Omega®
The Ultimate Lubricant

89

DESCRIPTION:

Omega 89 Ultra Heavy Duty Grease is a premium grease designed to protect and lubricate heavy-duty bearings operated at a wide range of speeds in moist operating condition. It is formulated with mixed-base multi-complex thickener and a package of advanced additives to offer exceptional load-carrying properties, excellent corrosion protection and water washout resistance over a wide range of temperatures. This grease is highly recommended, ultimately, to prolong the service lives of bearings and other grease-lubricated components of heavy-duty machineries/equipment in industries such as agriculture, cement, construction, mining, quarrying, etc.

EXCEPTIONAL LOAD-CARRYING CAPABILITY:

Quality designed to outperform all conventional EP (Extreme Pressure) greases, Omega 89 is formulated with an innovative mixed-base multi-complex thickener with outstanding EP performance. Based upon a mixture of lithium and calcium metal soaps processed with complexing agents, this special thickener offers outstanding lubricity, anti-wear property and load-carrying capability. The EP performance of Omega 89 is further enhanced by the addition of an advanced EP additive. To evaluate the EP performance of lubricating greases, a generally accepted test called “Four Ball (4-ball) Weld Load” test is used. Typically, greases with rating of over 250 kgf in the 4-ball weld load test can be classified as EP greases. Omega 89 out-performs the conventional EP greases by over three times with a rating of not less than 800 kgf. In the market, this exceptional rating is unmatched by 95% of the EP greases without the use of solid additives.

VERSATILE APPLICATIONS:

The exceptional load-carrying capability of Omega 89 is achieved by the special thickener matrix fortified with advanced EP additive. It does not contain solid lubricants and extra-heavy base fluid to boost the EP performance. By excluding these two kinds of ingredients in the formulation, Omega 89 reduces the risk of over-accumulation of solid additives at low temperatures and eliminates the speed limitation of extra-heavy base fluid. Subsequently, Omega 89 effectively lubricates and protects heavy-duty bearings operating at a wide range of speeds and temperatures (please refer to the dN factors and operating temperatures of Omega 89 in the table of typical data).

In addition, the unique thickener system of Omega 89 is developed to offer excellent pumpability for better application via central lubrication system designed for NLGI#2 greases.

EXCELLENT WATER WASHOUT RESISTANCE:

In heavy industries, bearings of heavy-duty equipment are subjected to moist operating conditions. To effectively lubricate and protect these bearings, in addition to EP performance, greases must physically withstand water washout and help prevent corrosion catalyzed by moisture. No matters how impressive are the EP properties or how versatile are the applications, greases become useless if they are easily washed away by water. Inherent to the special thickener with excellent water washout resistance, Omega 89 stays in place to protect the lubricated components exposed to frequent pounding of water. To lower the risk of corrosion on the bearings, Omega 89 is fortified with proprietary anti-corrosion agent.

APPLICATIONS:

Omega 89 is recommended for providing prolonged protection and lubrication to all types of bearings of heavy-duty equipment (including off-road equipment) subjected to arduous working conditions in the heavy industries, especially cement, construction, mining, and quarrying.

Note:

Omega 89 can be applied via the central lubrication system designed for NLGI#2 grease. However, it is highly recommended to purge the system before changing over to Omega 89 due to its special thickener system. Likewise, as with other methods of application, check compatibility with the grease applied previously and if necessary purge the bearings prior to application of Omega 89.

TYPICAL DATA:

TEST	TEST METHOD	TEST RESULT
Appearance	-	Smooth, Red
Specific Gravity	-	0.9
Thickener	-	Li/Ca Multi-Complex
Base Fluid	-	Mineral Oil
Dropping Point, °C	ASTM D-2265	>260
Worked Penetration	D-217	285 - 315
Four Ball Weld Load, Kg	IP 239 (ASTM D-2596)	>800
Water Washout, % Loss @ 38°C	ASTM D-1264	<1
Copper Corrosion	IP 112	Pass
dN Factor @ 100°C:		
Deep groove ball bearing	-	400,000
Spherical/cylindrical bearing	-	200,000
Recommended Operating Temperature Range, °C	-	-30 to 150

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

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

1.1. Product identifier

Product name: Omega 89

Container size: 400 g, 5 kg, 15 kg & 55 kg

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: GB importer:

Sovereign Lubricants (UK) Ltd, Crowtrees Lane, Rastrick, West Yorkshire, HD6 3LZ
T: 01484 718674 - F: 01484 400164
enquiries@sovereign-omega.co.uk
www.sovereign-omega.co.uk

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

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.
NHS: 111

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP: The product is not classified.

