

ADVANCE LUBE ENTERPRISE SDN BHD

(REG. NO.: 565982-T)

HS(M) 3745, PTD 153751, Jalan Berjaya 8, Taman Perindustrian Berjaya,
Kempas Lama, 81200 Johor Bahru, Johor, Malaysia
Tel : +607-5543000/5583699 Fax : +607-5541212



Certificate No. 601224

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Date Issued : 2nd June 2015

Date Revision: --

PRODUCT:

- POWER UP GEAR BEARING OIL

1. Product and Company Identification

Chemical Family : GEAR OIL

Product Description : Synthetic Based gear oil

Supplier : ADVANCE LUBE ENTERPRISE SDN BHD
HS (M) 3745 PTD 153751, Jalan Berjaya 8,
Taman Perindustrian Berjaya, Kempas Lama, Kempas
81200 Johor Bahru, Johor.
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Test Description	Method					
ISO Viscosity Grade	-	32	46	68	100	150
Specific Gravity @ 15 °C	ASTM D 4052	0.851	0.855	0.858	0.861	0.865
Flash Point, °C	ASTM D 92	230	232	234	235	235
Pour Point, °C	ASTM D 97	-15	-48	-48	-45	-42
Kinematic Viscosity, cSt @ 40°C	ASTM D 445	31.0	46.0	66.0	97.0	151
cSt @ 100°C	ASTM D 445	5.8	7.7	10.3	13.7	19.7
Viscosity Index	ASTM D 2270	133	136	144	144	145
Color	ASTM D 1500	<0.5	<0.5	<0.5	<0.5	<0.5

Test Description	Method					
ISO Viscosity Grade	-	220	320	460	680	1000
Specific Gravity @ 15 °C	ASTM D 4052	0.871	0.860	0.876	0.861	0.889
Flash Point, °C	ASTM D 92	235	245	255	265	267
Pour Point, °C	ASTM D 97	-42	-39	-39	-39	-33
Kinematic Viscosity, cSt @ 40°C	ASTM D 445	222	321	456	678	995
cSt @ 100°C	ASTM D 445	25.8	35.2	47.4	63.5	78.2
Viscosity Index	ASTM D 2270	148	155	162	164	160
Color	ASTM D 1500	<0.5	<0.5	<0.5	<0.5	<1.0

2. Composition / Information on ingredients

Health hazardous components (approx.)	wt%
Proprietary additives	10 -18%
Mineral base oil	82 - 90%

This product has no evidence of carcinogenic potential.

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3. Hazards Identification

HEALTH HAZARDS

The products have a low order of acute toxicity and could be slightly to moderately irritating to the skin and eyes on prolonged or repeated contact, but are unlikely to cause skin sensitization.

ENVIRONMENTAL HAZARDS

Classification on the basis of environmental hazard is not required. See Section 12 for environmental information.

PHYSICAL AND CHEMICAL HAZARDS / FIRE AND EXPLOSION HAZARDS

Low hazard. Material can form flammable mixtures or can burn only upon heating to temperature at or above the flash point.

4. First Aid Measures

Inhalation:

- Generally not an inhalation hazard.
- Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

Skin contact:

- Immediately flush with large amounts of water, use soap if available. Remove contaminated clothing, including shoes, after flushing has begun.
- If irritation persists, get medical attention.

Eye contact:

- Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

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Ingestion:

- DO NOT induce vomiting. If individual is conscious, give milk or water to dilute stomach contents. Keep warm and quiet. Get prompt medical attention. DO NOT attempt to give anything by mouth to an unconscious person.

5. Fire-fighting measures

Fire-fighting Procedures:

In the event of fire, use carbon dioxide, dry chemical powder or foam extinguishers. DO NOT use a water jet, as this may spread the fire. In the absence of suitable extinguishers, sand or earth may be used to smother small fires.

Special Fire Precautions:

Respiratory and eye protections may be required for the fire-fighting personnel. Avoid spraying water directly into storage containers due to the danger of boil over. See also Section 4 “**First Aid Measures**” as well as Section 10 “**Stability and Reactivity**”.

Hadardous Combustion Products:

Fumes, smoke, Carbon dioxide (CO₂).

6. Accidental Release Measures

Land Spill:

- Contain spilled liquid with sand or earth.
- Recover by pumping (preferably use an explosion proof or hand pump) or with a suitable absorbent. If liquid is too viscous for pumping, scrape up with shovels or pails and place in suitable containers for recycle or disposal.
- Consult and expert on disposal of recovered material and ensure conformity to local disposal regulations.

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- See Section 4 “**First Aid Measures**” as well as Section 10 “**Stability and Reactivity**”.

