ERGON Asphalt & Emulsions, Inc.

CRS-2 **MSDS No. AE018**

Date of Preparation: April 9, 2008 **Revision No. 2**

Section 1 – Chemical Product and Company Information

Product/Chemical Name:	CRS-2
Chemical Formula:	Mixture
CAS Number:	Mixture
Other Designations:	Cationic Quick Set Asphalt Emulsion
General Use:	Asphalt Paving and Sealing

Manufacturer: ERGON Asphalt & Emulsions, Inc.; P O Box 1639; Jackson MS 39215-1639; Phone 601-933-3000; Hours of Operation 8:00 am – 5:00 pm; ERGON 24 Hour Emergency Phone Number 1-800-222-7122; CHEMTREC 1-800-424-9300.

Section 2 – Composition / Information on Ingredients

Ingredient Name	CAS Number	% Vol
Asphalt Cement	8052-42-4	66-71%
Water	7732-18-5	28-34%
Cationic Emulsifier	Listed in TSCA Inventory	<1%
Saponifier	7647-01-0	<1%

	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
INGREDIENT	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Asphalt Cement	None estab.	None estab.	0.5 mg/m^3 (inhalable fraction, as benzene-soluble aerosol)	None estab.	None estab.	5 mg/m^3 (ceiling)	None estab.
Water	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.
Cationic Emulsifier	400 ppm	500 ppm	400 ppm	500 ppm	None estab.	None estab.	None estab.
Saponifier	None estab.	5 ppm (ceiling)	None estab.	2 ppm (ceiling)	None estab.	5 ppm (ceiling)	50 ppm

Section 3 – Hazards Information

EMERGENCY OVERVIEW

HMIS
H-2
F-1
R-0
PPE*
* Sec.8

POTENTIAL HEALTH EFFECTS

Primary Entry Routes: Inhalation and absorption.

Target Organs: Mucous membranes, skin, and digestive tract.

Acute Effects

Inhalation: Irritating to mucous membranes and respiratory tract. May produce symptoms such as headache, dizziness, nausea, vomiting, and loss of coordination.

Eye: Highly irritating; a significant thermal hazard under normal usage due to high temperatures required for application.

Skin: Moderately irritating; hot asphalt will cause severe burns. May lead to photosensitization and drying of the skin.

Ingestion: Irritating to mucous membranes and gastrointestinal tract. May cause thermal burns as well as nausea, vomiting and diarrhea.

Carcinogenicity: IARC, NTP, and OSHA do not list this product as carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Dermatitis.

Chronic Effects: Prolonged and repeated skin contact may cause dermatitis, photosensitization, and melanosis. Evidence from animal studies suggest that asphalt left on the skin for long periods of time may result in local carcinomas, but there have been no reports of such effects on human skin that can be attributed to asphalt alone.

Section 4 – First Aid Measures

Inhalation: Remove to fresh air. Apply artificial respiration if needed. Seek medical attention.

Eye Contact: Flush thoroughly with water for at least 15 minutes. If burning persists seek medical attention.

Skin Contact: If molten asphalt strikes the exposed skin, cool the skin immediately by quenching with cold water. Wash thoroughly with soap and water. Do not use harsh solvents to remove asphalt from skin. Lotion or hand cream may aid in the removal of asphalt. Cover with a sterile dressing. Seek medical attention if needed.

Ingestion: Do not induce vomiting and seek medical help.

After first aid, get appropriate in-plant paramedic or community medical support.

Special Precautions/Procedures: The petroleum hydrocarbons in this product are a complex mixture of paraffinic, naphthenic, and aromatic hydrocarbons. As with other petroleum products, the aromatic compounds are present in varying concentrations and structures. Some of these compounds may be those which have been shown to result in tumor formation in animals under laboratory conditions. The concentrations of aromatic compounds in this product require that the precautions outlined in this MSDS be followed to minimize personnel exposure.

Provide adequate ventilation to keep vapors below allowable exposure levels. Use PPE appropriate for the task.

