GASOLINE BLENDING STOCKS: REFORMATES

Shut off ign Stay upwind	e away. act with liquid and vap tition sources and cal d and use water spra health and pollution c er intakes. FLAMMABLE. Flashback along va Vapor may explode Extinguish with dry Water may be ineff	or. Ifire departmer y to ``knock do' control agencie: por trail may or if ignited in an chemical, foar	wn" vapor. s. ccur.				
Keep peopl Avoid conts Shut off ign Stay upwin Notify local Protect wat	act with liquid and vap ition sources and cal d and use water spra- health and pollution of ter intakes. FLAMMABLE. Flashback along va Vapor may explode Extinguish with dry Water may be ineff	I fire departmer y to ``knock dor control agencies upor trail may or if ignited in an chemical, foar	wn" vapor. s. ccur.				
	Flashback along va Vapor may explode Extinguish with dry Water may be ineff	if ignited in an chemical, foar					
xposure		FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Extinguish with dry chemical, foam or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.					
	CALL FOR MEDICAL AID. VAPOR Irritating to eyes, nose and throat. If inhaled will cause dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Irritating to skin and eyes. If swallowed, will cause nausea or vorniting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.						
Water Pollution	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearbury water intakes.						
	2		2.6 NAERG Guide No.: 128 2.7 Standard Industrial Trade Classification: 33411				
 Symptoms Foll nervous sy: headache, i dargerous : dyspnea, si bronchopne depression, stomach; st rreatment of E needed. AS vorniting; la EYES: was TLV-TWA: 300 TLV-STEL: Not TLV-TWA: 300 TLV-STEL: Not TLV-TCHING: Source TLV-Stelling: 50 Toxicity by Inpa; Chronic Toxicit Vapor (Gas) Im system if pr Liquid or Solid cause smart Odor Threshol DCH Value: No. OSHA PEL-STI SOSHA PEL-STI 	ctive Equipment: Pi owing Exposure: IN stem stimulation follo and incoordination to complication. ASPIR Josternal distress, an rumonia and pneumor INGESTION causes imulation followed by xposure: Seek medi SPIRATION: enforce vage carefully if appr h with copious quant ppm listed. 10 ppm estion: Grade 2; LD lalation: Currently not ty: None ritant Characteristics: Mi Characteristics: Mi ting and reddening of di Sted. A: Not listed.	HALATION cau- wed by depress anesthesia, cc ATION causes d rapidly devele uitis; acute ons- initation of m depression of cal attention. I bed rest; admi eciable quantiti, ity of water. Sb so = 0.5 to 5 g/k available. s: Vapors caus trations. The e nimum hazard.	es, gloves. uses irritation of upper respiratory tract; central sion of varying degrees raining from dizziness, imma, and respiratory arrest; irregular heartbeat is severe lung irritation with coughing, gagging, poing pulmonary edema; later, signs of et of central nervous system followed by ucous membranes of throat, esophagus, and central nervous system; irregular heartbeat. NHALATION: maintain respiration; give oxygen if nister oxygen. INGESTION: do NOT induce r was ingested; guard against aspiration into lungs. KIN: wipe off and wash with soap and water. g e a slight smarting of the eyes or respiratory				

