

MATERIAL SAFETY DATA SHEET

Panther Aviation HF

1. PRODUCT & COMPANY IDENTIFICATION

MSDS Number: PLP-301017
Date: 04/06/02

Product Name: PANTHER AVIATION HF (Type I & II)
Product Use: Aviation and Marine Hydraulic Fluid
Specification: MIL-H-5606 A & MIL-H-5606 G

Manufacturer:
Panther Lubricants Ltd, Great Britain

For All Inquiries:
email: inquiries@pantherlubes.com

2. COMPONENT INFORMATION

COMPONENT	CAS No.	Weight % Range	Hazardous in Blend
SYNTHETIC BASE LUBRICATING OILS	MIXTURE	87 - 89	No
ADDITIVE	PROPRIETARY	4 - 5	No
VISCOSITY INDEX IMPROVER	MIXTURE	6 - 7	No
POUR POINT DEPRESSANT	MIXTURE	< 2	No

This product is **NOT HAZARDOUS** according to OSHA 29 CFR 1910.1200.

Other: No information available

3. HAZARDS IDENTIFICATION

Emergency and Hazards Overview

CAUTION: Contains Petroleum Lubricant. Repeated skin contact can cause skin disorders.

ATTENTION: Used motor oil is a possible skin cancer hazard based on animal data. Repeated exposure to oil mist in excess of the OSHA limit (5mg/m³) can result in accumulation of oil droplets in pulmonary tissue.

NFPA Ratings: Health 1 Flammability 1 Reactivity 0

Primary Route of Exposure: Skin X Inhalation Eye

Health Effect Information

Eye Contact: This product is practically non-irritating to the eyes upon direct contact. Based on testing of similar products and/or components.

Skin Contact:

Avoid skin contact. This product is minimally irritating to the skin upon direct contact. Based on testing of similar products and/or components. Prolonged or repeated contact may result in contact dermatitis which is characterised by dryness, chapping and reddening. Prolonged or repeated contact may result in oil acne which is characterised by blackheads with possible secondary infection. See Section 11 – Toxicological Information. Avoid prolonged and repeated skin contact with used motor oils.

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Inhalation: This product has a low vapour pressure and is not expected to present an inhalation hazard at ambient conditions. Caution should be taken to prevent aerosolization or misting of this product. The permissible exposure limit (PEL) and threshold limit value (TLV) for this product as oil mist is 5mg/M3. Exposures below 5mg/M3 appear to be without significant health risk. The short-term exposure limit for this product as an oil mist is 10 mg/M3. On rare occasions, prolonged and repeated exposure to oil mist poses a risk of pulmonary disease as chronic lung inflammation. Signs of respiratory effects vary with concentration and length of exposure and include nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty breathing. Shortness of breath and cough are the most common symptoms.

Ingestion: Do not ingest. This product is relatively non-toxic by ingestion. The product has laxative properties and may result in abdominal cramps and diarrhea. See Section 11 – Toxicological Information.

Medical Conditions Aggravated by Exposure: This condition may make the skin more susceptible to other irritants, sensitizers and disease.

Other: No information available.

4. FIRST AID INFORMATION

Eye Contact: Immediately flush eyes with large amounts of water and continue flushing until irritation subsides. If material is hot, treat for thermal burns and seek immediate medical attention.

Skin Contact: Remove contaminated clothing. Wash contaminated area thoroughly with soap and water. If material is hot, submerge injured area in cold water. If victim is severely burned, remove to a hospital immediately.

Inhalation: This material has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions.

Ingestion: Do not induce vomiting. Seek medical attention.

Notes to Physician: No information available.

5. FIRE AND EXPLOSION INFORMATION

Flammable Properties

Flash Point: >100 °C

Test Method: No information available

Flammable Limits in Air

Upper Percent: No data available

Lower Percent: No data available

Autoignition Temperature: No data available

NFPA Classification: No information available

Extinguishing Media: Use dry chemical, foam, or carbon dioxide

Fire Fighting Measures

Special Fire Fighting Procedures and Equipment: Water may be ineffective, but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

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Unusual Fire and Explosion Conditions: Dense smoke may be generated while burning. Carbon monoxide, carbon dioxide and other oxides may be generated as products of combustion.

Hazardous Combustion By-Products: No information available

Other: No information available

6. ACCIDENTAL RELEASE MEASURES

Personal Safeguards: Consult Health Effect Information in Section 3, Personal Protection Information in Section 8, Fire and Explosion Information in Section 5 and Stability and Reactivity Information in Section 10. Remove all sources of ignition.

