

RC-HBR-B04-xx Refrigeration Compressor Oil

Properties*



Packaging

1 Gallon Pail RC-HBR-B04-1G	5 Gallon Pail RC-HBR-B04-5G
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ASTM#	Typical Characteristics	
D-445	Kinematic Viscosity	
	cSt @ 40°C	216
	cSt @ 100°C	20.8
D-2161	Saybolt Viscosity	
	SUS @ 100°F	1140
	SUS @ 210°F	105
D-2270	Viscosity Index	113
D-4052	Density, lb/gal, 60°F (15.5°C)	7.75
	(Gardner Method) Specific Gravity, g/cc @ 60°F (15.5°C)	0.955
D-92	Flash Point, C.O.C., °F (°C)	520 (271)
	Fire Point, C.O.C., °F (°C)	605 (318)
D-97	Pour Point °F (°C)	-17 (-27)
D-877	Dielectric Strength, (kV)	41.8

HBR-B04 is a synthetic lubricant designed for Hanbell Screw Compressors installed in air conditioning and industrial refrigeration equipment. This Polyolester based lubricant is recommended for OEM retrofitting applications in equipment using Hanbell Rotary Screw Compressors per factory standards matched to the conditions and refrigerant specified.

Benefits

- Non hazardous (under 29 CFR1910.1200)
- High chemical stability resists reaction with all components in a properly designed refrigeration system
- Low moisture content
- High dielectric strength allows this refrigeration lubricant to be an excellent insulator between the motor windings and compressor body.
- Low wax content reduces separation potential

Applications

Ideal for use in any system where a premium synthetic lubricant is beneficial to ensure proper lubrication of the compressor and other components found in a properly designed refrigeration system.

This lubricant is suitable for use in most medium and high temperature systems utilizing a number of refrigerants including: R134a, R407C and R507. Please note that each application is different and an oil cooler may be required. See your MCS representative for application.

*These values are not intended for use in preparing specifications.

MATERIAL SAFETY DATA SHEET

1. Identification

Chemicals Name: HBR-B04
Other Names:
Recommended use and restrictions on use: Ester for Refrigeration Lubricants
Supplier: Hanbell Preceise Machinery Co. Ltd. Address: NO.5 KONSAN ROAD, KUAN-YIN DIST. TAO-YUAN CITY, TAIWAN Phone number: +886-3-4836215 Fax number: +886-3-4836223 Mail address: sales1@hanbell.com
Emergency contact Phone number: +886-3-4836215 Fax number: +886-3-4836223

2. Hazard(s) Identification

Chemicals Hazard Class:								
<table border="1"><thead><tr><th>Health</th><th>Environmental</th><th>Physical</th></tr></thead><tbody><tr><td>Not classified</td><td>Not classified</td><td>Not classified</td></tr></tbody></table>	Health	Environmental	Physical	Not classified	Not classified	Not classified		
Health	Environmental	Physical						
Not classified	Not classified	Not classified						
This preparation is not classified as dangerous according to EU [EC 1272/2008 (CLP)] as amended and adapted.								
Label content: <ul style="list-style-type: none">● Symbols: None● Hazard Statements: None● Precautionary Statements: None								
Other hazards: Health Effects: Eyes No significant health hazards identified. Health Effects: Skin No significant health hazards identified. Health Effects: Inhalation No significant health hazards identified. Health Effects: Ingestion No significant health hazards identified. Eyes No significant health hazards identified.								

3. Composition / Information on Ingredients

Pure material:

Name: Polyol esters
Synonyms:
Chemicals Abstract Service No. (CAS No.) :
REACH No.: This product has been REACH Pre-Registered.
The hazardous ingredient (% of the content) : 100%

This product does not contain any hazardous ingredients at or above regulated thresholds.

4. First Aid Measures

The first aid measures for different exposure routes: Inhalation: If inhaled, remove to fresh air. Get medical attention if symptoms appear. Skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Eye contact: In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs. Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give
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anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

The most important symptoms and hazards effects: No known chronic or acute health risks.

The protection of first-aiders: None known.

Notes to physicians: Treatment should in general be symptomatic and directed to relieving any effects. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage.

