



AMKUS, Inc.

MATERIAL SAFETY DATA SHEET

AMKUS MV1 Hydraulic Oil

Date of Preparation: March 16, 2004 (reviewed and reissued without change February 19, 2008)

SECTION 1: Chemical Product and Company Identification

Product Name: AMKUS MV1 Hydraulic Oil

Chemical Name: Petroleum Lubricating Oil

Chemical Family: Blend

Manufactured for: AMKUS, Inc.
2700 Wisconsin Avenue
Downers Grove, IL 60515-4226

EMERGENCY TELEPHONE NUMBERS:

RILCO (309) 788-5631

Chemtrec (800) 262-8200

SECTION 2: Composition/Information and Ingredients

NO.	COMPOSITION	CAS NO.	PERCENT
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P	AMKUS MV1 Hydraulic Oil	Mixture	100
1	Solvent Dewaxed Heavy Paraffinic Distillate	64742-65-0	70-80
2	Solvent Refined, Hydrotreated Middle Distillate	64742-46-7	10-20
3	Solvent Refined Heavy Paraffinic Distillate	64741-88-4	2-5
4	Additive Package	Mixture	5-10

Health Hazard: 1 Fire Hazard: 1 Reactivity: 0

Section 3: Health Information

The Health Effects Noted Below Are Consistent With Requirements Under The OSHA Hazard Communication Standard (29 CFR 1910.1200).

Eye contact: Based on component information, product is presumed to be practically non-irritating to the eyes.

Skin contact: Based on component information, product is presumed to be practically non-irritating to the skin. Prolonged and repeated contact may result in skin disorders such as dermatitis, oil acne, or folliculitis. Accidental release under high pressure applications may result in injection of oil into the skin causing local necrosis.

Inhalation: The inhalation of vapors (generated at high temperatures only) or oil mist may cause a mild irritation of the mucous membranes of the upper respiratory tract.

Ingestion: Based on component information, product is no more than slightly toxic if swallowed.

Signs and symptoms: Irritation as noted above. Local necrosis may be evidenced by delayed onset of pain and tissue damage a few hours following high pressure injection.

Aggravated medical conditions: Preexisting skin and respiratory disorders may be aggravated by exposure to this product.

Other health effects: This product and its components are not classified as carcinogens by international agency for research on cancer (IARC), national toxicology program (NTP) or occupational safety and health administration (OSHA).

Section 4 Occupational Exposure Limits

COMP NO. PEL/TWA	OSHA PEL/Ceiling	ACGIH TLV/TWA	TLV/STEL	Other
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P *5 MG/M3	None	*5 MG/M3	*10 MG/M3	None

* Oil mist, mineral

Section 5 Emergency and First Aid Procedures

Eye contact: Flush eyes with water. If irritation occurs, get medical attention.

Skin contact: Remove contaminated clothing/shoes wipe excess from skin. Flush skin with water. Follow by washing with soap and water. If irritation occurs, get medical attention. If material is injected under the skin, get medical attention promptly to prevent serious damage; do not wait for symptoms to develop.

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

Ingestion: Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.

Note to Physician: In general, emesis induction is unnecessary in high viscosity, low volatility products, i.e., most oils and greases.

Section 6 Supplemental Health Information

None identified.

Section 7 Physical Data

Boiling Point (°F): Not Available **Specific Gravity (H₂O = 1):** 0.8789 **Vapor Pressure (Mm Hg):** <0.1

Melting (Pour) Point: -54 °F **Solubility in Water:** Negligible **Vapor Density (Air = 1):** Not Available

Viscosity: 31 (CS @ 104°F)

Evaporation Rate (Normal Butyl Acetate = 1): Not available.

Appearance and Odor: Cream white oil. Slight hydrocarbon odor.

Physical/Chemical Properties: see above for details.

Section 8 Fire and Explosion Hazards

Flash Point and Method: 385°F (COC)

Flammable Limits/Percent Volume in Air: Lower: N/AV Higher: N/AV

Extinguishing Media: Use water fog, foam, dry chemical, or CO₂. Do not use a direct stream of water. Product will float and can be reignited on surface of water.

