SAFETY DATA SHEET



SECTION 1 Product and Company Identification Product

Product Name: Residual Fuel Reference Material: AR100, AR150, AR2809, AR2811, AR2812, AR2813, AR2814, AR2815, AR2816, AR2817, AR2818, AR2819, AR2861, AR2862, AR2863, AR2891, AR2892, AR2893, AR2894, AR2895, AR2896, AR2897, AR2898, AR2899,

Intended Use: Laboratory

Company

Manufacturer: Alpha Resources, LLC

3090 Johnson Rd. Stevensville, MI 49127

USA

Contact: 800-424-9300 Chemtrec

sales@alpharesources.com (e-mail)

269-465-3629 (facsimile) 269-465-5559 (telephone)

SECTION 2 Hazards Identification

Classification of substance or mixture:

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable Liquids (Category 3), H226 Aspiration Hazard (Category 1) H304 Carcinogenicity (Category 2) H351

Specific target organ toxicity, single exposure (Category 3 respiratory tract irritation) H373

Specific target organ toxicity, single exposure (Category 3 narcotic effects)

GHS Label Elements

Hazard symbol:







Signal word: Danger

Label Hazard Statements

H226: Flammable liquid and vapor.

H304: May be fatal if swallowed and enters airways.

H336: May cause drowsiness or dizziness.

H351: Suspected of causing cancer.

Label Precautionary statements

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking.

P233: Keep container tightly closed.

P240: Ground / bond container and receiving equipment.

P241: Use explosion-proof electrical, ventilating, and lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P261: Avoid breathing mist / vapors.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308 + P313: IF exposed or concerned: Get medical advice/ attention.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P331: Do NOT induce vomiting.

P332 + P313: If skin irritation occurs: Get medical advice/ attention.

P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish.

P403 + P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

P501: Dispose of contents and container in accordance with local regulations.

Physical / Chemical Hazards

Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

Health Hazards

May be irritating to the respiratory tract - effects are reversible. Repeated exposure may cause skin dryness or cracking. Mildly irritating to skin. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression

Environmental Hazards

Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

SECTION 3 Composition / Information on Ingredients

Ingredient	CAS #	EC#	% (by weight)
Hazardous			
Solvent Naphtha (petroleum), light aromatic	64742-95-6	265-192-2	<100%
Cumene	98-82-8	NE	<2%
Psuedocumene(1,2,4-Trimethylbenzene)	95-63-6	NE	<32%
Xylenes	1330-20-7	215-535-7	<3%

SECTION 4 First Aid Measures

Inhalation: Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Skin Contact: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

Eye Contact: Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion: Seek immediate medical attention. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Note to Physician If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5 Fire Fighting Measures

Appropriate Extinguishing Media: Foam, CO₂, Dry chemical, water spray or fog.

Inappropriate Extinguishing Media: Solid streams of water.

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Smoke, Fume, Oxides of carbon.

Flammability Properties

Flash Point: 46°C (115°F)

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 6.2

Auto ignition Temperature: 485°C (905°F)

SECTION 6 Accidental Release Measures

Notification procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

Protective Measures: Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire-fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is pos-

sible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

Spill Management:

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10°C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10°C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

Environmental Precautions:

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 Handling and Storage

Handling: Avoid breathing mists or vapors. Avoid all personal contact. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Do not enter storage areas or confined spaces unless adequately ventilated. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]
Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid

Storage: The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-

ventilated area. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

Storage Temperature: [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Railcars; Tank Trucks; Barges; Drums; Tankers

Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Copper Bronze; Inorganic Zinc Coatings; Epoxy Phenolic; Polyamide Epoxy; Amine Epoxy; Viton

Unsuitable Materials and Coatings: Vinyl Coatings; Butyl Rubber; Natural Rubber; Ethylene-proplyene-diene monomer (EPDM); Polyethylene; Polystyrene; Polypropylene; PVC; Polyacrylonitrile

SECTION 8 Exposure Control / Personal Protection

Engineering Measures: Air contaminant levels should be controlled below the PEL or TLV for this product (see Exposure Guidelines).