Note that high pressure may force the product considerable distances along tissue planes.

5. Fire Fighting Measures

Suitable fire extinguishing media: In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.

Specific hazards may be encountered during fire-fighting: None identified.

Specific fire-fighting methods: Do not use water jet.

Special equipment for the protection of firefighters: Fire-fighters should wear self-contained positive pressure 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").

Environment precautions: If emergency personnel are unavailable, contain spilled material. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.

Methods for cleaning up:

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.

7. Handling and Storage

Handling

Wash thoroughly after handling. Avoid strong oxidizers.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure Controls / Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Control parameters:

8 hours time weighted average exposure limits/Short-term exposure limits/ maximum exposure limits: No data available.

Biological standards: No data available.

Personal Protective Equipment: None required; however, use of adequate ventilation is good industrial practice.

Respiratory Protection: Under normal conditions, respirator is not normally required.

Hand Protection: None required; however, use of gloves is good industrial practice.

Eye Protection: Wear chemical safety goggles and face shield. Have eye-wash stations available where eye contact can occur.

Skin and body protection: None required; however, use of protective clothing is good industrial practice.

Hygiene measures: Observe good industrial hygiene practices.

9. Physical and Chemical Properties

Appearance: Liquid, pale yellow color.	Odor: Mild
Odor threshold: No data available.	Pour Point: -24 °C.
pH value: No data available.	Boiling Point: No data available.
Flammability: No data available.	Flashpoint: 275 °C
Decomposition: No data available.	Test method: Open cup
Auto-ignition Temperature: No data available.	Explosion limits: No data available.
Vapor Pressure: No data available.	Vapor Density (Air=1): No data available.
Density: 0.965 g/ml at 15 °C	Solubility: Insoluble in water.
Viscosity : Kinematic: 220 mm ² /s at 40°C ; 18.1 mm ² /s at 100°C.	

10. Stability and Reactivity

Stability: stable
Possible hazardous reactions under specific conditions: No data available.
Conditions to avoid: No data available.
Materials to avoid: No data available.
Hazardous decomposition products: No data available.

11. Toxicological Information

Routes of exposure: No data available.
Symptoms: No data available.
Acute Toxicity Unlikely to cause more than transient stinging or redness if accidental eye contact occurs. Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis. Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea. At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal Augomposition products occurs.
Chronic toxicity or long term toxicity: No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12. Ecological Information

Ecotoxicity: No data available.
Persistence and degradability: Inherently biodegradable.
Bioaccumulative potential: This product is not expected to bioaccumulate through food chains in the environment.
Mobility in soil: No data available.
Other adverse effects: Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal Considerations

Methods of waste disposal: Where possible, arrange for product to be recycled. Dispose of via an authorized person/ licensed waste disposal contractor in accordance with local regulations.
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Used/contaminated product
European waste catalogue (EWC)
13 02 06* Synthetic engine, gear & lubricating oils

14. Transport Information

Import note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination.

United Nations number (UN No.): Class not regulated.
UN Proper shipping name: Class not regulated.
Transport hazard class(es): Not classified as hazardous for transport (ADR, RID, UN , IMO, IATA/ICAO).
Packing group: Class not regulated.
Marine pollutant (Yes/No): No
Specific transport measures and precautionary conditions: Class not regulated.

15. Regulatory Information

<p>Applicable regulations: Risk Phrases This product is not classified according to the EU regulations.</p> <p>EU Regulations Classification and labeling have been performed according to EU [EC 1272/2008 (CLP)] as amended and adapted.</p> <p>Other regulations Inventories AUSTRALIAN INVENTORY (AICS): In compliance. CANADA INVENTORY (DSL): In compliance. CHINA INVENTORY (IECSC): In compliance. EC INVENTORY (EINECS/ELINCS): In compliance. JAPAN INVENTORY (ENCS): In compliance. KOREA INVENTORY (ECL): In compliance. PHILIPPINE INVENTORY (PICCS): In compliance. US INVENTORY (TSCA): In compliance.</p>

16. Other Information

Literature references	
Date	2016/04/20
Date of previous issue	
Version	201601

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. HANBELL will not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.

Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.