Asphalt Emulsions

Cationic · anionic · polymer-modified · quick-set · PRIM-18, PRIS-74, PRP-98

1. Identification of the substance and the supplier

Product	Asphalt emulsion (all cationic, anionic, modified and quick-set grades), including PRO-ROAD® PRIM-18, PRIS-74 and PRP-98 sealants.
Recommended use	Tack, prime and seal coats; surface treatments; slurry seals and micro surfacing; cold mixes; recycling and stabilisation.
Restrictions on use	Do not mix with emulsions of opposite electrical charge or with pressurised water. Do not freeze. Do not heat above 85 °C.
Supplied by	PRO-ROAD® — Soluciones en Suministros, Ingeniería y Construcción S.A.S. (Colombia) · Escher Infrastructure LLC (USA) · Penrose Solutions LLC. Cra. 14B No. 106-60 Of. 403, Bogotá D.C., Colombia. www.proroadglobal.com · info@proroadglobal.com
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2. Hazards identification

Signal word	WARNING
GHS classification	Skin irritation category 2 · Eye irritation category 2A · Specific target organ toxicity, single exposure, category 3 (respiratory tract irritation) · Chronic aquatic hazard category 3. Cationic emulsions are moderately acidic (pH 2–6) and anionic emulsions moderately alkaline (pH 9–12).
Hazard statements (H)	H315 — Causes skin irritation. · H319 — Causes serious eye irritation. · H335 — May cause respiratory irritation. · H412 — Harmful to aquatic life with long lasting effects.
Precautionary statements (P)	P261 — Avoid breathing dust, fume or vapours. · P264 — Wash thoroughly after handling. · P273 — Avoid release to the environment. · P280 — Wear protective gloves, clothing, eye and face protection. · P302+P352 — IF ON SKIN: wash with plenty of soap and water. · P305+P351+P338 — IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. · P501 — Dispose of contents and container in accordance with applicable local regulations.
Pictograms	GHS07 (exclamation mark)
NFPA 704 — Health / Flammability / Reactivity	Health 1 · Flammability 0 · Reactivity 0

Unlike asphalt cements and cutback asphalts, emulsions are neither flammable nor handled at temperatures that cause thermal burns, so their risk profile is appreciably lower. The relevant hazards are skin and eye irritation from the emulsifier and the pH adjustment, and respiratory irritation if mist is generated during spraying. An emulsion heated above 85 °C may suddenly eject steam. Emulsions that have been frozen break irreversibly and must not be applied.

3. Composition / information on ingredients

Component	CAS No.	Concentration
Petroleum bitumen (asphalt), dispersed phase	8052-42-4	40 – 70 %
Water	7732-18-5	30 – 60 %
Emulsifier (quaternary fatty amine in cationic grades; fatty acid soap in anionic grades)	Proprietary	0.1 – 2.5 %
Hydrochloric acid (pH adjustment, cationic emulsions only)	7647-01-0	< 1 %
Polymer latex (modified grades only)	Mixture	0 – 5 %

The percentages indicated are representative ranges of the formulation. Components not listed are either not classified as hazardous or are below the concentration limits that require declaration under GHS. The precise chemical identity of the additives is proprietary information; it is disclosed to health authorities and to medical personnel who require it to respond to an emergency.

4. First-aid measures

Inhalation	Move the person into fresh air and keep at rest in a position comfortable for breathing. If respiratory irritation persists, consult a physician.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. Adhered asphalt residue may be removed with medicinal mineral oil or cleansing cream; do not use solvents or combustible liquids. If irritation persists, consult a physician.
Eye contact	Rinse with plenty of clean water for at least 15 minutes, holding the eyelids open. Remove contact lenses if easy to do so. If pain or redness persists, seek immediate medical attention.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Seek immediate medical attention and show this safety data sheet.

Notes for medical personnel

Symptomatic treatment. In case of eye contact with a cationic emulsion, consider the acidic nature of the product (pH 2–6) and prolong irrigation; with an anionic emulsion, consider the alkaline nature (pH 9–12), which may cause deeper corneal injury and requires prolonged irrigation and monitoring of conjunctival pH until normalisation.

5. Fire-fighting measures

Extinguishing media	The product is not flammable. Use the agent appropriate to the surrounding material: water spray, foam, dry chemical powder or CO_2.
Specific hazards	In a fire, the water in the emulsion evaporates and the remaining asphalt residue may burn, generating dense smoke, carbon oxides and sulfur oxides. Closed containers exposed to heat may become over-pressurised by steam generation and burst.
Protective equipment for fire-fighters	Full fire-fighting kit and self-contained breathing apparatus (SCBA) in large fires or in confined spaces.

6. Accidental release measures

Contain the spill with sand or earth dikes and prevent it from reaching drains, sewers or water bodies. Do not apply pressurised water to the spill: this would break the emulsion and disperse the asphalt. Collect the liquid with inert absorbent material and transfer it to labelled containers. If the emulsion has broken, the asphalt residue is removed mechanically. Clean the residual surface with hot water and detergent before the material cures. The affected pavement will remain slippery until cleaned: signpost the area.

7. Handling and storage

Avoid mist formation during spraying and work downwind. Do not mix cationic with anionic emulsions, or with cement or lime outside the design procedure: immediate breaking and equipment blockage will result. Wash equipment with water immediately after use. Wash hands before eating, drinking or smoking and at the end of the shift.

Store between 5 °C and 85 °C, in clean, preferably vertical tanks, with agitation or recirculation. Protect from freezing. Recirculate at least once every five days in prolonged storage. Do not store next to strong acids or bases or to oxidising agents.