Exposure limit values:

-Apodal Cilime Falaco.					
Component	Value / Source				
Cumene	TWA	245 mg/m ³	50 ppm	OSHA Z1	
Cumene	TWA	50 ppm	No data available	ACGIH	
Pseudocumene (1,2,4-Trimethylbenzene)	TWA	25 ppm	No data available	ACGIH	
Solvent Naphtha (Petroleum), Light Aromatic	TWA	19 ppm	100 mg/m³	ExxonMobil	
Xylene	PEL	100 ppm	435 mg/m³	OSHA Z1	
Xylene	TWA	100 ppm	435 mg/m³	ACGIH	
Xylene	STEL	150 ppm	No data available	ACGIH	

Occupational exposure controls: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

- Adequate ventilation should be provided so that exposure limits are not exceeded.
- Use explosion-proof ventilation equipment.

Personal Protection:

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for non-routine and emergency use.

Hand protection: Avoid exposure - obtain special instructions before use. Wear protective gloves.

Eye protection: Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin protection: Minimize skin contact with appropriate long-sleeved clothing.

Hygiene measures: Observe good industrial hygienic practices. Frequently launder or discard proactive clothing, equipment.

Environmental exposure controls: Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

Appearance: Colorless liquid.

Physical state: Liquid.

Form: Liquid. Color: Colorless.

Odor: Aromatic. Solvent-like. Odor threshold: Not available.

pH: Not available.

Melting point/freezing point: -15°F (-26.1°C)

Initial boiling point and boiling range: 322-340°F (161-171°C)

Flash point: 115°F (46°C)

Evaporation rate (n-butyl acetate = 1): 0.27 Flammability (solid, gas) Not available. Flammability limit – lower: 0.9 % Flammability limit – upper: 6.2 %

Explosive limit - lower (%) Not available. Explosive limit - upper (%) Not available.

Vapor pressure: 0.269 kPa (2.02 mm Hg) at 20°C / 0.815 kPa (6.13 mm Hg) at 38°C

Vapor density (Air = 1): 4.2 at 101 kPa. Solubility (water): No data available. Partition coefficient: Not available. Auto-ignition temperature: 905°F (485°C) Decomposition temperature: Not available.

Viscosity: 0.75 cSt (0.75 mm2/sec) at 40°C / 0.9 cSt (0.9 mm2/sec) at 25°C.

SECTION 10 Stability and Reactivity

Stability: Stable under normal conditions.

Reactivity: Not available.

Conditions to avoid: Avoid heat, sparks, open flames and other ignition sources.

Materials to avoid: Strong oxidizing agents. Nitric acid. Sulfuric acid.

Hazardous decomposition products: Material does not decompose at ambient temperatures.

Hazardous polymerization: does not occur

SECTION 11 Toxicological Information

Route of Exposure

Inhalation: Breathing small amounts during normal handling is not likely to cause harmful effects. Breathing large amounts may cause depression of the central nervous system, nausea, headache, dizziness, drowsiness or unconsciousness.

Eye Contact: Exposure may cause serious eye irritation, including itching, burning, redness, and tearing.

Ingestion: Ingestion may result in headache, dizziness or drowsiness. Aspiration may cause chemical pneumonities or pulmonary edema.

Skin Contact: Exposure causes skin irritation or drying. Prolonged exposure may cause dermatitis or skin cracking.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum naphtha, light aromatic	8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L, 3400 ppm (Rat)
64742-95-6			4 h
1,2,4-Trimethylbenzene	5000 mg/kg (Rat)	No data available	18 mg/L (Rat) 4 h
95-63-6			
Xylene	4300 mg/kg (Rat)	> 1700 mg/kg (Rabbit)	47.6 g/L, 5000 ppm (Rat) 4
1330-20-7			h
Cumene	1400 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	39 mg/L (Rat) 4 h
98-82-8			

Chronic effects:

Mutagenicity: May cause genetic defects. Carcinogenicity: May cause cancer.

