



*The Ultimate Lubricant*

# 670

## **DESCRIPTION:**

Omega 670 is a hundred percent STRAIGHT paraffinic gear oil designed for high-purity gear applications. It contains the result of a unique blending procedure whereby the finest quality, solvent-refined Paraffinic Oil is gelled with hyper-purity and dewaxed cylinder-quality mineral base oils which provide the superb standard of lubricity that ordinary gear oils are unable to attain.

## **CORROSION RESISTANCE:**

Omega 670 is inhibited against corrosion and oxidation. Its pure saturated characteristic ensures gear surface protection at all times.

## **FOAMING RESISTANCE:**

Omega 670 is also foam resistant and it can withstand sustained gear action without aerating.

## **INCREASED FILM STRENGTH:**

Omega 670 is superior to the other so-called 'straight' mineral oils because its increased film strength can resist wear. This product protects gears for longer periods under severe conditions.

## **ACIDIC ACTION RESISTANCE:**

As a result of Omega 670's purity, the normal oxidation characteristic which forms damaging acidic deposits is impossible.

## **OPERATING TEMPERATURE:**

Omega 670 operates at both ultra-low temperatures where ordinary oils begin to drag and consume costly energy, and at higher temperatures where its body structure remains stable. Ordinary oils thin down so badly that gears rapidly deteriorate and fail.

## **AGMA STANDARDS:**

Regardless of enclosure, speed, size, environment, method of lubrication and the accessibility of gears, Omega 670 provides an exceptionally high viscosity standard that combats galling, rippling, pitting and similar gear failure faults. Ordinary gear oils cannot cope with the type of operation that today's high speed, high powered gears are fabricated for.

**TYPICAL DATA:**

TEST	ASTM TEST METHOD	TEST RESULT	
		SAE 90	SAE 140
ISO Viscosity Grade	D-2422	220	460
Appearance	Visual	Amber	Light Amber
Density, kg/L @ 15.0°C	D-1298	0.892	0.901
Viscosity, cSt @ 40°C	D-445	220	460
Viscosity, cSt @ 100°C	D-445	19.1	31.6
Viscosity Index	D-2270	98	99
Flash Point, COC, °C	D-92	270	303
Pour Point, °C	D-97	-24	-21
Total Acid Number, mg KOH/g	D-974	0.61	0.61
Foaming Characteristics -			
All Sequences, After Settling	D-892	Nil	Nil
Oxidation Stability -			
TOST life, hours	D-943	>3000	>2000
Rust-Preventing Characteristics			
Distilled Water	D-665A	Pass	Pass
Synthetic Sea Water	D-665B	Pass	Pass
FZG (Fail Load Stage)	CEC L07-A-95	11	11

# The characteristics given above are typical of current production only and slight batch to batch variations should be expected.

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## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Product name: Omega 670  
(SAE 90 / SAE 140)  
Container size: 5 l & 20 l

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Application: Gear oil.

### 1.3. Details of the supplier of the safety data sheet

Supplier: EU importer:

Manufacturer: ITW PP & F Korea Limited.  
13th Fl., Unit B, PAX Tower  
609 Eonju-ro, Gangnam-gu  
Seoul, Korea 06108  
Tel:+82-2-2088-3560  
Fax:+82-2-513-3567  
magna@magnagroup.com  
www.magnagroup.com

### 1.4. Emergency telephone number

Emergency telephone: Call a Poison Center, emergency number or doctor/physician.

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

CLP: Not classified.

### 2.2. Label elements

The substance/mixture does not meet the criteria for classification and labelling.

### 2.3. Other hazards

PBT/vPvB: This product does not contain any PBT or vPvB substances.

Other: Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema, skin cracking and oil acne. Degreasing to skin. The harmful effects may increase in used oil. Oil spills are generally hazardous to the environment.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

The product contains: mineral oil and additives .

All substances in the product are either registered or exempt from registration under REACH.

Only classified substances above threshold limits or substances with an exposure limit are shown.

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CLP:

%:	CAS-No.:	EC No.:	REACH Reg. No.:	Chemical name:	Hazard classification:	Notes:
30-60	64742-54-7	265-157-1	01-2119484627-25-0099	Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil-unspecified	-	L
10-40	64742-62-7	265-166-0	01-2119480472-38-0033	Residual oils (petroleum), solvent-dewaxed; Baseoil-unspecified	-	L

Notes: L: DMSO < 3% (IP 346)

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

Inhalation: Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. In case of rashes, wounds or other skin disorders: Seek medical attention and bring along these instructions.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring along these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

### 4.2. Most important symptoms and effects, both acute and delayed

### 4.3. Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

Extinguishing media: Small fires: Extinguish with carbon dioxide or dry powder.  
Larger fires: Extinguish with foam, carbon dioxide or dry powder.  
Do not use water jet as an extinguisher, as this will spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Specific hazards: During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### **6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Avoid inhalation of oil mist and contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

### **6.2. Environmental precautions**

Environmental precautions: Do not discharge into drains, water courses or onto the ground.

### **6.3. Methods and material for containment and cleaning up**

Methods for cleaning up: Absorb spillage with oil-absorbing material. Clean contaminated area with oil-removing material.

### **6.4. Reference to other sections**

References: For personal protection, see section 8.

## SECTION 7: HANDLING AND STORAGE

### **7.1. Precautions for safe handling**

Safe handling advice: Observe good chemical hygiene practices. Avoid prolonged and repeated contact with oil, particularly used oil. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

Technical measures: Use work methods which minimise oil mist production.

