



1. Chemical product and company identification

Product name Castrol Aviator AD 100

MSDS # 457344

Historic MSDS #: 0000001541

Code 457344-US10

Product use Lubrication of aircraft piston engines - to be used in accordance with engine manufacturers' guidelines.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer Air BP Lubricants
Maple Plaza II - 1N
Six Campus Drive
Parsippany, NJ 07054
U.S.A.

Supplier Air BP Lubricants
Maple Plaza II - 1N
Six Campus Drive
Parsippany, NJ 07054
U.S.A.

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735
Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (613) 996-6666 CANUTEC (Canada)

OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

2. Composition/information on ingredients

Ingredient name	CAS #	% by weight	LC50/LD50
Triaryl phosphates isopropylated	68937-41-7	1 - 5	Not available.
Base oil - highly refined	64742-65-0	60 - 65	Not available.
Base oil - highly refined	64742-62-7	30 - 35	Not available.
Base oil - highly refined	64741-88-4 / 64742-65-0	1 - 5	Not available.

3. Hazards identification

Physical state Liquid.

Color Amber. Clear.

Emergency overview CAUTION!
MAY CAUSE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Routes of entry

Dermal contact. Eye contact. Inhalation. Ingestion.

Potential health effects

Eyes

May cause eye irritation.

Skin

May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. Used engine oil may contain hazardous components which have the potential to cause skin cancer.

Inhalation

May cause respiratory tract irritation.

Ingestion

Ingestion may cause gastrointestinal irritation and diarrhea.

Medical conditions aggravated by over-exposure

None identified.

See toxicological Information (section 11).

4. First aid measures

Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin contact

Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear. If large quantities of this material are swallowed, call a physician immediately.

5. Fire-fighting measures

Flammability of the product

May be combustible at high temperature.

Flash point

280 °C (Open cup) Cleveland.

Products of combustion

These products are carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide), oxides of phosphorus.

Unusual fire/explosion hazards

This material is not explosive as defined by established regulatory criteria.

Fire-fighting media and instructions

In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. Do not use water jet.

Protective clothing (fire)

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal precautions

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").

Environmental precautions and clean-up methods

If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal Information.

Personal protection in case of a large spill

Splash goggles. Full suit. Boots. Gloves.

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7. Handling and storage

Handling	Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Use only with adequate ventilation. Do not breathe vapor or mist. Wash thoroughly after handling.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.
Not suitable	Prolonged exposure to elevated temperature.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Triaryl phosphates isopropylated	None assigned.
Base oil - highly refined	ACGIH (United States). STEL: 10 mg/m ³ 15 minute(s). Form: Oil mist, mineral TWA: 5 mg/m ³ 8 hour(s). Form: Oil mist, mineral
Base oil - highly refined	ACGIH (United States). STEL: 10 mg/m ³ 15 minute(s). Form: Oil mist, mineral TWA: 5 mg/m ³ 8 hour(s). Form: Oil mist, mineral
Base oil - highly refined	ACGIH (United States). STEL: 10 mg/m ³ 15 minute(s). Form: Mist TWA: 5 mg/m ³ 8 hour(s). Form: Mist

Control Measures Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the work-station location.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Personal protection

Eyes	Avoid contact with eyes. Chemical splash goggles.
Skin and body	Avoid contact with skin and clothing. Wear suitable protective clothing.
Respiratory	Use only with adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.
Hands	Wear gloves that cannot be penetrated by chemicals or oil. Recommended: nitrile gloves The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.
Feet	Consult your supervisor or S.O.P. for special handling directions

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state	Liquid.
pH	Not available.
Odor	Mild.
Odor threshold	Not available.

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Color	Amber. Clear.
Heat of combustion	Not available.
Boiling point / Range	Not available.
Melting point / Range	Not available.
Pour Point	-24 °C
Specific gravity	Not available.
Density	<1000 kg/m ³ (<1 g/cm ³) at 20°C
Vapor pressure	Not available.
Vapor Density (Air = 1)	Not available.
Evaporation rate	Not available.
Solubility	insoluble in water.
LogK_{ow}	The product is more soluble in octanol; log(octanol/water) >3
Viscosity	Kinematic: 197 mm ² /s (197 cSt) at 40°C Kinematic: 19.1 mm ² /s (19.1 cSt) at 100°C

10. Stability and reactivity

Stability and reactivity	The product is stable.
Conditions to avoid	Keep away from heat, sparks and flame. Keep away from sources of ignition.
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Products of combustion: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide), oxides of phosphorus.
Hazardous polymerization	Will not occur.

11. Toxicological information

Acute toxicity	USED ENGINE OILS Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.
Chronic toxicity	
Carcinogenic effects	No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).
Mutagenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.
Reproductive effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.
Teratogenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.
Other chronic toxicity data	Reproductive, developmental and adrenal effects have been observed in laboratory animals following large oral exposures to triaryl phosphates isopropylated.
Other information	Prolonged or repeated exposure to large quantities of triaryl phosphates isopropylated may cause neurological effects.
Synergistic Effects	No known synergistic effects.

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12. Ecological information

Ecotoxicity	No testing has been performed by the manufacturer.
Persistence/degradability	Inherently biodegradable
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information	Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.
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Consult your local or regional authorities.

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal regulations	US INVENTORY (TSCA): In compliance.
WHMIS (Canada)	Class D-2A: Material causing other toxic effects (VERY TOXIC). Class D-2B: Material causing other toxic effects (TOXIC).

If listed, this product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations for those regulated products.

Inventories	AUSTRALIAN INVENTORY (AICS): In compliance.
	CANADA INVENTORY (DSL): In compliance.
	CHINA INVENTORY (IECS): Not determined.
	EC INVENTORY (EINECS/ELINCS): In compliance.
	JAPAN INVENTORY (ENCS): Not determined.
	KOREA INVENTORY (ECL): In compliance.
	PHILIPPINE INVENTORY (PICCS): In compliance.

16. Other information

Label requirements	CAUTION! MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.
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Prepared by Product Stewardship

Notice to reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.