

Safety Data Sheet

Section 1: Identification

Product identifier

Product Name • **Water Based Asphalt Emulsion**

Synonyms • Anionic Asphalt Emulsion; RS-1, RS-2, RS-3, RS-1H, RS-2H, HFRS-2, CP-1

Product Code • SDS number: HMC-1001

Relevant identified uses of the substance or mixture and uses advised against

Recommended use • Various paving applications

Details of the supplier of the safety data sheet

Manufacturer • Hudson Materials Company
1615 Sholar Avenue
Chattanooga, TN 37406
United States
www.hudsonmaterials.com
hmc@hudsoncc.com

Telephone (General) • (423) 624-2631

Emergency telephone number

Manufacturer • 1-800-633-8253 - PERS

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 • Carcinogenicity 2

Label elements

OSHA HCS 2012

WARNING



Hazard statements • Suspected of causing cancer.

Precautionary statements

Prevention • Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.

Response • IF exposed or concerned: Get medical advice/attention.

Storage/Disposal • Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

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Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Asphalt	CAS:8052-42-4	55% TO 72%	Ingestion/Oral-Rat LD50 • >5000 mg/kg Inhalation-Rat LC50 • >94.4 mg/m ³	OSHA HCS 2012: Carc. 2	NDA
Hydrogen sulfide	CAS:7783-06-4	< 0.5184%	Inhalation-Rat LC50 • 444 ppm 4 Hour(s)	OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Eye Irrit. 2; Acute Tox. 2 (inh); STOT SE 3: Resp. Irrit.	NDA
Water	CAS:7732-18-5	28% TO 45%	NDA	OSHA HCS 2012: Not classified	NDA
Alkaline Emulsifying Agent	NDA	< 2%	NDA	OSHA HCS 2012: Not Classified	NDA
Sodium hydroxide	CAS:1310-73-2	< 0.65%	NDA	OSHA HCS 2012: Skin Corr. 1B; Eye Dam. 1	NDA

Section 4: First-Aid Measures

Description of first aid measures

- Inhalation** • Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.
- Skin** • In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.
- Eye** • In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion** • Do NOT induce vomiting. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

- Notes to Physician** • All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • LARGE FIRE: Water spray, fog or regular foam.
SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.

Unsuitable Extinguishing Media • No data available.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • Containers may explode when heated.
Some may be transported hot.

Hazardous Combustion Products • No data available.

Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions • Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Stay upwind.

Environmental precautions

- Avoid release to the environment.

Methods and material for containment and cleaning up

Containment/Clean-up Measures • Stop leak if you can do it without risk.
SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.
LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

Section 7 - Handling and Storage

Precautions for safe handling

Handling • Use only with adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing. Tripping accidents have occurred because of asphalt buildup on bottoms of shoes and boots; buildup should be removed regularly to prevent such accidents. Do not attempt to clean empty containers. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Conditions for safe storage, including any incompatibilities

Storage • Store in a cool/low-temperature, well-ventilated place away from heat and ignition sources. Storage containers should be vented to prevent over-pressurization and vacuum.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Sodium hydroxide (1310-73-2)	TWAs	Not established	Not established	2 mg/m ³ TWA
	Ceilings	2 mg/m ³ Ceiling	2 mg/m ³ Ceiling	Not established
Hydrogen sulfide (7783-06-4)	Ceilings	Not established	10 ppm Ceiling (10 min); 15 mg/m ³ Ceiling (10 min)	20 ppm Ceiling

	STELs	5 ppm STEL	Not established	Not established
	TWAs	1 ppm TWA	Not established	Not established
Asphalt (8052-42-4)	TWAs	0.5 mg/m ³ TWA (fume, inhalable fraction, as benzene soluble aerosol)	Not established	Not established
	Ceilings	Not established	5 mg/m ³ Ceiling (fume, 15 min)	Not established

Exposure controls

Engineering

Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

Skin/Body

- Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

Environmental

Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Dark brown liquid with a mild odor.
Color	Dark brown.	Odor	Mild
Odor Threshold	No data available		
General Properties			
Boiling Point	212 F(100 C)	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	1 to 1.03 Water=1	Water Solubility	Appreciable 10-99 %
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	Similar to water	Volatiles (Wt.)	No data available
Volatiles (Vol.)	No data available		
Flammability			
Flash Point	Asphalt Cement >450 F COC	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Excess heat. Incompatible materials.

Incompatible materials

- Acids may react with alkalis in product. Strong oxidizers may react with hydrocarbons. Contact with fluorine may cause burning or explosion. This product could cause a foam-over or explosion if contact occurs with hot liquid asphalt or other molten material in a container.

Hazardous decomposition products

- Carbon monoxide and other compounds (such as amines, nitrogen dioxide, sulfur dioxide, ozone, hydrogen sulfide, and various hydrocarbons) may be released by thermal decomposition. If hydrogen sulfide is present, the flammable limits can be from 4.3 to 45.5% by volume, and its presence may promote the formation of pyrophoric (spontaneously igniting) iron compounds.