 4. FIRE HAZARDS 4.1 Flash Point: (a) -075 C.C. (b) -739 F.C.C. (c) -075 F.C.C. <li< th=""><th> Flash Point: (a) <0°F C.C. (b) 0-73°F C.C. Flammable Limits in Air: (a) 1.1%-8.7% Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide Fire Extinguishing Agents: Not to Be Used: Water may be ineffective Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. A tuto Ignition Temperature: Currently not available Betherical Hazards: Class I, group D Burning Rate: 4 mm/min. Alto Adiabatic Flame Temperature: Currently not available Stoichometric Air to Fuel Ratio: Not pertinent Combustion Molar Ratio (Reactant to Product): Not pertinent ChEMICAL REACTIVITY T. Reactivity with Water: No reaction Reactivity with Water: No reaction </th><th> 7.1 Grades of Purity: Composition varies with range of distillation temperatures used 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: No requirement 7.4 Venting: Open (flame arrester) or pressure-vacuum 7.5 IMO Pollution Category: Currently not available 7.7 Barge Hull Type: Currently not available 8. HAZARD CLASSIFICATIONS 8.1 49 CFR Category: Flammable liquid 8.2 49 CFR Class: 3 8.3 49 CFR Package Group: II 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification: Category Classification Health Hazard Blue)</th></li<>	 Flash Point: (a) <0°F C.C. (b) 0-73°F C.C. Flammable Limits in Air: (a) 1.1%-8.7% Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide Fire Extinguishing Agents: Not to Be Used: Water may be ineffective Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. A tuto Ignition Temperature: Currently not available Betherical Hazards: Class I, group D Burning Rate: 4 mm/min. Alto Adiabatic Flame Temperature: Currently not available Stoichometric Air to Fuel Ratio: Not pertinent Combustion Molar Ratio (Reactant to Product): Not pertinent ChEMICAL REACTIVITY T. Reactivity with Water: No reaction Reactivity with Water: No reaction 	 7.1 Grades of Purity: Composition varies with range of distillation temperatures used 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: No requirement 7.4 Venting: Open (flame arrester) or pressure-vacuum 7.5 IMO Pollution Category: Currently not available 7.7 Barge Hull Type: Currently not available 8. HAZARD CLASSIFICATIONS 8.1 49 CFR Category: Flammable liquid 8.2 49 CFR Class: 3 8.3 49 CFR Package Group: II 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification: Category Classification Health Hazard Blue)
 4.1 Flash Point: (a) -0°F C.C. (b) -73°F C.C. 4.2 Flammable limits in Air: (a) 1.1%-8.7% 4.3 Fire Extinguishing Agents: Dry chemical, gaton doxide 4.4 Fire Extinguishing Agents Not to Bused: Water may be ineflective 4.3 Fire Extinguishing Agents Not to Bused: Water may be ineflective 4.3 Especial Hazards of Combustion Products: None 4.6 Behavior In Fire: Yapor is heavier than distande to a source of ignition and flash back. 4.7 Auto Ignition Temperature: Currently not available 3.1 Bert Atmosphere: No requirement 7.4 Venting: Open (flame arrester) or pressure-vacuum 7.5 IMO Pollution Category: Currently not available 3. HAZARD CLASSIFICATIONS 3.48 Electrical Hazards: Class I, group D 4.19 Burning Rate: 4 mm/m. 4.10 Adiabatic Flame Temperature: Currently not available 3. 49 CFR Category: Classification motion available 3. 49 CFR Category: Classification 3. 49 CFR Category: Classification 3. 49 CFR Category: Not listed 4.14 Minimum Oxygen Concentration for Combustion Molar Ratio (Reactant to Product): Not pertinent 5. CHEMICAL REACTIVITY 5.1 Reactivity with Water: No reaction 5.2 CHEMICAL REACTIVITY 5.1 Reactivity with Water: No reaction 5.2 CHEMICAL REACTIVITY 5.1 Reactivity with Water: Not pertinent 5.6 Inhibitor of Polymerization: Not pertinent 5.6 GESAMP Hazard Profile: Not listed 3.7 Erezing Poi	 Flash Point: (a) <0°F C.C. (b) 0-73°F C.C. Flammable Limits in Air: (a) 1.1%-8.7% Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide Fire Extinguishing Agents: Not to Be Used: Water may be ineffective Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. A tuto Ignition Temperature: Currently not available Betherical Hazards: Class I, group D Burning Rate: 4 mm/min. Alto