Technical precautions: When working with heated oil, mechanical ventilation may be required.

### **7.2. Conditions for safe storage, including any incompatibilities**

Technical measures for safe storage: No special precautions.

Storage conditions: Store in tightly closed original container.

### **7.3. Specific end use(s)**

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### **8.1. Control parameters**

No occupational exposure limit assigned.

### **8.2. Exposure controls**

<u>Engineering measures:</u>	Provide adequate ventilation and minimise the risk of inhalation of vapours and oil mist. Provide access to washing facilities incl. soap, skin cleanser and fatty cream.
<u>Personal protection:</u>	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
<u>Respiratory equipment:</u>	In case of inadequate ventilation or risk of inhalation of oil mist, suitable respiratory equipment with combination filter (type A2/P3) can be used.
<u>Hand protection:</u>	Wear protective gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.
<u>Eye protection:</u>	Risk of splashes: Wear goggles/face shield.
<u>Skin protection:</u>	Wear apron or protective clothing in case of splashes.
<u>Hygiene measures:</u>	Wash hands after contact. Wash contaminated clothing before reuse.
<u>Environmental Exposure Controls:</u>	Not available.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Appearance: Amber-coloured liquid

Odour: Almost odourless.

Odour threshold: Not available.

pH: Not available.

Melting point / freezing point: Not available.

Boiling point: Not available.

Flash point: > 150°C

Evaporation rate: Not available.

Flammability (solid, gas): Not applicable.

Explosive limits Not available.

Vapour pressure: Not available.

Vapour density: Not available.

Relative density: ~ 0,9

Solubility: insoluble in water

Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature (°C): Not available.

Decomposition temperature (°C): Not available.

Viscosity: Not available.

Explosive properties: Not available.

Oxidising properties: Not available.

### 9.2. Other information

Other data: kinematic viscosity at 40°C: >7 mm<sup>2</sup>/s

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## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

Reactivity: Not reactive.

### 10.2. Chemical stability

Stability: Stable under normal temperature conditions.

### 10.3. Possibility of hazardous reactions

### 10.4. Conditions to avoid

Conditions to avoid Avoid heat.

### 10.5. Incompatible materials

Incompatible materials: Strong oxidising substances.

### 10.6. Hazardous decomposition products

Hazardous decomposition products: None in particular.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

The harmful effects may increase in used oil.

Acute Toxicity (Oral): Based on available data, the classification criteria are not met.

Acute Toxicity (Dermal): Based on available data, the classification criteria are not met.

Acute Toxicity (Inhalation): Based on available data, the classification criteria are not met.

Skin Corrosion/Irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive Toxicity: Based on available data, the classification criteria are not met.

STOT - Single exposure: Based on available data, the classification criteria are not met.

STOT - Repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

Inhalation: Inhalation of oil mist or vapours formed during heating of the product will irritate the respiratory system and provoke coughing.

Skin contact: Degreasing. Prolonged or frequent contact may cause redness, itching, irritation, eczema, skin cracking and oil acne.

Eye contact: Splashes may irritate.

Ingestion: May irritate and cause malaise.

Specific effects: Prolonged or repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.

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## SECTION 12: ECOLOGICAL INFORMATION

### **12.1. Toxicity**

Ecotoxicity: Oil spills are generally hazardous to the environment.

### **12.2. Persistence and degradability**

Degradability: The product is expected to be slowly biodegradable.

### **12.3. Bioaccumulative potential**

Bioaccumulative potential: No data available on bioaccumulation.

### **12.4. Mobility in soil**

Mobility: No data available.

### **12.5. Results of PBT and vPvB assessment**

PBT/vPvB: This product does not contain any PBT or vPvB substances.

### **12.6. Other adverse effects**

Other adverse effects: None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### **13.1. Waste treatment methods**

Dispose of waste and residues in accordance with local authority requirements. Waste is classified as hazardous waste.

Waste from residues: EWC-code: 13 02 05

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## SECTION 14: TRANSPORT INFORMATION

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

### **14.1. UN number**

UN-No: -

### **14.2. UN proper shipping name**

Proper Shipping Name: -

### **14.3. Transport hazard class(es)**

Class: -

### **14.4. Packing group**

PG: -

### **14.5. Environmental hazards**

Marine pollutant: -

Environmentally Hazardous substance: -

### **14.6. Special precautions for user**

Special precautions: None known.

### **14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code**

Transport in bulk: Not relevant.

## SECTION 15: REGULATORY INFORMATION

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

National regulation: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, with amendments.  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.  
The Control of Substances Hazardous to Health Regulations 2002 (S.I. 2002 No. 2677) with amendments.  
EH40/2005, Workplace exposure limits 2005, with amendments.  
The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895).

### **15.2. Chemical Safety Assessment**

CSA status: No chemical safety assessment has been carried out.

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## SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

Handling of used oils:

Protect health - avoid prolonged and repeated skin contact. Wash with soap and water. Protect the environment - do not pollute drains, water courses or the soil. Contact your local authority for any used oil disposal instructions.

The following sections contain revisions or new statements: 2, 3, 8, 12, 14, 15, 16.

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### Abbreviations and acronyms

used in the safety data sheet: PBT = Persistent, Bioaccumulative and Toxic.  
vPvB = very Persistent and very Bioaccumulative.

Additional information: Classification according to Regulation (EC) No. 1272/2008: Calculation method.

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The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Environment and Toxicology, Agern Allé 5, DK-2970 Hørsholm, Denmark.  
[www.dhigroup.com](http://www.dhigroup.com).

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