

**CONVERSION CHART
FOR
CONVEYANCES GOING INTO RP FUELS OR JP-10/PF-1 SERVICE**

LAST PRODUCT CARRIED	PRODUCT TO BE LOADED	
	RP Fuels	JP-10/PF-1
Gasolines: MOGAS/E-85 AVGAS	Steam & Dry	Steam & Dry
Jet Fuels: JP-4, Jet-B, Jet A/A-1, JP-8, JP-5, TS1	Steam & Dry	Steam & Dry
Jet Fuel: JPTS (JP-7)	Drain Empty	Steam & Dry
RP-1 or RP-2	Drain Empty	Steam & Dry
JP-10/PF-1	Steam & Dry	Drain Empty
Petroleum Solvents: Xylene, Methyl Ethyl Ketone, Acetone, Benzene, Toluene, Cyclohexane, Methylcyclohexane, Petroleum Ether, Mineral or Petroleum Spirits, or Naphtha	Hot Water Rinse & Dry	Steam & Dry
Kerosene	Steam & Dry	Steam & Dry
Diesel Fuels: F-76, DL1, DL2, LS1, LS2, DF1, DF2, DFW, 1-D, 2-D, FS1, FS2, B20	Steam & Dry	Steam & Dry
Lubricating Oils	NO LOAD	NO LOAD
ASTM D975 No.4D, FS4, FS5, FS6, IFOs	NO LOAD	NO LOAD
Sodium Hydroxide, Isopropanol, Methanol,	Hot Water Rinse & Dry	Hot Water Rinse & Dry

Additional Requirements:

- a. Conveyances to be loaded shall be aluminum, stainless steel or internally coated with epoxy coating.
- b. If conveyances are epoxy coated or saran lined do not steam clean--clean with hot fresh water not exceeding 58 °C (136 °F) and dry thoroughly.
- c. If previous cargo contained dye marker, all traces of color must be removed.
- d. Internal surfaces of conveyances last containing sodium hydroxide shall be thoroughly rinsed with clean water until the pH of the rinse water effluent reaches 7.0.
- e. Do not load conveyance if the last product carried is not included in the above table.

TRANSPORT EQUIPMENT DELAY CERTIFICATE

1. CONSIGNOR	2. CONSIGNEE	3. PRODUCT
4. CARRIER	5. TRAILER NUMBER	6. DATE SHIPPED
7. FREIGHT BILL NUMBER	8. GBL NUMBER	9. SEAL NUMBER

10. LOADING/UNLOADING INFORMATION					
	DATE RECEIVED	TIME		DATE RECEIVED	TIME
A. ARRIVED			D. FINISH		
ACCEPTED FOR B. LOADING/UNLOADING			E. UNIT RELEASED		
C. START			F. TOTAL HOUR HELD		

11. REASON FOR DELAY *(Make a complete statement adequately describing each segment of delay, amount of time on each delay, and whether delay was responsibility of carrier or consignee/consignor)*

12. DETENTION CERTIFICATION STATEMENT: I certify that the above information is true and correct to the best of my knowledge.

SIGNATURE AND TITLE OF CONSIGNEE	SIGNATURE AND TITLE OF SHIPPER	SIGNATURE OF DRIVER
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13. NOTE TO CARRIER: A copy of "Vehicle Delay Certificate" must accompany each detention invoice to provide documentation for invoice certification and payment.

MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

(Read Instructions before completing this form.)

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR. 1. GOVERNMENT BILL OF LADING/TRANSPORTATION CONTROL NUMBER

SECTION 1 - DOCUMENTATION	ORIGIN a.	DESTINATION b.
2. CARRIER/GOVERNMENT ORGANIZATION		
3. DATE/TIME OF INSPECTION		
4. LOCATION OF INSPECTION		
5. OPERATOR(S) NAME(S)		
6. OPERATOR(S) LICENSE NUMBER(S)		
7. MEDICAL EXAMINER'S CERTIFICATE*		

8. <i>(X if satisfactory at origin)</i>				9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT				
a. MILITARY HAZMAT ENDORSEMENT		d. ERG OR EQUIVALENT COMMERCIAL:	YES	NO		a. TRUCK/TRACTOR	YES	NO
b. VALID LEASE*		e. DRIVER'S VEHICLE INSPECTION REPORT*				b. TRAILER		
c. ROUTE PLAN		f. COPY OF 49 CFR PART 397						

SECTION 11 - MECHANICAL INSPECTION
All items shag be checked on empty equipment prior to loading. Items with an asterisk shag be checked on all incoming loaded equipment.