Adiabatic Flame Temperature: Currently not available Stoichometric Air to Fuel Ratio: Not pertinent Combustion Molar Ratio (Reactant to Product): Not pertinent ChEMICAL REACTIVITY T. Reactivity with Water: No reaction Reactivity with Water: No reaction 	 7.1 Grades of Purity: Composition varies with range of distillation temperatures used 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: No requirement 7.4 Venting: Open (flame arrester) or pressure-vacuum 7.5 IMO Pollution Category: Currently not available 7.7 Barge Hull Type: Currently not available 8. HAZARD CLASSIFICATIONS 8.1 49 CFR Category: Flammable liquid 8.2 49 CFR Class: 3 8.3 49 CFR Package Group: II 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification: Category Classification Health Hazard Blue)
 (a) = 0°F C.C. (b) 0-73°F C.C. 4.2 Flammable Limits in Air: (a) 1.1%-8.7% 4.3 Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide 4.4 Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide 4.5 Special Hazards of Combustion Products: None 4.6 Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. 7.4 Auto Ignition Temperature: Currently not available 8. HAZARD CLASSIFICATIONS 8.1 49 CFR Category: Flammable liquid 8.1 49 CFR Category: Flammable liquid 8.4 49 CFR Cates: 3 8.3 49 CFR Package Group: II 8.4 Marine Pollutant: No 4.14 Primer Temperature: Currently not available 1.13 Stoichometric Air to Fuel Ratio: Not pertinent 1.14 Stoichometric Air to Fuel Ratio: Not pertinent 1.14 Reactivity with Common Materials: No reaction (MOCC): Not listed 3.5 CHEMICAL REACTIVITY 5.1 Reactivity with Common Materials: No reaction (MOCC): Not listed 3.5 CHEMICAL REACTIVITY 5.1 Reactivity with Common Materials: No reaction (MOCC): Not pertinent 5. CHEMICAL REACTIVITY 6. WATER POLLUTION 6. WATER POLLUTION 6.1 Aquatic Toxicity: 34 3.3 Bioling Point at 1 atm: S0-276°F = 14-135°C = 287-408°K 9. PHYSICAL & CHEMICAL PROPERTIES 9. PHYSICAL & CHEMICAL PROPERTIES 9.1 Physical State at 15° C and 1 atm: Liquid 9.2 Molecular Weight: Not pertinent 9.3 Bioling Point at 1 atm: S0-276°F = 14-135°C = 287-408°K 9.4 Marine Polyaceita corrents on the pertinent 9.5 Critical Tempsor: Stable 9.4 Physical State at 15° C and 1 atm: Liquid 9.2 Mater All All All All All All A	 (a) <0°F C.C. (b) 0-73°F C.C. 4.2 Flammable Limits in Air: (a) 1.1%-8.7% 4.3 Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide 4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective 4.5 Special Hazards of Combustion Products: None 4.6 Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. 4.7 Auto Ignition Temperature: Currently not available 4.8 Electrical Hazards: Class I, group D 4.9 Burning Rate: 4 mm/min. 4.10 Adiabatic Flame Temperature: Currently not available 4.11 Stoichometric Air to Fuel Ratio: Not pertinent 4.12 Flame Temperature: Currently not available 4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent 4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed 5. CHEMICAL REACTIVITY 5.1 Reactivity with Water: No reaction 5.2 Reactivity with Water No reaction 	range of distillation temperatures used 7.2 Storage Temperature: Ambient 7.3 Inert Amsophere: No requirement 7.4 Venting: Open (flame arrester) or pressure- vacuum 7.5 IMO Pollution Category: Currently not available 7.7 Barge Hull Type: Currently not available 7.7 Barge Hull Type: Currently not available 8. HAZARD CLASSIFICATIONS 8.1 49 CFR Category: Flammable liquid 8.2 49 CFR Class: 3 8.3 49 CFR Package Group: II 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification: Category Classification Health Hazard Blue) 1 Flammability (Red)