SECTION 12 Ecological Information

Eco toxicity - Toxic to aquatic life with long-lasting effects.

Toxicity to Fish

Chemical Name	CAS No	Species	LC50 (mg/L)	Exposure (Method)
Petroleum naphtha, light aro- matic	64742-95-6	Oncorhynchus mykiss	9.22	96 h
1,2,4-Trimethylbenzene	95-63-6	Pimephales promelas	7.72	96 h (flow-through)
Xylene	1330-20-7	Pimephales promelas	13.40	96 h (flow-through)
		Pimephales promelas	23.53-29.97	96 h (static)
		Oncorhynchus mykiss	2.66-4.09	96 h
		Lepomis macrochirus	19.00	96 h
		Lepomis macrochirus	13.10-16.50	96 h (flow-through)
		Lepomis macrochirus	7.71–9.59	96 h (static)
		Poecilia reticulata	30.26-40.75	96 h (static)
Cumene	98-82-8	Pimephales promelas	6.04-6.61	96 h (flow-through)
		Oncorhynchus mykiss	4.80	96 h (flow-through)
		Oncorhynchus mykiss	2.70	96 h (semi-static)
		Poecilia reticulata	5.10	96 h (semi-static)

Toxicity to Algae/Aquatic Plants, Microorganisms and Crustacea

Chemical Name	CAS No	Algae/aquatic plants EC50	Microorganisms EC50	Crustacea EC50
Petroleum naphtha, light aromatic	64742-95-6	Pseudokirchneriella subcapitata 3.1 mg/L 72 h	No data available	Daphnia magna 6.14 mg/L 48 h
1,2,4-Trimethylbenzene	95-63-6		No data available	Daphnia magna 3.60 mg/L 48 h
Xylene	1330-20-7	Pseudokirchneriella subcapitata 72 mg/L 14 d	0.0084 mg/L 24 h	Daphnia magna 3.82 mg/L 48 h Gammarus lacustris 0.6 mg/L 48 h
Cumene	98-82-8	Pseudokirchneriella subcapi-	0.89 mg/L 5 min	Daphnia magna

	tata	1.10 mg/L 15 min	7.9–14.1 mg/L 48 h
	2.6 mg/L 72 h	1.48 mg/L 30 min	
		172 mg/L 24 h	

Persistence and degradability No data available.

Bio accumulative potential No data available.

Mobility

Chemical Name	CAS No	Partition Coefficient (log POW)
Petroleum naphtha, light aromatic	64742-95-6	3.42
1,2,4-Trimethylbenzene	95-63-6	3.63
Xylene	1330-20-7	2.77-3.15
Cumene	98-82-8	3.55

Other adverse effects: None known.

SECTION 13 Disposal Considerations

Disposal instructions: Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

Local disposal regulations: Dispose of in accordance with local regulations.

Hazardous waste code: D001 / Waste Flammable material with a flash point <140 °F.

Waste from residues / unused products: Dispose in accordance with all applicable regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Chemical Name	CAS No	RCRA Listing	RCRA – Basis for Listing
Xylene	1330-20-7	U239	Included in waste stream: F039
Cumene	98-82-8	U055	

State of California: This product contains substances that are listed with the state of California as hazardous wastes.

Chemical Name	CAS No	California Hazardous Waste Status
Xylene	1330-20-7	Toxic / Ignitable
Cumene	98-82-8	Toxic / Ignitable

Section 14 Transport Information

DOT

UN number: UN1268

UN proper shipping name: Petroleum Distillates, N.O.S

Class: 3

Packing group: III

Product RQ: 4545.45 LBS - Xylenes

ERG Number: 128

Special precautions for user: Not available.

IATA

UN number: UN1268

UN proper shipping name: Petroleum Distillates, N.O.S

Class: 3

Packing group: III

Special precautions for user: Not available.