Regulatory Notification: Notify appropriate authorities of spill.

Containment and Cleanup: Contain spill immediately. Do not allow spill to enter sewers or watercourses. Absorb with appropriate inert material such as sand, clay, etc. Large spills may be picked up using vacuum pumps, shovels, buckets, or other means and placed in drums or other suitable containers.

Other: No information available

7. HANDLING AND STORAGE INFORMATION

Handling: Fire extinguishers should be kept readily available. See NFPA 30 and OSHA.106 – Flammable and Combustible Liquids.

Storage: Do not transfer to unmarked containers. Store in closed containers away from heat, sparks, open flame or oxidizing materials.

Empty Container Warnings:

Drums: No information available **Plastic:** No information available

Other: No information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION INFORMATION

Exposure Limits and Guidelines

This product does not contain components with OSHA or ACGIH exposure limits

Personal Protection Equipment

Eye/Face Protection: Eye protection is not required under conditions of normal use. If material is handled such that it could be splashed into eyes, wear plastic face shield or splash-proof safety goggles.

Skin Protection: No skin protection is required for single, short duration exposures. For prolonged or repeated exposures, use impervious clothing (boots, gloves, aprons, etc.) over parts of the body subject to exposure. If handling hot material, use insulated protective clothing (boots, gloves, aprons, etc.). Launder soiled clothes. Properly dispose of contaminated leather articles including shoes, which cannot be decontaminated.

Respiratory Protection: Respiratory protection is not required under conditions of normal use. If vapour or mist is generated when the material is heated or handled, use an organic vapour respirator with a dust and mist filter. All respirators must be NIOSH certified. Do not use compressed oxygen in hydrocarbon atmospheres.

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Personal Hygiene: Consumption of food and beverage should be avoided in work areas where hydrocarbons are present. Always wash hands and face with soap and water before eating, drinking or smoking.

Engineering Control / Work Practices

Ventilation: If vapour or mist is generated when the material is heated or handled, adequate ventilation in accordance with good engineering practice must be provided to maintain concentrations below the specified exposure or flammable limits.

Other: No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Golden	
Odour: Petroleum	Vapour Pressure: No data available
Physical State: Liquid	Vapour Density (air = 1): No data available
Ph: No data available	Percent Volatile by Volume: No data available
Boiling Point: >450 °C	Volatile Organic Content: No data available
Melting Point: No data available	Molecular Weight: No data available
Specific Gravity: 0.89 – 0.91	Average Carbon Number: No data available
Pour Point: <-63 °C	Viscosity @ -40 °C: 496
Solubility in Water: Insoluble in water	Viscosity @ 40 °C: 13.5
Octanol / Water Coefficient: No data available	Viscosity @ 100 °C: 5

10. STABILITY AND REACTIVITY INFORMATION

Chemical Stability: Stable

Conditions to Avoid: None

Incompatible Materials to Avoid: May react with strong oxidizing agents.

Other: No information available

10. TOXICOLOGICAL INFORMATION

Primary Eye Irritation: No information available

Primary Skin Irritation: No information available

Acute Dermal Toxicity: No information available

Sub-acute Dermal Toxicity: No information available

Dermal Sensitization: No information available

Inhalation Toxicity: No information available

Inhalation Sensitization: No information available

Oral Toxicity: No information available

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Mutagenicity: No information available

Carcinogenicity: The International Agency for Research on Cancer (IARC) has concluded that there is inadequate data to evaluate the carcinogenicity to experimental animals of this class of product. The International Agency for Research on Cancer (IARC) has concluded there is sufficient evidence that used gasoline-engine motor oils produce skin tumors in experimental animals. The International Agency for Research on Cancer (IARC) has determined this class of products belongs to Group 3 – "not classifiable as to its carcinogenicity to humans".

Reproductive and Developmental Toxicity: No information available

Teratogenicity: No information available

Immunotoxicity: No information available

Neurotoxicity: No information available

Other: No information available

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: No information available

Terrestrial Toxicity: No information available

Chemical Fate and Transport: No information available

Other: No information available

13. DISPOSAL INFORMATION

Regulatory Information: All disposals must comply with Government and local regulations. The material, if spilled or discarded, may be a regulated waste. Refer to Government and local regulations. If regulated solvents are used to clean up spilled material, resulting waste mixture may be regulated.

Waste Disposal Methods: Waste material may be landfilled or incinerated at an approved facility. Material should be recycled if possible.