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 6.2 Waterrow Toxicity: Currently not available 6.3 Biological Oxygen Demand (BOD): 8%, 5 days 6.4 Food Chain Concentration Potential: None 6.5 GESAMP Hazard Profile: Not listed 9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent 9.12 Latent Heat of Vaporization: 130–150 Btu/lb = 71–81 cal/g = 3.0–3.4 X 10⁵ J/kg 9.13 Heat of Combustion: -18, 720 Btu/lb = -10,400 cal/g = -435.4 X 10⁵ J/kg 9.14 Heat of Polymerization: Not pertinent 9.15 Heat of Polymerization: Not pertinent 9.16 Heat of Polymerization: Not pertinent 9.17 Heat of Fusion: Currently not available 9.18 Limiting Value: Currently not available 9.19 Reid Vapor Pressure: Currently not 	shad/TLm/salt water	
 6.3 Biological Oxygen Demand (BOD): 8%, 5 days 6.4 Food Chain Concentration Potential: None 6.5 GESAMP Hazard Profile: Not listed 9.12 Latent Heat of Vaporization: 130–150 Btu/lb = 71–81 cal/g = 3.0–3.4 X 10⁵ J/kg 9.13 Heat of Combustion: -18,720 Btu/lb = -10,400 cal/g = -435.4 X 10⁵ J/kg 9.14 Heat of Decomposition: Not pertinent 9.15 Heat of Columnia State (State Column) 9.16 Heat of Polymerization: Not pertinent 9.17 Heat of Fusion: Currently not available 9.18 Limiting Value: Currently not 		9.11 Ratio of Specific Heats of Vapor (Gas):
 6.4 Food Chain Concentration Potential: None 6.5 GESAMP Hazard Profile: Not listed 9.13 Heat of Combustion: -18,720 Btu/lb = -10,400 cal/g = -4354 × 10⁵ J/kg 9.14 Heat of Decomposition: Not pertinent 9.15 Heat of Polymerization: Not pertinent 9.16 Heat of Polymerization: Not pertinent 9.17 Heat of Fusion: Currently not available 9.18 Limiting Value: Currently not 		
 6.5 GESAMP Hazard Profile: Not listed -10,400 cal/g = -435.4 X 10⁵ J/kg 9.14 Heat of Decomposition: Not pertinent 9.15 Heat of Solution: Not pertinent 9.16 Heat of Polymerization: Not pertinent 9.17 Heat of Fusion: Currently not available 9.18 Limiting Value: Currently not available 9.19 Reid Vapor Pressure: Currently not 	6.4 Food Chain Concentration Potential:	Btu/lb = 71-81 cal/g = 3.0-3.4 X 10 ⁵ J/kg
9.15 Heat of Solution: Not pertinent 9.16 Heat of Polymerization: Not pertinent 9.17 Heat of Fusion: Currently not available 9.18 Limiting Value: Currently not available 9.19 Reid Vapor Pressure: Currently not		
9.16 Heat of Polymerization: Not pertinent 9.17 Heat of Fusion: Currently not available 9.18 Limiting Value: Currently not available 9.19 Reid Vapor Pressure: Currently not		
9.18 Limiting Value: Currently not available 9.19 Reid Vapor Pressure: Currently not		
9.19 Reid Vapor Pressure: Currently not		
available		
		available

GASOLINE BLENDING STOCKS: REFORMATES

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
45 50 60 70 75 80 85 90 95 100 105 110 115	50.010 49.900 49.760 49.640 49.510 49.390 49.260 49.140 49.020 48.890 48.770 48.640 48.520 48.400 48.270	0 5 10 15 20 25 30 35 40 45 55 60 65 55 60 65 55 60 65 70 75 80 85 90 95 90 95 100 105 110 115 120	0.498 0.500 0.504 0.507 0.509 0.511 0.513 0.518 0.522 0.524 0.522 0.524 0.529 0.533 0.536 0.538 0.542 0.542 0.544 0.542 0.544 0.542 0.544 0.542 0.544 0.545 0.553	40 50 60 70 80 90 100 100 120 140 150 160 170 180 190	0.909 0.900 0.891 0.883 0.874 0.865 0.856 0.847 0.838 0.829 0.821 0.821 0.821 0.823 0.794 0.794 0.785 0.776	46 48 50 52 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 890 92 94 96	0.601 0.592 0.584 0.575 0.557 0.551 0.543 0.528 0.521 0.514 0.528 0.521 0.514 0.500 0.493 0.487 0.480 0.474 0.468 0.462 0.456 0.450 0.454 0.452 0.454 0.454 0.454 0.454 0.454 0.454 0.454 0.454 0.454 0.454 0.454 0.454 0.454 0.454 0.455 0.454 0.454 0.455 0.454 0.454 0.455 0.454

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I NSOLUBLE		C U R R E N T L Y NOT A V A I L A B L E		N OT PERTINENT		CURRENTLY NOT AVAILABLE