Section 11 - Toxicological Information

Information on toxicological effects

		Components
Asphalt (55% TO 72%)	8052-42-4	Acute Toxicity: Ingestion/Oral-Rat LD50 • >5000 mg/kg; <i>Gastrointestinal:Hypermotility, diarrhea</i> ; Inhalation-Rat LC50 • >94.4 mg/m ³ ; Multi-dose Toxicity: Inhalation-Rat TCLo • 100 mg/m ³ 6 Hour(s) 14 Week(s)-Intermittent; <i>Sense Organs and Special Senses:Olfaction:Tumors; Behavioral:Food intake (animal); Nutritional and Gross Metabolic:Gross Metabolite Changes:Weight loss or decreased weight gain</i> ; Inhalation-Human TDLo • 10 mg/m ³ 5.5 Year(s)-Intermittent; <i>Sense Organs and Special Senses:Eye:Conjunctive irritation; Lungs, Thorax, or Respiration:Cough; Gastrointestinal:Changes in structure or function of salivary glands</i> ; Inhalation-Human TDLo • 10 mg/m ³ 9 Year(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Other changes; Gastrointestinal:Changes in structure or function of salivary glands; Biochemical:Metabolism (intermediary):Effect on inflammation or mediation of inflammation;</i> Mutagen: Micronucleus test • Unreported Route-Rat • Other Cell Type • 57.8 µg/L
Hydrogen sulfide (< 0.5184%)	7783-06-4	Acute Toxicity: Inhalation-Rat LC50 • 444 ppm 4 Hour(s); Irritation: Eye-Human • 0.000125 ppm 5 Hour(s); Reproductive: Inhalation-Rat TCLo • 10 mg/m ³ (48D pre/1-22D preg); <i>Reproductive Effects:Effects on Fertility:Pre-implantation mortality; Reproductive Effects:Effects on Fertility:Post-implantation mortality; Reproductive Effects:Specific Developmental Abnormalities:Urogenital system</i>

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012•Data lacking
Aspiration Hazard	OSHA HCS 2012•Data lacking
Carcinogenicity	OSHA HCS 2012•Carcinogenicity 2
Germ Cell Mutagenicity	OSHA HCS 2012•Data lacking
Skin corrosion/Irritation	OSHA HCS 2012•Data lacking
Skin sensitization	OSHA HCS 2012•Data lacking
STOT-RE	OSHA HCS 2012•Data lacking
STOT-SE	OSHA HCS 2012•Data lacking
Toxicity for Reproduction	OSHA HCS 2012•Data lacking

Respiratory sensitization	OSHA HCS 2012•Data lacking
Serious eye damage/Irritation	OSHA HCS 2012•Data lacking

Potential Health Effects

Inhalation

Acute (Immediate) • Direct contact can cause thermal burns, and may produce irritation.

Chronic (Delayed) • No data available.

Skin

Acute (Immediate) • Direct contact can cause thermal burns, and may produce irritation.

Chronic (Delayed) • No data available.

Eye

Acute (Immediate) • Direct contact can cause thermal burns, and may produce irritation.

Chronic (Delayed) • No data available.

Ingestion

Acute (Immediate) • Asphalt has low systemic toxicity when ingested. However, chewing asphalt has caused gastrointestinal effects.

Chronic (Delayed) • No data available

Carcinogenic Effects • Repeated and prolonged exposure may cause cancer. The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence that asphalt alone is carcinogenic to humans. Further, IARC has determined that there is inadequate evidence of carcinogenicity for undiluted air-refined asphalts in laboratory animals. However, IARC states that there is sufficient evidence that extracts (asphalt dissolved in hydrocarbon solvents) are carcinogenic to laboratory animals, and sufficient evidence for the carcinogenicity of untreated vacuum distillates in laboratory animals and humans. IARC has determined that there is limited evidence of carcinogenicity for undiluted steam-refined asphalts in laboratory animals. Limited evidence means that a causal relationship is possible; however, other explanations such as chance, bias, or confounding factors cannot adequately be excluded.

Carcinogenic Effects		
	CAS	IARC
Asphalt	8052-42-4	Group 2B-Possible Carcinogen

Key to abbreviations

LD = Lethal Dose

TC = Toxic Concentration

TD = Toxic Dose

Section 12 - Ecological Information

Toxicity

• Non-mandatory section - information about this substance not complied for this reason.

Persistence and degradability

• Non-mandatory section - information about this substance not complied for this reason.

Bioaccumulative potential

• Non-mandatory section - information about this substance not complied for this reason.

Mobility in Soil

• Non-mandatory section - information about this substance not complied for this reason.

Other adverse effects

• Non-mandatory section - information about this substance not complied for this reason.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA

Special precautions for user

• None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

• Chronic

Inventory						
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS	TSCA
Asphalt	8052-42-4	Yes	No	Yes	No	Yes
Hydrogen sulfide	7783-06-4	Yes	No	Yes	No	Yes
Sodium hydroxide	1310-73-2	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

•Sodium hydroxide	1310-73-2	E (including 0.04% in aqueous solution, 0.08%, 0.4% in aqueous solution, 2%, 2.5%, 4% in aqueous solution, 5%, 10%, 16%, 20%, 40%, 50% in aqueous solution, 8.7N)
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	A, B1, D1A, D2B
Canada - WHMIS - Ingredient Disclosure List		
•Sodium hydroxide	1310-73-2	1 %
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	1 %

Environment

Canada - CEPA - Priority Substances List

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	1500 lb TQ

U.S. - OSHA - Specifically Regulated Chemicals

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

•Sodium hydroxide	1310-73-2	1000 lb final RQ; 454 kg final RQ
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	100 lb final RQ; 45.4 kg final RQ

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	100 lb EPCRA RQ

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	500 lb TPQ

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	1.0 % de minimis concentration

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed

•Hydrogen sulfide	7783-06-4	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
•Sodium hydroxide	1310-73-2	Not Listed
•Asphalt	8052-42-4	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

Section 16 - Other Information

Last Revision Date	• 23/June/2015
Preparation Date	• 01/November/1996
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Key to abbreviations

NDA = No Data Available