Special Fire Fighting Procedures and Precautions: Materials will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

Unusual Fire and Explosion Hazards: None identified.

Section 9 Reactivity

Stability: Stable hazardous polymerization will not occur

Conditions and Materials to Avoid: Avoid heat, open flames, and oxidizing materials.

Hazardous Decomposition Products: Thermal decomposition products are highly dependent on the combustion conditions. A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon monoxide and other unidentified organic compounds may be formed upon combustion.

Section 10 Employee Protection

Respiratory Protection: If exposure may or does exceed occupational exposure limits (Sec. IV) use a NIOSH-approved respirator to prevent overexposure. In accord with 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors and particulates. Protective clothing wear chemical resistant gloves and other protective clothing as required to minimize skin contact. No special eye protection is routinely necessary. Test data from published literature and/or glove and clothing manufacturers indicate the best protection is provided by nitrile gloves.

Additional Protective Measures: None identified

Section 11 Environmental Protection

Spill or Leak Procedures: May burn although not readily ignitable.

Large Spills: Use cautious judgment when cleaning up large spills. Wear respirator and protective clothing as appropriate. Shut off source of leak if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; dispose of properly. Flush area with water to remove trace residue.

Small Spills: Take up with an absorbent material and dispose of properly.

Section 12 Special Precautions

Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

Laundry contaminated clothing before reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated.

Store in a cool, dry place with adequate ventilation.

Keep away from open flames and high temperatures.

Section 13 Transportation Requirements

Department of Transportation Classification: Not hazardous by D.O.T. regulations

DOT Proper Shipping Name: Not applicable

Other Requirements: Not applicable

Section 14 Other Regulatory Controls

The components of this product are listed on the EPA/TSCA inventory of chemical substances.

Protection of stratospheric ozone (pursuant to section 611 of the clean air act Amendments of 1990): per 40 CFR Part 82, this product does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances. In accordance with SARA Title III, Section 313, the attached environmental data sheet (EDS) should always be copied and sent with the MSDS.

Section 15 State Regulatory Information

State Listed Component	CAS No	Percent	State Code
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Based on information available, this product does not contain any chemical substance listed on a chemical specific state list.

Section 16 Special Notes

New product. original MSDS issue.

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Section II SARA Title III Information

No.	EHS RQ	EHS TPQ	SEC-313	313 Category	311/312 Category
	(*1)	(*2)	(*3)	(*4)	(*5)

Based on the data available this product contains no hazardous substances as defined by SARA Title III, Section 311(E).

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- *1 = Reportable quantity of extremely hazardous substance, SEC 302.
 - *2 = Threshold planning quantity, extremely hazardous substance, SEC 302.
 - *3 = Toxic chemical, SEC 313.
 - *4 = Category as required by SEC 313 (40 CFR 372.65 C), must be used on toxic release inventory form.
 - *5 = Category (for aggregate reporting requirements under SARA 311, 312).

Health: H-1 = Immediate (acute) health hazard.
H-2 = Delayed (chronic) health hazard.
Physical: P-3 = Fire hazard.
P-4 = Sudden release of pressure hazard.
P-5 = Reactive hazard.

Section III Environmental Release Information

This product is covered by EPA's comprehensive environmental response, compensation and liability act (CERCLA) petroleum exclusion. Therefore releases to air, land, or water are not reportable under CERCLA ("SUPERFUND"). However under Section 311 of EPA's clean water act (CWA), this product is considered an oil. As such, spills into or leading to surface waters that cause a sheen must be reported to the national response center, at 800-424-8802. This product is an oil under 49 CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3,500 gallons or more, it is subject to the requirements of Part 130. Mixture solutions in which this product is present at 10% or more may also be subject to this rule.

Section IV RCRA information

If this product becomes a waste, it would not be a hazardous waste by RCRA criteria (40 CFR 261). Place in an appropriate disposal facility in compliance with local regulations.

Supersedes MSDS Dated: New issue

Disclaimer: AMKUS, Inc. believes this information is accurate but not all inclusive in all circumstances. It is the responsibility of the user to determine suitability of the material for their purposes. No warranty, expressed or implied, is given.