

# Omega 611

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## REFRIGERATION:

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A cold temperature can be created by compressing a suitable 'refrigerant' (i.e. Freon, Propane, Carrene, Ammonia) into a restricted area and sealing it. By releasing the compressed fluid through an expansion valve, it evaporates and the heat is removed, thereby lowering the temperature. The faster the evaporation takes place, the lower the resultant temperature will be.

## REFRIGERATION LUBRICANT:

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The most important functions of a refrigeration lubricant are : protection, lubrication and the prevention of build-up in and around the expansion valve. The method of lubrication is either force-feed or splash. In this way, rotors, pistons and bearings are constantly being lubricated. Omega 611 provides a number of special cost-saving benefits.

## DESCRIPTION:

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Omega 611 is an ultra-low temperature stable refrigerator lubricant, designed to provide trouble-free, long-term, constant performance for all types of refrigerators - light, medium and heavy-duty. Its formulation took exhaustive research and development using the most sophisticated scientific equipment available. It contains minute quantities of silicone-iron in a twin state isotropy and anisotropy. This remarkable reverse-cycle system empowers the lubricant to form a tenacious hold on the surface as well as the ability to lift in-system contaminants and foreign matter, and pass them through without build-up.

## PERMEABILITY:

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Ordinary oils used for refrigerators are often waxy and easily solidify. They have low surface permeability, resulting in the formation of oxides within the system. This soon leads to scaly build-up, which in turn promotes corrosion, and the eventual breakdown of the equipment. Omega 611 however, is a finely balanced polycrystalline that magnetically permeates the surface and forms a strong and completely protective lubricant film.

## **VAPOUR FORMATION:**

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Relative humidity, or the formation of a vapour, is expressed as a ratio (by percentage) of the actual vapour pressure to the saturated vapour pressure at a given temperature. The formation of vapour or condensation in low temperature equipment is natural. However, the quantity varies with climatic fluctuations - being higher in high-temperature climates, and lower in low-temperature climates. Vapour is the forerunner of corrosion and rust. Omega 611 displays a capillary action to seal components, and prevent condensation and vapour from penetrating the system.

## **MISCIBILITY:**

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Omega 611 is miscible with most refrigerants. However, unlike ordinary oils, it does NOT form a waxy or solid deposit at extreme temperatures. Its exceptional low temperature characteristics ensure that it remains stable - regardless of temperature changes.

## **WEAR PREVENTION:**

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Omega 611 is made from the finest base oils and has exclusive Omega supplements to withstand wear and compression conditions.

## **PREVENTS ICE FORMATION:**

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Formation of ice WITHIN the system is both dangerous and undesirable. Omega 611 prevents this formation and retains a constant fluid texture.

## **PREVENTS CARBON FORMATION:**

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Omega 611 prevents the build-up of carbon. Carbon deposits damage the system and form heavy deposits that drain energy consumption.

## **APPLICATION:**

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Omega 611 can be, and is being used in most refrigerators, including the non-diluting type (ammonia).

**TYPICAL DATA:**

TEST	TEST METHOD	SAE 20
ISO Viscosity Grade	D-2422	68
Appearance	Visual	Bright Green
Density, Kg/L @ 15°C	D-1298	0.984
Viscosity, cSt @ 40°C	D-445	62
@100°C	D-445	7.0
Viscosity Index	D-2270	55
Flash Point, COC, °C(°F)	D-92	256(493)
Pour Point, °C(°F)	D-97	-38(-36)
Moisture, PPM (Max.)	D-1744	25
Aniline Point, °C(°F)	D-611	92(198)
Dielectric Value kV (Min.)	AS-1767(1975)	25
Floc Point, °C(°F)	J-58	-55(-67)
Haze Point, °C(°F)	J-58	-48(-55)
Operating Temperature Range °C(°F)	-	-35(-31) to 138(280)

# MAGNA INDUSTRIAL CO. LIMITED

*Total Quality Maintenance*

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## MATERIAL SAFETY DATA SHEET

DATE 01 Aug 2014

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### SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

**Product Name/Code**                      Omega 611

**Company Identification**

Omega Manufacturing Division,  
Magna Industrial Co. Limited,  
1801, Guardian House,  
32 Oi Kwan Road,  
Wanchai, Hong Kong.