Section 5 – Fire Fighting Measures

Flash Point: 400°F (204°C)

Flash Point Method: COC

Auto Ignition Temperature: >700°F (>370°C)

LEL: NA

UEL: NA

Flammability Classification: Class IIIB

NFPA

Extinguishing Media: Dry chemical, foam and carbon dioxide.

Unusual Fire or Explosion Hazards: This product may ignite when sufficient heat is applied. Check for combustible vapors prior to and during welding or torch cutting on vessels or tanks. It has been found that in hot storage tanks low flash substances may accumulate in the vapor space. The flammability characteristics will not be detected by any flash point method. Keep ignition sources away from tank vents and prevent accumulation of pyrophoric iron sulfide.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, and sulfur dioxide.

Fire-Fighting Instructions: Use of foam or water may cause frothing. Do not release runoff from fire control methods to sewers or waterways. Use a water supply to cool fire-exposed containers.

Fire-Fighting Equipment: Use self-contained breathing apparatus in enclosed areas where heavy smoke may occur.

Section 6 – Accidental Release Matters

Spill/Leak Procedures: Stop spill at source. Confine spill by diking or impoundment. Remove sources of heat or ignition. Clean-up spill but do not flush to sewer or surface water. Ventilate area and avoid breathing vapors or mists.

Small Spills: Stop spill at source if possible. Isolate and confine by diking, or similar method. Remove discharged material.

Large Spills:

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Allow material to cool. Mix with inert absorbent material such as soil, sand, or oil dry, to stabilize.

Regulatory Requirements: Notify local health and pollution control agencies as appropriate. Follow applicable OSHA regulations (29 CFR 1900.120). This material is not a hazardous waste as defined in RCRA. For disposal follow all federal, state, and local regulations regarding solid waste.

Section 7 – Handling and Storage

Handling Precautions: This product is a mixture of water and asphalt. Heating this mixture above 190°F can cause the water portion to boil. This may result in frothing of the mixture causing hot asphalt to overflow the container. Hydrogen sulfide may be emitted from heated asphalt and may accumulate in storage tanks and bulk transport containers.

Storage Requirements: Ground and bond all transfer and storage equipment. Ventilation is required only in enclosed areas where the emulsion is subjected to severe conditions of heat or agitation.

Regulatory Requirements: None known.

Section 8 – Exposure Controls / Personal Protection

Engineering Controls: Not applicable.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Self-contained, positive-pressure breathing apparatus when used in confined or enclosed space or when exposure limits are exceeded or hydrogen sulfide is unknown or exceeds 20 ppm. Organic vapor respirators can be used with good ventilation when organic vapors are less than 1000 ppm or ten times permissible exposure limit, which ever is less. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes: procedures for selecting respirators; medical evaluation; fit testing; use in routine and emergency situations; cleaning, disinfecting, storing, inspecting, repairing, discarding and maintaining respirators; adequate air quality, quantity and flow; training in respiratory hazards; training in use of respirators; evaluation of effectiveness of respiratory program.

Protective Clothing/Equipment: Wear protective gloves, boots, aprons, and gauntlets as need to prevent prolonged or repeated skin contact. Goggles and face shields should be used in areas where splashing may occur. Wear protective eyeglasses or safety goggles per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, or smoking.

Section 9 – Physical and Chemical Properties

Physical State: Liquid
Appearance and Odor: Brown-black liquid with a mild odor
Odor Threshold: Tar odor
Vapor Pressure: <1 mm Hg at 70°F (20°C)
Vapor Density (Air = 1): >1
Formula Weight: Est. 250 lb/lb-mole
Density: 8.3-8.5 lb/gal
Specific Gravity (H_2O = 1, at 4°C): 1.01
pH: 2.0– 4.0

Water Solubility: Slightly soluble.
Other Solubilities: No data.
Boiling Point: 212°F
Freezing/Melting Point: No data.
Viscosity: No data.
Refractive Index: No data.
Surface Tension: No data.
% Volatile: <2%
Evaporation Rate: <1

Section 10 – Stability and Reactivity

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization cannot occur.

