



The Ultimate Lubricant

22

DESCRIPTION:

Enhanced with a higher EP additive package, the new **OMEGA 22 “Glide Sensation™” All Purpose Grease** is a superior performance NLGI 2-grade grease quality formulated with a synthetic base fluid and a special grade polytetrafluoroethylene (PTFE) constituent to ensure the most promising performance characteristics in the most punishing conditions.

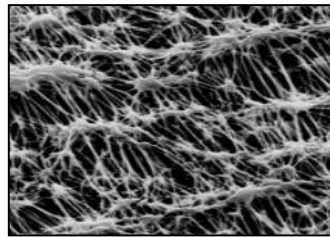
PTFE additives are micronized powders that, when combined with the synthetic base fluid, enhance lubricity and reduce friction. The result is significant improvement on wear resistance. “Stick-slip” problem can virtually be eliminated.

The new OMEGA 22 provides lasting and consistent protection to metal parts under a wide range of service temperatures from -40°C to 210°C (-40°F to 410°F). While providing long service life at high and low temperatures, OMEGA 22 also stands up to high loading and severe shock loading service conditions to guard against bearing failure where ordinary greases fall short.

According to 4-Ball EP performance test (ASTM Test Method D-2596), the new OMEGA 22 achieves a weld load of 500 kgf, representing a remarkable 40% improvement in the grease’s load carrying capacity!



OMEGA 22 showing smooth texture and light green color



PTFE membrane magnified by 7000 times



OMEGA 22 is available in 5 kg and 15 kg pack-sizes

ADVANCED SYNTHETIC BASE FLUID:

OMEGA 22’s advanced synthetic base fluid features a high viscosity index for excellent film protection at high temperatures and superior low-temperature mobility for outstanding pumpability. Endowed with an advanced formulation including lubricity enhancer PTFE, **OMEGA 22 “Glide Sensation™” All Purpose Grease** can be trusted in the most versatile applications and under extreme operating conditions.

OMEGA 22 has a high thermal and mechanical stability and a low rate of evaporation. The intervals between re-greasing can be safely extended even at elevated temperatures. Enhanced with a unique thickening system that warrants a high dropping point, the additives package delivers optimum extreme-pressure properties and excellent resistance to water washout. The lithium complex thickener also gives excellent adhesion, structural stability and resistance to water.

The superior lubricity and enhanced EP property of OMEGA 22 provide unmatched protection against “stick-slip” and bearing seizure due to lubricant failure under high-loading and high-impact conditions.

As a superior synthetic multi-purpose grease, OMEGA 22 features low friction characteristics for the reduction of noise and driving torque. OMEGA 22 offers extra protection to metals against rust, corrosion and minimizes grease hardening due to oil oxidation in high-temperature services. OMEGA 22 provides excellent low temperature pumpability and very low starting and running torque. OMEGA 22 also offers good mechanical shear stability and a high drop point to resist leakage caused by grease softening and melting.

TRULY VERSATILE APPLICATIONS:

OMEGA 22 “Glide Sensation+” All Purpose Grease is the genuine multi-purpose lubricating solution for use in:

- All types of ball, roller and plain bearings.
- Rolling bearings in corrugating machines, extruding screw bearings in plastic injection molding machines, conveyor bearings going in and out of ovens and dryers.
- Running gear bearings.
- Long-term use for bearings in cableway and precision engineering application.
- High-speed plain and rolling bearings, e.g. spindle bearings in machine tools.
- Guides.
- Joints, e.g. steering joints and universal joints
- Couplings.
- Automotive applications.
- Disc brake wheel bearings, ball and steering joints.
- Textile machines, threaded spindles, ball screws subject to high loads.
- Severe paper machine applications including high and low temperature environments and exposure to different qualities of water.
- The most critical rolling element bearing applications in paper machines:
 - Ideal for the wet end of the paper machine bearings
 - Highly loaded press section bearings
 - High-temperature felt roll and calendar stack bearings
- Most low-tension (LT), high-tension (HT) & heavy duty industrial motor



Corrugating machine



Steering joint



Textile machine



Paper machine



Plain bearings



Spherical roller bearing

TYPICAL DATA:

TEST	ASTM TEST METHOD	TEST RESULT
Base Fluid:-		
Viscosity, cSt @ 40°C	D-445	169.3
Viscosity, cSt @ 100°C	D-445	19.5
Viscosity Index	D-2270	132
Worked Penetration @ 25°C	D-217	275 – 305
Dropping Point, °C	D-2265	260+
Timken, OK Load, kg	D-2509	36
4-Ball EP Performance, Weld Load, kgf	D-2596	500
4-Ball Wear, 1800rpm, 1 Hour 20 kgf Scar Diameter, mm	-	0.40
Copper Corrosion Test	D-130	1b
Rust Test	D-1743	Pass
Oxidation	D-942	
PSI Loss: 100 Hours		0
PSI Loss: 300 Hours		2
PSI Loss: 500 Hours		4
Evaporation Loss @ 175°C, wt%	D-972	3.9
PTFE Content %		3.0
Texture		Smooth
Thickener		Lithium Complex
NLGI Grade	D-217	#2
Operating Temperature Range, °C		-40 to +210
Color		Light green

SAFETY DATA SHEET



Product name: Omega 22
Supersedes date: 2016-04-15
Product No.:

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SDS-ID: GB-EN/7.0

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

1.1. Product identifier

Product name: Omega 22

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

Application: Lubricating grease.