IMDG

UN number: UN1268

UN proper shipping name: Petroleum Distillates, N.O.S

Class: 3

Packing group: |||
Environmental hazards
Marine pollutant: No.

EmS: F-E, S-D

Special precautions for user: Not available.

SECTION 15 Regulatory Information

US federal regulations: This product is hazardous according to OSHA 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

Benzene [as part of xylene] (CAS 71-43-2)

Cumene (CAS 98-82-8)

Cancer, Central nervous system, Blood, Aspiration, Skin, Eye, Respiratory tract irritation, Flammability

CERCLA Hazardous Substance List (40 CFR 302.4):

Xylene (CAS 1330-20-7) listed Ethylbenzene (CAS 100-41-4) listed Cumene (CAS 98-82-8) listed

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes

Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance: Not listed.

SARA 311/312 Hazardous chemical: No

SARA 313 (TRI reporting):

Xylene CAS 1330-20-7

Ethylbenzene (CAS 100-41-4)

Cumene (CAS 98-82-8)

Pseudocumene (1,2,4-Trimethylbenzene) (CAS 95-63-6)

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:

Xylene (CAS 1330-20-7)

Ethylbenzene (CAS 100-41-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR68.130): Hazardous substance, Priority and Toxic pollutant Safe Drinking Water Act (SDWA): 0 mg/l 0.005 mg/l

US state regulations

US. Massachusetts RTK - Substance List:

Xylene (CAS 1330-20-7)

Benzene (CAS 71-43-2)

Ethylbenzene (CAS 100-41-4)

US. New Jersey Worker and Community Right-to-Know Act:

Xylene (CAS 1330-20-7)

Benzene (CAS 71-43-2)

Ethylbenzene (CAS 100-41-4)

Toluene (CAS 108-88-3)

Cumene (CAS 98-82-8)

Pseudocumene (1,2,4-Trimethylbenzene) (CAS 95-63-6)

US. Pennsylvania Worker and Community Right-to-Know Law:

Xylene (CAS 1330-20-7)

Benzene (CAS 71-43-2)

Ethylbenzene (CAS 100-41-4)

Toluene (CAS 108-88-3)

Cumene (CAS 98-82-8)

Pseudocumene (1,2,4-Trimethylbenzene) (CAS 95-63-6)

US. Rhode Island RTK:

Xylene (CAS 1330-20-7)

Benzene (CAS 71-43-2)

Ethylbenzene (CAS 100-41-4)

Toluene (CAS 108-88-3)

Cumene (CAS 98-82-8)

Pseudocumene (1,2,4-Trimethylbenzene) (CAS 95-63-6)

US. California Proposition 65: Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)

Ethylbenzene (CAS 100-41-4)

Toluene (CAS 108-88-3)

International Inventories

Country(s) or region Inventory name on inventory (yes/no)*

Australia: Australian Inventory of Chemical Substances (AICS) Yes

Canada: Domestic Substances List (DSL) Yes Canada: Non-Domestic Substances List (NDSL) No

China: Inventory of Existing Chemical Substances in China (IECSC) Yes

Europe: European Inventory of Existing Commercial Chemical Substances (EINECS) Yes

Europe: European List of Notified Chemical Substances (ELINCS) No Japan: Inventory of Existing and New Chemical Substances (ENCS) Yes

Korea: Existing Chemicals List (ECL) Yes New Zealand: New Zealand Inventory Yes

Philippines: Philippine Inventory of Chemicals and Chemical Substances (PICCS) Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

SECTION 16 Other Information

Recommended restriction: for use by trained professionals, having read the complete SDS

Hazard Ratings

	health	flammability	reactivity
HMIS	1	2	0
NFPA	1	2	0

To the best of our knowledge the information contained here is accurate. However, neither the above named manufacturer nor any of its distributors assumes any liability whatsoever for the accuracy or the completeness of the information contained herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.