adversely affect aquatic life if released into an aquatic environment. If high concentrations of the product are released to an aquatic environment, death of fish, animals and invertebrates may occur.

13 Disposal considerations

Disposal methods

PREPARING WASTE FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations or with regulations of Canada. These products, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

EPA WASTE NUMBER: Not applicable for wastes consisting only of these products. **NOTE:** If solvents are used to clean piping and/or pumps and are therefore introduced into the tank of Emulsified Asphalt, the resulting mixture may be regulated as a flammable material. See Section 7, Handling and Storage, for further information.

14 Transport information

UN Number

THESE PRODUCTS ARE NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

Not applicable.

UN Proper Shipping Name

Not applicable.

Transport hazard class(es)

Not applicable.

Packing group, if applicable

Not applicable.

Environmental hazards

MARINE POLLUTANT: These products are not designated by the DOT to be a Marine Pollutant (49 CFR 172.101, Appendix B).

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: These products are not considered as dangerous good, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION: These products are not considered as dangerous good, per rules of International Air Transport Association (IATA).

15 Regulatory information

Safety, health and environmental regulations specific for the product in question

ADDITIONAL UNITED STATES REGULATIONS:

U.S. SARA 302 and 304 REPORTING REQUIREMENTS: No component of these products is subject to the reporting requirements of Sections 302 and 304 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of these products. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) applies, per 40 CFR 370.20.

U.S. SARA SECTIONS 311/312 HAZARDOUS CHEMICAL REPORTING: These products have requirements of hazardous chemical reporting, as per 40 CFR, Part 370:

IMMEDIATE HEALTH (Acute Health Hazard)	DELAYED HEALTH (Chronic Health Hazard)	FIRE	SUDDEN RELEASE	REACTIVE
Yes	No (product); Yes (fumes if heated to decomposition)	No	No	No

U.S. SARA SECTION 313 HAZARDOUS CHEMICAL REPORTING: No component of these products have reporting requirements under SARA Title III (CERCLA and EPCRA), 40 CFR, Part 372.

U.S. TSCA INVENTORY STATUS: The chemicals in these products are listed on the TSCA Inventory or are exempt.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

OTHER U.S. FEDERAL REGULATIONS: Proposed standards of performance for asphalt processing have been published in the U.S. Federal Register. If these products are used in a way that generates fume, they may be subject to standards of Section III of the Clean Air Act. In addition, releases of these products may require reporting and the avoidance of releases of these products should be practiced, as per the requirements under the U.S. Federal Oil Release and Contamination Prevention Act.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): These products contain trace amounts of Benzene and Toluene, which are on the California Proposition 65 lists. **WARNING!** These products contain trace amounts of compounds that are known to the State of California to cause cancer or reproductive harm.

ANSI LABELING (Z129.1): CAUTION! CAN CAUSE THERMAL SKIN OR EYE BURNS WHEN AT ELEVATED TEMPERATURE. MAY CAUSE SKIN AND EYE IRRITATION. MAY BE HARMFUL IF INGESTED OR INHALED. Avoid contact with skin, eyes, or clothing. Wash thoroughly after handling. Vapors from heated material can irritate skin, eyes, and respiratory tract. Hot material can cause burns. Contains a compound that may cause cancer based on animal data (this is not expected to be a hazard unless heated to decomposition). Avoid breathing aerosols, mists, and sprays. Work in well-ventilated area. Do not taste or swallow. Wear gloves, goggles, and appropriate body protection. **FIRST-AID:** In case of contact with skin or eyes, flush with plenty of water for 15 minutes. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention if adverse effects develop. **IN CASE OF FIRE:** Use water fog, dry chemical, CO₂, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with inert material (sand, polypads, or other absorbent). For large spills, dike area. Consult Safety Data Sheet for additional information.

16 Other information

Other information

PREPARED BY: EnviroSure, LLC.
1018 E Guadalupe Road, Tempe, AZ 85209
(480) 784-4621

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The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. COBITCO, INC. assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, COBITCO, INC. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.