1.3. Details of the supplier of the safety data sheet

Supplier: EU importer:

Manufacturer: Omega Manufacturing Division
13th floor, Unit B, PAX Tower, 609 Eonju-ro
Gangnam-Gu, Seoul
Korea 06108
Tel:+82-2-2088-3560
Fax:+82-2-513-3567

Further information can be obtained from: magna@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: The product is not classified.

2.2. Label elements

Safety data sheet available on request.

Contains 2,5-Bis(octyldithio)-1,3,4-thiadiazole. May produce an allergic reaction.

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. The harmful effects may increase in used grease.

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:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No.:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
30-60	64742-62-7	265-166-0	01-2119480472-38-0033	Residual oils (petroleum), solvent-dewaxed; Baseoil-unspecified	-	L
10-30	64742-65-0	265-169-7	01-2119471299-27-0058	Distillates (petroleum), solvent-dewaxed heavy paraffinic; Baseoil-unspecified	-	L
10-30	68037-01-4	500-183-1	01-2119486452-34-0018	Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	-	
0.5-2	15890-25-2	240-028-2	-	Tris (dipentylthiocarbamate-S,S')antimony	Acute Tox. 4;H302 Acute Tox. 4;H332 Aquatic Chronic 2;H411	
0.1-<1	13539-13-4	236-912-2	-	2,5-Bis(octylthio)-1,3,4-thiadiazole	Acute Tox. 4;H332 Skin Irrit. 2;H315 Eye Irrit. 2;H319 Skin Sens. 1;H317	

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

References: The full text for all hazard statements is displayed in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

<u>Inhalation:</u>	Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.
<u>Skin contact:</u>	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.
<u>Eye contact:</u>	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.
<u>Ingestion:</u>	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

Symptoms/effects: May cause temporary eye irritation.

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

Medical attention/treatments: Treat symptomatically.

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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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Environmental precautions: Avoid 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 grease, particularly used grease. Always remove grease with soap and water or skin cleaning agent, never use organic solvents.

Technical measures: Work practice should minimise contact.

Technical precautions: When working with heated grease, 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)

Specific use(s): Lubricant.

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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>	When working with heated grease, mechanical ventilation may be required. 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 use suitable respirator. Use respiratory equipment with particle filter, type P2.
<u>Hand protection:</u>	Risk of contact: 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 contact: Wear goggles/face shield.
<u>Hygiene measures:</u>	Remove contaminated clothing and wash the skin thoroughly with soap and water after work. 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: Grease.
Colour: Green.
Odour: Almost odourless.
Odour threshold: Not available.
pH: Not relevant.
Melting point / freezing point: > 250°C
Boiling point: Not available.
Flash point: > 240°C
Evaporation rate: Not available.
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.
Oxidising properties: Not available.

9.2. Other information

Other data: Not available.

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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 Strong oxidising substances.

10.5. Incompatible materials

Incompatible materials: Not known.

10.6. Hazardous decomposition products

Hazardous decomposition products: None in particular.

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

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. The product contains a small amount of sensitising substance which may provoke an allergic reaction among sensitive individuals after repeated contact.

Eye contact: Direct contact may irritate.

Ingestion: May irritate and cause malaise.

Specific effects: Prolonged or repeated contact with used grease may cause serious skin diseases, such as dermatitis and skin cancer. The harmful effects may increase in used grease.

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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: Greases are generally hazardous to the environment. The product contains a substance which is toxic to aquatic organisms and which may cause long term adverse effects in the aquatic 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 from residues: EWC-code: 12 01 12

SECTION 14: TRANSPORT INFORMATION

The product is not regulated as dangerous goods under IMDG Code, IATA-DGR and ADR/RID.

14.1. UN number

UN-No: Not regulated.

14.2. UN proper shipping name

Proper Shipping Name: Not regulated.

14.3. Transport hazard class(es)

Class: Not regulated.

14.4. Packing group

PG: Not regulated.

14.5. Environmental hazards

Marine pollutant: Not regulated.

Environmentally Hazardous substance: Not regulated.

14.6. Special precautions for user

Special precautions: Not regulated.

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

Transport in bulk: Not regulated.

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SECTION 15: REGULATORY INFORMATION

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

National regulation: 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.

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.

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.

The following sections contain revisions or new statements: 2, 3, 8, 11, 12, 15, 16.

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The Omega Trade Mark is the property of ITW, Inc., and is used under license by ITW PP & F Korea Limited.

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.

Wording of H-statements:

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.

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.