10. TYPE OF VEHICLE(S)	11. VEHICLE NUMBER(S)
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12. PART INSPECTED <i>(X as applicable)</i>	ORIGIN (1)		DESTINATION (2)		COMMENTS (3)
	SAT	UNSAT	SAT	UNSAT	
a. SPARE ELECTRICAL FUSES					k EXHAUST SYSTEM
b. HORN OPERATIVE					1. BRAKE SYSTEM*
c. STEERING SYSTEM					m. SUSPENSION
d. WINDSHIELD/WIPERS					n. COUPLING DEVICES
e. MIRRORS					o. CARGO SPACE
f. WARNING EQUIPMENT					p. LANDING GEAR*
g. FIRE EXTINGUISHER*					q. TIRES, WHEELS, RIMS
h. ELECTRICAL WIRING					r. TAILGATE/DOORS*
i. LIGHTS AND REFLECTORS					s. TARPAULIN*
j. FUEL SYSTEM*					t. OTHER (Specify)

13. INSPECTION RESULTS (X one) ACCEPTED	REJECTED
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(If rejected give reason under "Remarks ". Equipment will be approved if deficiencies are corrected prior to loading.)

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED	REJECTED
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15. REMARKS

16. INSPECTOR SIGNATURE (Origin)	17. INSPECTOR SIGNATURE (Destination)
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SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

	ORIGIN (1)		DESTINATION (2)		COMMENTS (3)
	SAT	UNSAT	SAT	UNSAT	
18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CIFIR					
19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT					
20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT					
21. PROPER PLACARDS APPLIED					
22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS					
23. COPY OF DID FORM 626 FOR DRIVER					
24. SHIPPED UNDER DOT EXEMPTION 868					

25. INSPECTOR SIGNATURE (Origin)	26. DRIVER(S) SIGNATURE (Origin)
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27. INSPECTOR SIGNATURE (Destination)	28. DRIVER(S) SIGNATURE (Destination)
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INSTRUCTIONS

SECTION I - DOCUMENTATION

General Instructions.

All items (2 through 9) will be checked at origin prior to loading. Items with an asterisk (*) apply to commercial operators or equipment only. Only Items 2 through 7 are required to be checked at destination.

Items 1 through 5. Self explanatory.

Item 6. Enter operator's Commercial Driver's License (CDL) number or Military OF-346 License Number. CDL and OF-346 must have the HAZMAT and other appropriate endorsements IAW Part 383.

Item 7. *Enter the expiration date listed on the Medical Examiner's Certificate.

Item 8.a. APPLIES TO MILITARY OPERATORS ONLY. Military Hazardous Materials Certification. In accordance with applicable service regulations, ensure operator has been certified to transport hazardous materials.

b. *Valid Lease. Shipper will ensure a copy of the appropriate contract of lease is carried in all leased vehicles and is available for inspection. (Defense Transportation Regulation (DTR) requirement.)

c. Route Plan. Prior to loading any Hazard Class/Division 1.1, 1.2, or 1.3 (Explosives) for shipment, ensure that the operator possesses a written route plan in accordance with 49 CFR Part 397. Route Plan requirements for Hazard Class 7 (Radioactive) materials are found in 49 CFR 397.101.

d. Emergency Response Guidebook (ERG) or Equivalent. Commercial operators must be in possession of an ERG or equivalent document. Shipper will provide applicable ERG page(s) to military operators.

e. *Driver's Vehicle Inspection Report. Review the operator's Vehicle Inspection Report. Ensure that there are no defects listed on the report that would affect the safe operation of the vehicle.

f. Copy of 49 CFR Part 397. Operators are required by regulation to have in their possession a copy of 49 CFR Part 397 (Hazardous Materials Driving and Parking Rules). If military operators do not possess this document, shipper may provide a copy to operator.

Item 9. *Commercial Vehicle Safety Alliance (CVSA) Decal. Check to see if equipment has a current CVSA decal and mark applicable box. Vehicles without CVSA, check documentation of the last vehicle periodic inspection.

SECTION 11 - MECHANICAL INSPECTION

General Instructions.