Other: No information available

14. TRANSPORTATION INFORMATION

Road (Bulk): Not regulated

Road (Non-Bulk): Not regulated

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International Information

Vessel: IMDG Regulated: IMDG Not Regulated: X
Air: ICAO Regulated: ICAO Not Regulated X

Other: No information available

15. Regulatory Information

Regulatory Lists Searched

Health & Safety: 10 – IARC carcinogen, 11 – NTP carcinogen, 12 – OSHA carcinogen, 15 – ACGIH TLV, 16 – OSHA PEL, 17 – NIOSH exposure limit, 20 – US DOT Appendix A, Hazardous Substances, 21 – US DOT Appendix B, Marine Pollutants, 22 – FDA 21 CFR Total food additives, 23 – NFPA 49 or 325

Environmental: 30 – CAA 1990 Hazardous air pollutants, 31 – CAA Ozone depleters, 33 – CAA HON rule, 34 – CAA Toxic substance for accidental release prevention, 35 – CAA Volatile organic compounds (VOC's) in SOCOMI, 41 – CERCLA / SARA Section 302 Extremely hazardous substances, 42 – CERCLA / SARA Section 313 Emissions reporting, 43 – CWA Hazardous substances, 44 – CWA Priority pollutants, 45 – CWA Toxic pollutants, 46 – EPA Proposed test rule for hazardous air pollutants, 47 – RCRA Basis for listing – Appendix VII, 48 – RCRA waste, 49 – SDWA – (S)MCL's.

International: 50 – Canada – WHMIS Classification of substance, 54 – Mexico – Drinking water – ecological criteria, 55 – Mexico – Wastewater discharges, 56 – US – TSCA Section (12)(b) – export notification.

Inventories: 80 – Canada – Domestic substances, 81 – European – EINECS, 82 – Japan – ENCS, 83 – Korea – Existing and evaluated chemical substances, 84 – US – TECA.

Search Results

No components appear on any of the regulatory lists searched.

SARA Section 313: This product is not known to contain any SARA, Title III, Section 313 Reportable Chemicals at or greater than 1.0% (0.1% for carcinogens).

IARC Group 3: No information available.

SARA 311 / 312 Categories

Acute: Chronic: Fire: Pressure: Reactive:
Not Regulated: X

Canadian WHMIS Classification

Class: No information available

Division: No information available

European Union Classification

Hazard Symbols:

No information available

Risk Phrases:

No information available

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Safety Phrases:

No information available

Other: No information available

16. OTHER INFORMATION

Health and Environmental Label Language

CAUTION: Contains Petroleum Lubricant. Repeated skin contact can cause skin disorders.

ATTENTION: Used motor oil is a possible skin cancer hazard based on animal data. Repeated exposure to oil mist in excess of the OSHA limit (5mg/m³) can result in accumulation of droplets in pulmonary tissue.

PRECAUTIONARY MEASURES: Avoid excessive and prolonged skin contact. Wash thoroughly after handling. Avoid generation and inhalation of oil mists.

INSTRUCTIONS IN CASE OF FIRE OR SPILL: In case of fire, use water spray, foam, dry chemical or carbon dioxide. Water spray may be ineffective, but can be used to cool containers. In case of spill, do not use water – soak up with absorbent material.

MSDS Revisions

Previous Version date: Not applicable. This MSDS is the first version.

Important Health & Safety Information: ON RARE OCCASIONS, PROLONGED AND REPEATED EXPOSURE TO OIL MIST POSES A RISK OF PULMONARY DISEASE SUCH AS CHRONIC LUNG INFLAMATION. THIS CONDITION IS USUALLY ASYMPTOMATIC AS A RESULT OF REPEATED SMALL ASPIRATIONS. SHORTNESS OF BREATH AND COUGH ARE THE MOST COMMON SYMPTOMS. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CONCLUDED THERE IS INADEQUATE DATA TO EVALUATE THE CARCINOGENECITY TO EXPERIMENTAL ANIMALS OF THIS CLASS OF PRODUCTS. ACCORDING TO THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) CLASSIFICATION, THIS CLASS OF PRODUCTS BELONGS TO GROUP 3 – "NOT CLASSIFIABLE AS TO ITS CARCINOGENICITY TO HUMANS". AVOID CONTACT WITH USED MOTOR OILS. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CONCLUDED THERE IS SUFFICIENT EVIDENCE THAT USED GASOLINE-ENGINE MOTOR OILS PRODUCE SKIN TUMORS IN EXPERIMENTAL ANIMALS.

Other: No information available

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