**Distributor**

Alshawi Trading,  
Block 351, Road 51, Bldg 20, Manama - Bahrain.  
[www.alshawitrading.com](http://www.alshawitrading.com)  
[info@alshawitrading.com](mailto:info@alshawitrading.com)  
P.O.Box 33526

Telephone                      (852) 25775187  
Fax                                (852) 25773190

Telephone                      (973) 1755 0019  
Fax                                (973) 1755 5108

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### SECTION 2 - HAZARDS IDENTIFICATION

Not classified as hazardous.

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### SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS Number</u>	<u>Wt.%</u>	<u>Classification</u>
Naphthenic highly refined mineral oil**	64742-53-6	60-100	-

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### SECTION 4 - FIRST-AID MEASURES

Eye Contact: Flush with plenty of water for at least 15 minutes. Seek immediate medical attention.

Skin Contact: Wash thoroughly with soap and water. Obtain medical attention in case of skin irritation or other cause for concern.

Inhalation: Move patient to open air.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

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## SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media: Dry chemical, waterfog, foam, sand and carbon dioxide.  
Special Protective Equipment for Fire Fighters: Self-contained breathing apparatus.  
Unusual Fire and Explosion Hazards: Dense smoke. Carbon dioxide, carbon monoxide.

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spillage: Transfer bulk of material into another container. Absorb remaining residue with proper absorbents such as sand, vermiculite. Sweep up and dispose of in accordance with local and national regulations.

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## SECTION 7 - HANDLING AND STORAGE

Keep containers closed. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Wash clothing before reuse. Keep away from feed and food products.

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## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### ACGIH TLV

Highly refined mineral oil                      5 mg/m<sup>3</sup> (oil mist)

Eye Protection: Safety goggles and full-face shield  
Hand Protection: Rubber or plastic oil resistant gloves.  
Ventilation: Use under well ventilated conditions.

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## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Green fluoro liquid  
Odour: Mineral oil odour  
pH: N.A.

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Specific Gravity: 0.898  
Vapour Pressure: N.A.  
Boiling Point: N.A.  
Melting Point: N.A.  
Flash Point: above 100°C  
Flammability: N.A.  
Evaporation Rate: N.A.  
Solubility in Water: Insoluble

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## SECTION 10 - STABILITY AND REACTIVITY

Stable under normal condition.

Materials to Avoid: Strong oxidizing agents, hydrogen peroxide, chromic acid, bromine.

Toxic compounds may form on thermal decomposition. Hazardous combustion products: carbon monoxide, carbon dioxide.

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## SECTION 11 - TOXICOLOGICAL INFORMATION

There is no lethal dose information available.

Inhalation: Inhalation of vapours can cause irritation of the respiratory tract. High concentrations of oils, mists or vapours can cause chemical pneumonitis.

Skin: May cause irritation, drying and cracking.

Eyes: Cause irritation.

Ingestion: May cause irritation in mouth and stomach, thirst, nausea, vomiting, diarrhoea, with possible collapse if large amounts ingested. Aspiration of material upon vomiting may cause chemical pneumonitis.

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## SECTION 12 - ECOLOGICAL INFORMATION

No ecological information is available at present.

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## SECTION 13 - DISPOSAL CONSIDERATIONS

Comply with all local and national regulations regarding disposal.

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## SECTION 14 - TRANSPORT INFORMATION

UN Number : Not regulated

IATA Class : Not regulated, Packing Group: Not regulated

IMDG Class : Not regulated, Packing Group: Not regulated

Not considered hazardous for transport purpose.

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## SECTION 15 - REGULATORY INFORMATION

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## SECTION 16 - OTHER INFORMATION

R-phrases: -

S-phrases: -

\*\*The highly refined mineral oil used in this product contains less than 3% DMSO extract as measured by IP 346.

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**Remarks:** We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.