Chemical Incompatibilities: Strong oxidizing agents; Anionic emulsions.

Conditions to Avoid: Do not overheat product.

Hazardous Decomposition Products: Primary decomposition products are carbon monoxide, carbon dioxide, and water. Combustion products may include sulfur oxides and hydrogen sulfide.

Section 11 – Toxicological Information

Eye Effects: Vapors may cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.

Skin Effects: Causes smarting of the skin and first-degree burns on short exposure; may cause secondary burns on long exposure.

Acute Inhalation Effects: Human, inhalation, TC_{LO}: No data.

Acute Oral Effects: Rat, oral, LD_{50}: 5 to 15 g/kg

Carcinogenicity: Not a known human carcinogen.

Mutagenicity: No data.

Teratogenicity: No data.

Chronic Effects: Prolonged and repeated skin contact may cause dermatitis, photosensitization, and melanosis. Evidence from animal studies suggest that asphalt left on the skin for long periods of time may result in local carcinomas, but there have been no reports of such effects on humans skin that can be attributed to asphalt alone.

Section 12 – Ecological Information

Ecotoxicity: No data.

Environmental Fate:

- **Environmental Transport:** No data.
- **Environmental Degradation:** No data.
- **Soil Absorption/Mobility:** No data.

Section 13 – Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Disposal Regulatory Requirements: Solidified waste material should not be a hazardous waste under RCRA guidelines. Follow Federal, state, and local regulations for disposal of solid waste.

Container Cleaning and Disposal: Recommend using a non-hazardous solvent to remove the product. Follow Federal, state, and local regulations for disposal of the waste material, regardless of its waste classification.

Section 14 – Transport Information

Shipping Name: Asphalt Emulsion Not Regulated

Shipping Symbols: NA

Hazard Class: NA

ID No.: NA

Packing Group: NA

Label: NA

Special Provisions (172.102): NA

Packaging Authorizations:

- **a) Exceptions:** NA
- **b) Non-bulk Packaging:** NA
- **c) Bulk Packaging:** NA

Quantity Limitations:

- **a) Passenger, Aircraft, or Railcar:** NA
- **b) Cargo Aircraft Only:** NA

Vessel Stowage Requirements:

- **a) Vessel Stowage:** NA
- **b) Other:** NA

Section 15 – Regulatory Information

EPA Regulations:

RCRA

RCRA Hazardous Waste Number: Not listed.

RCRA Hazardous Waste Classification (40 CFR 261): This material should not be hazardous due to characteristics.

CERCLA

CERCLA: Not listed.

CERCLA Reportable Quantity (RQ): This material is not a listed hazardous substance and does not have a reportable quantity. However, if spilled into waters of the U.S., it may be reportable under the Clean Water Act.

SARA

SARA 311/312 Codes: Not Listed

SARA Toxic Chemical: Not listed.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed.

OSHA Regulations

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): See Table in Section 2.

OSHA Specifically Regulated Substance: No

State Regulations: Listed in state hazardous substance list for CA and MN as Asphalt (petroleum fumes; FL, MA, NJ, as Asphalt fumes; and PA as Asphalt.

Section 16 – Other Information

Revision Notes:

Additional Hazard Rating Systems: NAS Hazard Rating for Bulk Water Transportation of asphalt:

Fire – 1, Health – 2, Water Pollution – 1, Reactivity -0.

Disclaimer: ERGON ASPHALT & EMULSIONS, INC. (EAE) PROVIDES THIS INFORMATION FOR THE USER'S CONSIDERATION. EAE BELIEVES THIS INFORMATION IS ACCURATE, BUT NOT ALL INCLUSIVE IN ALL CIRCUMSTANCES. USER SHOULD ENSURE THAT USER HAS CURENT DATA RELEVANT FOR ITS PURPOSES. NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY, FITNESS OR OTHERWISE IS GIVEN.