

U. S. OIL & REFINING CO.

M A T E R I A L   S A F E T Y   D A T A   S H E E T

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CRS-2

MSDS No. 532110

Revised 5/21/01

U. S. OIL & REFINING CO.  
3001 Marshall Ave.  
Tacoma, WA 98421

EMERGENCY ASSISTANCE:  
COMPANY: (253) 383-1651  
CHEMTREC: (800) 424-9300

**IMPORTANT:** Read this MSDS before handling or disposing of this product.  
Pass this information on to employees, customers and product users.

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**1. GENERAL**  
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**Trade Name:** CATIONIC EMULSIFIED ASPHALT, CRS-2  
**Chemical Family:** HYDROCARBON  
**Generic Name:** ASPHALT, EMULSIFIED  
**DOT Shipping Name:** ASPHALT (CRS 2)  
**NFPA Hazard Rating:** HEALTH: 0  
                                  FIRE: 1  
                                  REACTIVITY: 0  
                                  SPECIAL:

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**2. PRODUCT COMPONENTS**  
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Component	CAS Number	Percent
PETROLEUM ASPHALT	8052-42-4	AP 65-75
NAPHTHA	64741-46-4	AP 2-10
WATER	7732-18-5	AP 25-35
ORGANIC AMINE EMULSIFIER		AP 0-6
HYDROCHLORIC ACID	7647-01-0	AP 1-5

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**3. OCCUPATIONAL EXPOSURE LIMITS**  
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Substance	Value	Time/Type	Date	Source
ASPHALT FUMES	5 MG/M <sup>3</sup>	8 Hr PEL	1980	OSHA

	10 MG/M <sup>3</sup>	15 Min STEL	1980	OSHA
HYDROGEN CHLORIDE	5 PPM	CEILING	1989	OSHA

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**4. HEALTH INFORMATION**  
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**Routes of Exposure****Signs and Symptoms****Inhalation**

INHALATION OF VAPOR OR MISTS FROM THIS MATERIAL TYPICALLY DOES NOT OCCUR DUE TO THE SHIPPING TEMPERATURE. IF HANDLED AT ELEVATED TEMPERATURE VAPORS AND MISTS CAN IRRITATE THE NOSE, THROAT AND LUNGS. PRODUCT IS NORMALLY SHIPPED AT 130°F.

**Eye Contact**

EYE IRRITATION MAY RESULT FROM CONTACT WITH LIQUID, MISTS, AND/OR VAPORS.

**Skin Contact**

SKIN IRRITATION MAY OCCUR. MORE SERIOUS SKIN DISORDERS MAY OCCUR UPON PROLONGED OR REPEATED SKIN CONTACT. THERMAL BURNS MAY RESULT FROM CONTACT WITH HOT MATERIAL.

**Ingestion**

THIS MATERIAL CAN IRRITATE THE MOUTH, THROAT, STOMACH, AND CAUSE NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA.

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**5. FIRE AND EXPLOSION**  
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**Flash Point (Method):** NONE UNLESS ALL WATER IS DISTILLED FROM PRODUCT

**Autoignition Temperature (Method):** N/AV

**Flammable Limits (% Vol. in air)** LOWER: N/AP, UPPER: N/AP

**Unusual Fire and Explosion Hazards:**

COMBUSTIBLE! WHEN ALL WATER IS DISTILLED OUT OF PRODUCT, THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH IF EXPOSED TO A SOURCE OF IGNITION CAN BURN OR BE EXPLOSIVE IN CONFINED SPACES. KEEP AWAY FROM HEAT AND OPEN FLAME

**Extinguishing Media:**

USE WATER SPRAY, DRY CHEMICAL, FOAM OR CARBON DIOXIDE TO EXTINGUISH THE FIRE. WATER OR FOAM MAY CAUSE FROTHING. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURES. MINIMIZE BREATHING OF GASSES, VAPOR, FUME OR DECOMPOSITION PRODUCTS. FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER. IMPROPER USE OF WATER AND EXTINGUISHING MEDIA CONTAINING WATER MAY CAUSE FROTHING WHICH CAN SPREAD THE FIRE OVER A LARGER AREA.



**Special Firefighting Procedures:**

FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER. IMPROPER USE OF WATER AND EXTINGUISHING MEDIA CONTAINING WATER MAY CAUSE FROTHING WHICH CAN SPREAD THE FIRE OVER A LARGER AREA.

**Hazardous Decomposition Products:**

BURNING OR EXCESSIVE HEATING MAY PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES AND VAPORS INCLUDING OXIDES AND/OR OTHER COMPOUNDS OF SULFUR.

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**6. EMPLOYEE PROTECTION**  
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**Respiratory:** NONE IS NEEDED UNDER NORMAL CONDITIONS WITH ADEQUATE VENTILATION. IF EXPOSURE EXCEEDS THE CONTROL LIMITS, RESPIRATORY PROTECTIVE EQUIPMENT WHICH MEETS 26 CFR 1910.134 AND IS NIOSH/MSHA APPROVED MUST BE WORN.

**Eye:** EYE PROTECTION (CHEMICAL-TYPE GOGGLES AND/OR FACE SHIELD) SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OF SPRAYING LIQUID.