All items (12.a. through 12.t.) will be checked on all incoming empty equipment prior to loading. All UNSATISFACTORY conditions must be corrected prior to loading. Items with an asterisk (*) shall be checked on all incoming loaded equipment. Unsatisfactory conditions that would affect the safe off-loading of the equipment must be corrected prior to unloading.

SECTION 11 (Continued)

Item 12.a. Spare Electrical Fuses. Check to ensure that at least one spare fuse for each type of installed fuse is carried on the vehicle as a spare or vehicle is equipped with an overload protection device (circuit breaker). (49 CFR 393.95)

b. Horn Operative. Ensure that horn is securely mounted and of sufficient volume to serve purpose. (49 CFR 393.81)

c. Steering System. The steering wheel shall be secure and must not have any spokes cracked through or missing. The steering column must be securely fastened. Universal joints shall not be worn, faulty or repaired by welding. The steering gear box shall not have loose or missing mounting bolts or cracks in the gear box mounting brackets. The pitman arm on the steering gear output shaft shall not be loose. Steering wheel shall turn freely through the limit of travel in both directions. All components of a power steering system must be in operating condition. No parts shall be loose or broken. Belts shall not be frayed, cracked or slipping. The power steering system shall not be leaking. (49 CFR 396 Appendix G)

d. Windshield/Wipers. Inspect to ensure that windshield is free from breaks, cracks or defects that would make operation of the vehicle unsafe; that the view of the driver is not obscured and that the windshield wipers are operational and wiper blades are in serviceable condition. Defroster must be operative when conditions require. (49 CFR 393.60, 393.78 and 393.79)

e. Mirrors. Every vehicle must be equipped with two rear vision mirrors located so as to reflect to the driver a view of the highway to the rear along both sides of the vehicle. Mirrors shall not be cracked or dirty. (49 CFR 393.80)

f. Warning Equipment. Equipment must include three bidirectional emergency reflective triangles that conform to the requirements of FMVSS No. 125. FLAME PRODUCING DEVICES ARE PROHIBITED. (49 CFR 393.95)

g. Fire Extinguisher. Military vehicles must be equipped with two serviceable fire extinguishers with an Underwriters Laboratories rating of 10 BC or more. (Commercial motor vehicles must be equipped with one serviceable 10 BC Fire Extinguisher). Fire extinguisher(s) must be located so that it is readily accessible for use and securely mounted on the vehicle. The fire extinguisher must be designed, constructed and maintained to permit visual determination of whether it is fully charged. (49 CFR 393.95)

h. Electrical Wiring: Electrical wiring must be clean and properly secured. Insulation must not be frayed, cracked or otherwise in poor condition. There shall be no uninsulated wires, improper splices or connections. Wires and electrical fixtures inside the cargo area must be protected from the lading. (49 CFR 393.28, 393.32, 393.33)

INSTRUCTIONS

SECTION 11 (Continued)

i. Lights/Reflectors. (Head, tail, turn signal, brake, clearance, marker and identification lights, Emergency Flashers). Inspect to see that all lighting devices and reflectors required are operable, of proper color and properly mounted. Ensure that lights and reflectors are not obscured by dirt or grease or have broken lenses. High/Low beam switch must be operative. Emergency Flashers must be operative on both the front and rear of vehicle. (49 CFR 393)

j. Fuel System. Inspect fuel tank and lines to ensure that they are in serviceable condition, free from leaks, or evidence of leakage and securely mounted. Ensure that fuel tank filler cap is not missing. Examine cap for defective gasket or plugged vent. Inspect filler necks to see that they are in completely serviceable condition and not leaking at joints. (49 CFR 393.83 and 396 Appendix G)

k. Exhaust System. Exhaust system shall discharge to the atmosphere at a location to the rear of the cab or if the exhaust projects above the cab, at a location near the rear of the cab. Exhaust system shall not be leaking at a point forward of or directly below the driver compartment. No part of the exhaust system shall be located where it will burn, char or damage electrical wiring, fuel system or any other part of the vehicle. No part of the exhaust system shall be temporarily repaired with wrap or patches. (49 CFR 393.83 and 396 Appendix G)