8. Exposure controls / personal protection

Occupational exposure limits	Asphalt (fumes): NIOSH REL — ceiling 5 mg/m³ (15 min), fume fraction. ACGIH TLV-TWA — 0.5 mg/m³ (8 h), as benzene-soluble aerosol, inhalable fraction. Hydrogen sulfide: ACGIH TLV-TWA 1 ppm, TLV-STEL 5 ppm; NIOSH IDLH 100 ppm. Verify the limits in force in the country of use, which may be more restrictive.

Engineering controls	Adequate general ventilation. Local exhaust where the product is heated or mist is generated. Eyewash stations accessible at transfer and application points.
Personal protective equipment	Closed safety goggles or face shield during transfer and spraying. Nitrile or neoprene gloves. Long-sleeved work clothing and hydrocarbon-resistant boots. Respiratory protection for organic vapours and particulates when working in confined spaces or with heated product.

9. Physical and chemical properties

Property	Value
Physical state	Viscous liquid
Colour and odour	Dark brown to black; characteristic asphalt odour
pH	2 – 6 (cationic) · 9 – 12 (anionic)
Density	0.98 – 1.05 g/cm³ (25 °C)
Flash point	Not applicable — water-based product, non-flammable
Freezing point	≈ 0 °C — freezing breaks the emulsion irreversibly
Solubility in water	Miscible before breaking; insoluble after breaking

10. Stability and reactivity

Stable under the storage conditions indicated. Conditions to avoid: freezing, heating above 85 °C, excessive agitation and contamination with fine particles. Incompatible materials: emulsions of opposite charge, strong acids and bases, cement and lime in direct contact, strong oxidising agents. Hazardous decomposition products on combustion: carbon and sulfur oxides.

11. Toxicological information

Acute toxicity: low by all routes. No LD50 and LC50 values specific to the formulated product are available; the individual components do not present significant acute toxicity at the concentrations present. Skin irritation: the emulsifier and the pH adjustment may cause irritation on repeated or prolonged contact. Eye irritation: moderate irritation; the alkaline nature of anionic emulsions may cause deeper injury. Sensitisation: the fatty amines used as emulsifier in cationic emulsions have skin sensitising potential in susceptible individuals. Carcinogenicity: the asphalt binder in the dispersed phase is subject to the same considerations described for asphalt cement, although the hot-fume exposure route does not apply in normal use of the emulsion.

12. Ecological information

Harmful to aquatic life with long lasting effects. Discharge into a water body causes the emulsion to break and forms an asphalt film that interferes with gas exchange and coats organisms and substrate. The emulsifier may affect the surface tension of the water. Do not discharge to the sewer or to the natural environment. Biodegradability: the asphalt residue is essentially non-biodegradable.

13. Disposal considerations

Dispose of residual product and its packaging in accordance with applicable local, regional and national regulations, through an authorised waste manager. In Colombia, Decree 4741 of 2005 and Resolution 1362 of 2007 on hazardous waste management apply; in the United States, RCRA (40 CFR parts 260-273); in the European Union, Directive 2008/98/EC. Do not discharge into the sewer system, onto soil or into water bodies. Do not reuse empty containers without prior decontamination.

14. Transport information

Property	Value
Road (ADR / DOT), sea (IMDG) and air (IATA-DGR)	Not regulated as a dangerous good.
Marine pollutant	Not classified as a marine pollutant under Annex III of MARPOL 73/78.
HS code	2715.00

Although the product is not regulated, it is recommended to declare in the shipping documents the aqueous nature of the product and the requirement to keep it above 5 °C throughout the journey.

15. Regulatory information

Colombia: Decree 1496 of 2018 (adoption of GHS) and Resolution 0773 of 2021 of the Ministry of Labour. United States: OSHA Hazard Communication Standard, 29 CFR 1910.1200; for sales in California, the Proposition 65 warning applies. European Union: Regulation (EC) 1272/2008 (CLP) and Annex II of Regulation (EC) 1907/2006 (REACH). Brazil: ABNT NBR 14725. International transport: UN Recommendations (Orange Book), IMDG Code, ICAO Technical Instructions / IATA-DGR.

16. Other information

This sheet is issued as revision 01 dated August 2026 and supersedes any earlier version. It will be reviewed when the product formulation, the applicable GHS classification or the reference regulations change, and in any case every three years. Training of exposed personnel on the content of this sheet is the employer's responsibility.

ACGIH: American Conference of Governmental Industrial Hygienists · CAS: Chemical Abstracts Service · CLP: Classification, Labelling and Packaging · IARC: International Agency for Research on Cancer · IMDG: International Maritime Dangerous Goods Code · LC50: median lethal concentration · LD50: median lethal dose · NIOSH: National Institute for Occupational Safety and Health · REL: recommended exposure limit · GHS: Globally Harmonized System · TLV: threshold limit value · TWA: time-weighted average · STEL: short-term exposure limit · PEL: permissible exposure limit.

DOCUMENT FOR INTERNAL REVIEW. Composition data, CAS numbers and concentrations must be confirmed against the actual formulation and the raw-material suppliers' safety data sheets before this sheet is distributed to customers or authorities. Items marked "to be confirmed" require validation by PRO-ROAD® 's HSE officer.

This sheet has been prepared in accordance with the Globally Harmonized System (GHS) of classification and labelling of chemicals and with the 16-section format of ANSI Z400.1 / ISO 11014. In Colombia, Decree 1496 of 2018 and Resolution 0773 of 2021 of the Ministry of Labour apply; in the United States, OSHA 29 CFR 1910.1200; in the European Union, Regulation (EC) 1272/2008 (CLP) and Annex II of Regulation (EC) 1907/2006 (REACH). The information is offered in good faith and does not constitute a warranty. The employer is responsible for workplace risk assessment and for training its personnel.