Water Spill:

- Warn other shipping. Notify port or relevant authority and keep public away. Shut off source if possible to do without hazard.
- Material that will sink. No immediate action – consult an expert.
- Consult an expert on disposal of any recovered material and ensure conformity to local disposal regulations.
- See Section 4 “**First Aid Measures**” as well as Section 10 “**Stability and Reactivity**”.

7. Handling and Storage

Storage temperature (°C)	: between 10 to 40. See Section 16.
Transport temperature (°C)	: between 10 to 40. See Section 16.
Loading/Unloading temperature (°C)	: between 10 to 40. See Section 16.
Storage/transport pressure (kPa)	: Atmospheric.
Usual shipping containers	: Drums, pails, cans.
Materials and coatings suitable	: Stainless steel, carbon steel, cast iron, nickel resistant steel, inorganic zinc coatings, amine epoxy coatings, epoxy phenolic coatings, viton rubber, nitrile rubber, rubber.
Materials and coatings unsuitable	: Compatibility with plastic materials can vary; we therefore recommend that compatibility is tested prior to use.
Storage/handling general notes	:
	<ul style="list-style-type: none">▪ Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated place away from incompatible materials.▪ Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight.

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- Do not pressurize, cut, heat or weld containers. Empty product containers may contain product residue. DO NOT reuse empty containers without commercial cleaning or reconditioning.

8. Exposure Controls / Personal Protection

Engineering Control Measures / Ventilation

The use of local exhaust ventilation is recommended to control process emissions near the source. Provide mechanical ventilation of confined spaces. See respiratory protection recommendations.

Personal Protection

- For open systems where contact is likely, wear long sleeves, chemical resistant gloves and chemical goggles.
- Where prolonged contact may occur, wear long sleeves and safety glasses with side shields.
- Where concentration in air may be exceedingly high and engineering, work practice or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

9. Physical Properties

Please refer to Product Specification Sheet / Chemical & Physical properties.

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10. Stability and Reactivity

Hazardous polymerization	No
Stability	Stable
Conditions to avoid instability	Temperature above 60°C
Materials and conditions to avoid (incompatibility)	Water, strong oxidizing agents

11. Toxicological Information

Inhalation:

Negligible hazard at ambient (-18 to 38 °C) or recommended blending temperature.

Skin Contact:

Low order toxicity.

May be slightly irritating.

Eye Contact:

Slightly irritating, may injure eye tissue if not removed promptly.

Ingestion:

Minimal toxicity.

IMPORTANT!

Used gasoline engine oil has been shown to cause cancer in laboratory animals.

12. Ecological Information

Environmental Mobility

The environmental assessment is based on component data and that of similar products. The mineral oil component of the products floats and can migrate from water to land.

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Environmental Degradability

The products are not expected to be 'readily' biodegradable.

Eco-toxicity and Bio-accumulation

Long term adverse effects to aquatic organisms are possible if continuous exposure is maintained.

Can be expected to be harmful to aquatic organisms.

13. Disposal Considerations

The following advice only applies to the products as supplied. Combination with other materials may well indicate another route of disposal. If in doubt, contact the local supplier or authorities.

- Empty drums should be taken for recycling, recovery or disposal through a suitable qualified or licensed contractor.
- Care should be taken to ensure compliance with national and local regulations.

The products are NOT suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers. They will generate ash if burned and can be burned directly in appropriate equipment. The products are suitable for energy recovery in appropriate incinerators.

14. Transport Information

UN Class	Not classified
ADR/RID – Class	Not classified
ADR/RID – Hazard Identification Number	Not classified
IMDG – Class	Not classified
IMDG – Marine Pollutant	Not classified

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IATA – Class

Not classified

UK – Transport – Classification

Not classified

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15. Regulatory Information

EC Classification	Not classified
R phrases	Not classified
S phrases	Not classified
EC Annex Number	Not listed
FDA List Number	Not listed

16. Other Information

Heating for the products is usually not necessary except in situations as described below.

With proper facilities, no heating is required for pumping at ambient temperatures. If extreme cold weather conditions necessitate heating, then tempered water or oil, not exceeding 100 °C, are recommended. If heated, product temperature should be constantly monitored, and product should be agitated to avoid localized temperatures in the container above 60 °C.

Product should be stored between 10 and 40 °C (40 to 100 °F). Lower temperatures may result in some crystallization of the product. Higher temperatures will lead to degradation of product quality.

This information related only to the specific material designated and may not be valid for such material used in combination with any other material or in any process. Such information is to the best of Advance Lube Enterprise Sdn Bhd's knowledge and believed to be accurate and reliable as of the indicated.

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However, no representation, warranty or guarantee is more as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.