1. Brake System (to include hand brakes, parking brakes and Low Air Warning devices). Check to ensure that brakes are operational and properly adjusted. Check for audible air leaks around air brake components and air lines. Check for fluid leaks, cracked or damaged lines in hydraulic brake systems. Ensure that parking brake is operational and properly adjusted. Low Air Warning devices must be operative. (49 CFR 396 Appendix G)

m. Suspension. Inspect for indications of misaligned, shifted or cracked springs, loosened shackles, missing bolts, spring hangers unsecured at frame and cracked or loose U-bolts. Inspect for any unsecured axle positioning parts, and sign of axle misalignment, broken torsion bar springs (if so equipped). (49 CFR 396 Appendix G)

n. Coupling Devices (Inspect without uncoupling). Fifth Wheels: Inspect for unsecured mounting to frame or any missing or damaged parts. Inspect for any visible space between upper and lower fifth wheel plates. Ensure that the locking jaws are around the shank and not the head of the kingpin. Ensure that the release lever is seated properly and safety latch is engaged. Pintle Hook, Drawbar, Towbar Eye and Tongue and Safety Devices: Inspect for unsecured mounting, cracks, missing or ineffective fasteners (welded repairs to pintle hook is prohibited). Ensure safety devices (chains, hooks, cables) are in serviceable condition and properly attached. (49 CFT 396 Appendix G)

o. Cargo Space. Inspect to ensure that cargo space is clean and free from exposed bolts, nuts, screws, nails or inwardly projecting parts that could damage the lading. Check floor to ensure it is tight and free from holes. Floor shall not be permeated with oil or other substances. (49 CFR 177.815(e)(1) and 398.94)

p. Landing Gear. Inspect to ensure that landing gear and assembly are in serviceable condition, correctly assembled, adequately lubricated and properly mounted.

SECTION 11 (Continued)

q. Tires, Wheels and Rims: Inspect to ensure that tires are properly inflated. Flat or leaking tires are unacceptable. Inspect tires for cuts, bruises, breaks and blisters. Tires with cuts that extend into the cord body are unacceptable. Thread depth shall not be less than: 4/32 inches for tires on a steering axle of a power unit, and 2/32 inches for all other tires. Mixing bias and radial on the steering axle is prohibited. Inspect wheels and rims for cracks, unseated locking rings, broken, loose, damaged or missing lug nuts or elongated stud holes. (49 CFR 396 Appendix G)

r. Tailgate/Doors. Inspect to see that all hinges are tight in body. Check for broken latches and safety chains. Doors must close securely. (49 CFR 177.835(h))

s. Tarpaulin. If shipment is made on open equipment, ensure that lading is properly covered with fire and water resistant tarpaulin. (49 CFR 177.835(h))

t. Other Unsatisfactory Condition. Note any other condition which would prohibit the vehicle from being loaded with hazardous materials.

Item 14. For AA&E and other shipments requiring satellite surveillance, ensure that the Satellite Motor Surveillance System is operable. Shipper will instruct the driver to send a "test" emergency message to DTTS by having the driver activate the "emergency (panic) button". Shipper will contact DTTS at 1-800-826-0794 to verify that test message was received. Message must be received by DTTS for system to be considered operational.

SECTION III - POST LOADING INSPECTION

General Instructions.

All items will be checked prior to the release of loaded equipment. Shipment will not be released until deficiencies are corrected. All items will be checked on incoming loaded equipment. Deficiencies will be reported in accordance with applicable service regulations.

Item 18. Check to ensure shipment is loaded in accordance with 49 CFR Part 177.848 and the applicable Segregation or Compatibility Table of 49 CFR 177.848.

Item 19. Check to ensure the load is secured from movement in accordance with applicable service outload drawings.

Item 20. Check to ensure seal(s) have been applied to closed equipment; fire and water resistant tarpaulin applied on open equipment.

Item 21. Check to ensure each transport vehicle has been properly placarded in accordance with 49 CFR Part 172 Subpart F.

Item 22. Check to ensure operator has been provided shipping papers that comply with 49 CFR Part 172 Subpart C. For shipments transported by Government vehicle, shipping paper will be DD Form 836.

Item 23. Ensure operator(s) sign DD Form 626, are given a copy and understand the hazards associated with the shipment.

Item 24. Applies to Commercial Shipments Only. If shipment is made under DOT Exemption 868, ensure that shipping papers are properly annotated and copy of Exemption 868 is with shipping papers.