**Skin:** WHEN SKIN CONTACT IS POSSIBLE PROTECTIVE CLOTHING SUCH AS LEATHER-FACED GLOVES, IMPERVIOUS APRON, LONG-SLEEVES, BOOTS AND FACIAL PROTECTION MUST BE WORN.

**Other:** EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE VICINITY OF ANY POTENTIAL EXPOSURE.

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**7. EMERGENCY AND FIRST AID**  
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**Inhalation:** IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE OXYGEN OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN PROMPT MEDICAL ATTENTION.

**Eye Contact:** FLUSH WITH CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

**Skin Contact:** REMOVE CONTAMINATED CLOTHING. WIPE EXCESS OIL OFF WITH A DRY CLOTH. WASH AFFECTED AREA WELL WITH A WATERLESS CLEANSER FOLLOWED BY SOAP AND WATER.

**Ingestion:** DO NOT INDUCE VOMITING, SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. MUST OBTAIN MEDICAL ATTENTION PROMPTLY.



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**8. SPILL AND DISPOSAL**  
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**Actions if Material is Spilled or Leaked:**

CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. ADD SAND, EARTH, OR OTHER SUITABLE ABSORBANT TO SPILL AREA. MINIMIZE SKIN CONTACT. PRODUCT WILL SOLIDIFY WHEN COOLED. KEEP PRODUCT OUT OF SEWERS AND WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE AUTHORITIES IF PRODUCT HAS ENTERED SEWERS OR WATERCOURSES. ASSURE CONFORMITY WITH APPLICABLE GOVERNMENTAL REGULATIONS.`

**Waste Disposal Methods:**

MAXIMIZE PRODUCT RECOVERY FOR REUSE PRIOR TO DISPOSAL. USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS.

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**9. PHYSICAL AND CHEMICAL DATA**  
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**Specific Gravity (H<sub>2</sub>O = 1 @ 39.2°F):** AP 1.00 TO 1.03

**Vapor Sp. Gr. (Air = 1.0 at 60°-90°F):** N/AP

**Solubility in Water:** SOLUBLE

**Viscosity Units, Temp. (Method):** AP 250 SSF AT 122°F (D244)

**Volatile Characteristics:** SLIGHT

**pH:** 3-6

**Other Physical and Chemical Properties:** N/AP

**Appearance and Odor:** CHOCOLATE BROWN WITH SWEET  
ODOR.

**Conditions to Avoid:** EXTREME HEAT AND OPEN FLAME

**Materials to Avoid:** REACTS WITH STRONG ACIDS, OXIDIZING MATERIALS AND  
ALKALIES.

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**10. REGULATORY INFORMATION**  
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**REPORTABLE QUANTITY (RQ), EPA 40 CFR 302 (CERCLA SECTION 102)**  
NO RQ FOR PRODUCT OR ANY CONSTITUENT GREATER THAN 1% OR 0.1%  
(CARCINOGEN)

**Toxic Chemicals for Emission Reporting, (SARA SECTION 313):**

NO TOXIC CHEMICAL IS PRESENT GREATER THAN 1% OR 0.1% (CARCINOGEN)

**Threshold Planning Quantify (TPQ), (SARA 301 - 304):**

NO TPQ FOR PRODUCT OR ANY CONSTITUENT GREATER THAN 1% OR 0.1%  
(CARCINOGEN)

**EPA Hazard Classification, (SARA 311 - 312):**

**Acute Health Hazard:**  
**Chronic Health Hazard:**  
**Fire Hazard:**  
**Pressure Hazard:**  
**Reactive Hazard:**  
**Not Applicable: X**

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**11. ADDITIONAL PRECAUTIONS**  
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**Handling & Storage:**

PARTS AND EQUIPMENT USING OR CONTAINING THIS MATERIAL MUST BE STEAM-CLEANED PRIOR TO ALL MAINTENANCE PROCEDURES. ALL MATERIAL SAMPLING SHOULD BE CONDUCTED IN A MANNER WHICH AVOIDS VAPOR INHALATION OR SKIN CONTACT. SPECIAL CARE AND LABELING MUST BE PROVIDED DURING TRANSPORTATION/HANDLING OF LABORATORY SAMPLES. USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS WITH PLENTY OF SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USE OF TOILET FACILITIES. DO NOT USE SOLVENTS (GASOLINE, KEROSENE, ETC.) OR ABRASIVE SKIN CLEANERS. OIL-SOAKED CLOTHING MUST BE PROMPTLY REMOVED AND LAUNDERED BEFORE REUSE. DISCARD CONTAMINATED LEATHER GOODS. KEEP CONTAINERS CLOSED AND AWAY FROM HEAT AND IGNITION SOURCES.

**General Comments:**

SOME OF THE INFORMATION PRESENT AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

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**NOTE-----Qualifications**

<b>EQ</b> = Equal	<b>AP</b> = Approximately	<b>N/AV</b> = Not Available
<b>LT</b> = Less Than	<b>UK</b> = Unknown	<b>N/AP</b> = Not Applicable
<b>GT</b> = Greater than	<b>TR</b> = Trace	<b>N/DA</b> = No Data Available

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