POTENTIAL HAZARDS**FIRE OR EXPLOSION**

- **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.
- Substance may be transported hot.
- **If molten aluminum is involved, refer to GUIDE 169.**

HEALTH

- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING

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

EVACUATION**Large Spill**

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

EMERGENCY RESPONSE**FIRE**

CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective.

Small Fire

- Dry chemical, CO₂, water spray or regular foam.

Large Fire

- Water spray, fog or regular foam.
- Use water spray or fog; do not use straight streams.
- Move containers from fire area if you can do it without risk.

Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material. • Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. • Use clean non-sparking tools to collect absorbed material.

Large Spill

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. • Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.



MATERIAL SAFETY DATA SHEET

DIXIE CHEMICAL COMPANY, INC.

P.O. Box 130410

Houston, TX 77219-0410

Contract No. = SP0600-03-D-1509

CAGE code of Dixie = 3CPP2

National Stock Number = 9135-01-048-5285 (JP-10)

(713) 863-1947

FAX: (713) 863-8316

SECTION 1 – CHEMICAL IDENTIFICATION

Trade Name: JP-10 Date of Issue: April, 15 2003
Formula: C₁₀H₁₆ Revised Date: NEW
Chemical Family: Hydrocarbon mixture
Telephone Number: Information (281) 474-3271
Emergency Number: Chemtrec (800) 424-9300

HMIS Hazard Rating 4 = Extreme
Health: 2* 3 = High
Fire: 2 2 = Moderate
Reactivity: 0 1 = Slight
*-Chronic effect indicator. See Section 11. 0 = Least

PPE rating to be supplied by user depending on use conditions.

SECTION 2 – COMPOSITION

<u>Components</u>	<u>Percentage</u>	<u>TLV (ppm)</u>	<u>CAS #</u>
Octahydro-4,7-Methano-1H-indene	>95	N.E.	6004-38-2

Note: N.E. = Not Established N/A = Not Applicable

SECTION 3 – HAZARDS IDENTIFICATION

Eye Contact: May cause irritation, tearing, redness, burning sensation, and blurred vision.
Skin Contact: May cause irritation, reddening, itching, and inflammation. Repeated or prolonged contact may cause reddening, itching, drying, and cracking. Defatting agent.

Inhalation: May cause irritation to the nose, throat, and lungs. Depending on the concentration and duration of exposure, symptoms may include sore throat, coughing, labored breathing, sneezing, and burning sensation. May cause central nervous system depression. Depending on the concentration and duration of exposure symptoms may include headache, excitation, drowsiness, dizziness, lack of coordination, light-headedness, blurred vision, fatigue, tremors, convulsions, loss consciousness, coma, respiratory arrest and death.

Ingestion: May cause irritation of the mouth, throat and gastrointestinal tract with symptoms that may include salivation, pain, nausea, vomiting, and diarrhea. Aspiration into the lungs may cause lung damage. Central nervous system symptoms similar to inhalation exposure are also possible.

SECTION 4 – FIRST AID MEASURES

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately remove contaminated clothing and shoes. Wipe excess material from skin and flush with water for at least 15 minutes. Use soap if available or follow by washing with soap and water. Do not reuse contaminated clothing without laundering. Get medical attention.

Inhalation: Remove victim to fresh air. If breathing is difficult, give oxygen. If not breathing, administer artificial respiration. Get medical attention.

Ingestion: Get medical attention immediately. Do not induce vomiting because of the danger of aspirating liquid into lungs.. Aspiration into lungs may result in severe injury and/or death.

SECTION 5 – FIREFIGHTING MEASURES

Extinguishing Media: Use water, foam, dry chemical, or carbon dioxide (CO₂).

Special Firefighting Procedures/Precautions: Firefighters should wear NIOSH approved self-contained breathing apparatus. Responders should wear protective clothing to prevent skin contact. Move containers from fire area. If unable to move, cool sealed containers with water.

Unusual Fire and Explosion Information: Vapors form flammable or explosive mixtures with air. Explosion hazard if exposed to extreme heat or to thermal or physical shock. Vapors may travel long distances to ignition sources and flash back. Vapors may accumulate in low areas and confined spaces. Toxic vapors will be emitted upon thermal decomposition.

Environmental Note: N/A.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Protective Measures: Evacuate area of unprotected personnel. Eliminate sources of ignition. Stay upwind and out of low area's. Wear personal protective equipment (See section 8) when responding to spills.

Spill Management: Stop source of leak if safe to do so. Dike and contain spill. Use water spray (fog) to reduce vapors. If vapor cloud forms, blanket area with water fog and foam. Use vacuum truck or pump to storage/salvage vessels. Clean up residue with an absorbent such as clay, sand or other suitable material and dispose of properly. Spray area with water to remove trace residue. Contain run-off from residue flush and dispose of properly. Prevent entry into waterways, sewer, or confined areas. Remove contaminated trace residues from soil and dispose of in same manner as material. For small spills, clean up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and dispose of material properly.

Disposal: Proper disposal should be evaluated based on regulatory status of this material (refer to section 13).

SECTION 7 – HANDLING AND STORAGE

Containers should be grounded and bonded when material is transferred. Store in a cool, dry place. Keep away from heat, sparks, and flames.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Respiratory Protection:	NIOSH approved respiratory protection for organic vapors.
Ventilation:	Utilize local exhaust to control high vapor connections in confined areas.
Protective Gloves:	Utilize appropriate impervious chemical gloves.
Eye Protection:	Chemical goggles and possibly a face shield. Have eyewash facilities readily available.
Other Protective Equipment:	Wear additional protective clothing to prevent skin contact. This may include chemical resistant boots and chemical resistant suits.
Work Practices:	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	367°F (186°C)
Volatility/Vol (%):	N.E.
Vapor Pressure (mm Hg):	<5 mm Hg at 68°F (20°C)
Vapor Density (Air = 1):	5
Solubility in H ₂ O:	N.E.
Appearance/Odor:	Clear colorless liquid / Kerosene-like odor.
Specific Gravity (H ₂ O = 1):	0.943
Evap. Rate (Butyl Acetate = 1):	N.E.
Flash Point:	130°F (54°C) PMCC, ASTM D93
Lower Explosive Limit:	N.E.
Upper Explosive Limit:	N.E.
Autoignition Temperature:	464°F (240°C)

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Conditions to Avoid:	Heat, sparks, open flames, static electricity, any other ignition sources.
Incompatible Materials:	Strong oxidizing agents.
Decomposition Products:	Oxides of carbon and irritating vapors.
Hazardous Polymerization:	Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

ACGIH

Octahydro-4,7-Methano-1H-indene TLV: N.E. STEL: N.E.

OSHA

Octahydro-4,7-Methano-1H-indene PEL: N.E. STEL: N.E.

An isomer of this compound, exo-Tetrahydrodicyclopentadiene, CAS # 2825-82-3, has produced kidney effects, reproductive effects, and cancer in animal experiments.

Carcinogenicity listed by: NTP: No IARC: No OSHA: No

SECTION 12 – ECOLOGICAL INFORMATION

No data available.

SECTION 13 – DISPOSAL INFORMATION

Place in a city, state, or federally permitted disposal facility. Handle in accordance with all applicable regulations.

SECTION 14 – TRANSPORTATION INFORMATION

DOT Shipping Name: Flammable liquids, n.o.s. (Octahydro-4,7-Methano-1H-indene), 3, UN 1993, PG III.

SECTION 15 – REGULATORY INFORMATION

TSCA: Substance is listed on the TSCA inventory.

SARA TITLE III

Acute: Yes
 Chronic: Yes
 Fire: Yes
 Reactivity: No
 Pressure: No

SECTION 16 – OTHER INFORMATION

PPE Codes (NPCA-HMIS)

A – Glasses	G – Glasses, Gloves, Vapor Respirator
B – Glasses, Gloves	H – Goggles, Gloves, Apron, Vapor Respirator
C – Glasses, Gloves, Apron	I – Glasses, Gloves, Dust/Vapor Respirator
D – Faceshield, Gloves, Apron	J – Goggles, Gloves, Apron, Dust/Vapor Respirator
E – Glasses, Gloves, Dustmask	K – Supplied Air, Gloves, Full Protective Suit, Boots
F – Glasses, Gloves, Apron, Dust Respirator	

Disclaimer

The information contained in the Material Safety Data Sheet is based on technical data that Dixie Chemical Company believes to be reliable and is provided to our customers at no cost. It is intended for use by persons having technical skill and at their own discretion and risk. Dixie Chemical Company will assume no liability in connection with any uses of this information and no warranties, expressed or implied, are made with regards to this information since conditions of use are outside Dixie Chemical Company's control.