2.2. Label elements

The substance/mixture does not meet the criteria for classification, but the following labelling must be applied:

Safety data sheet available on request.

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 and eczema/chapping. The harmful effects may increase in used grease.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

The product contains: mineral oil and additives .

Only classified substances above threshold limits are shown.

CLP:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
50-80	64742-52-5	265-155-0	-	Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil-unspecified	-	L
5-10	1317-65-3	215-279-6	-	Limestone	-	#
1-<3	85940-28-9	288-917-4	01-2119521201-61-XXXX	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	Skin Irrit. 2;H315 Eye Irrit. 2;H319 Aquatic Chronic 2;H411	
1-<3	19370-86-6	242-999-8	-	Dilithium sebacate	Skin Irrit. 2;H315 Eye Irrit. 2;H319 Aquatic Chronic 2;H411	
1-<3	12007-56-6	234-511-7	-	Calcium tetraborate	Repr. 2;H361d	

Notes: L: DMSO < 3% (IP 346) #: The substance has been assigned an exposure limit.

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

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 1-2 glasses of water. Keep person under observation. If uncomfortable: Transportation to hospital. Bring along these instructions.

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

Symptoms/effects: See section 11 for more detailed information on health effects and symptoms.

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.

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: 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.

6.4. Reference to other sections

References: For personal protection, see section 8.
For waste disposal, see section 13.

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 in a cool and well-ventilated place.
Maximum storage period: 5 years

7.3. Specific end use(s)

Specific use(s): Not relevant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits:

CAS-No.:	Chemical name:	As:	Exposure limits:	Type:	Notes:	References:
1317-65-3	Limestone, respirable dust	-	4 mg/m3	TWA	-	EH40
1317-65-3	Limestone, total inhalable dust	-	10 mg/m3	TWA	-	EH40

Notes: EH40: EH40/2005.

8.2. Exposure controls

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours. When working with heated grease, mechanical ventilation may be required. Provide access to washing facilities incl. soap, skin cleanser and fatty cream.

Personal protection: Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Respiratory equipment: In case of inadequate ventilation use suitable respirator. Use respiratory equipment with particle filter, type P2.

Hand protection: Risk of contact: Wear protective gloves. PVC gloves are recommended.
Breakthrough time: > 4hThickness: > 0.3 mm
Other types of gloves can be recommended by the glove supplier.

Eye protection: Risk of contact: Wear goggles/face shield.

Hygiene measures: Wash hands after handling. Change contaminated clothing.

Environmental Exposure Controls: Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	Grease. (red)
Form:	Paste.
Odour:	Almost odourless.
pH:	not relevant
Melting point / freezing point:	≥ 230 °C ASTM D2265
Boiling point:	Not available.
Flash point:	≥ 200 °C ASTM D93
Evaporation rate:	Not relevant.
Flammability (solid, gas):	This product is not flammable.
Explosive limits	not available
Vapour pressure:	not available
Vapour density:	Not available.
Relative density:	0.88 - 0.98 @25 °C
Solubility:	Insoluble in water. Soluble in: Oil
Partition coefficient (n-octanol/water):	Not available.
Auto-ignition temperature (°C):	Not applicable.
Decomposition temperature (°C):	not available
Viscosity:	150 mm²/s @40 °C (Distillates (petroleum), hydrotreated heavy naphthenic; Baseoil-unspecified)
Explosive properties:	Non-explosive
Oxidising properties:	Not determined.

9.2. Other information

Other data:	Not relevant.

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

Hazardous Reactions: None known.

10.4. Conditions to avoid

Conditions to avoid Not known.

10.5. Incompatible materials

Incompatible materials: Strong oxidising substances.

10.6. Hazardous decomposition products

Hazardous decomposition products: Carbon oxides, nitrogen oxides

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

The harmful effects may increase in used grease.

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 repeated contact with skin may cause redness, itching, irritation and eczema/chapping.
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.

11.2. Information on other hazards

Endocrine disrupting properties:	The product does not contain any substance identified as having endocrine disrupting properties.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: Greases are generally hazardous to the environment. Not classified as dangerous to the environment.

12.2. Persistence and degradability

Degradability: The product is slowly degradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: Bioaccumulation: Is not expected to be bioaccumulable.

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. Endocrine disrupting properties

Endocrine disrupting properties: The product does not contain any substance identified as having endocrine disrupting properties.

12.7. 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: 12 01 12

Contaminated packaging: Dispose of contaminated packings as residue.

SECTION 14: TRANSPORT INFORMATION

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/AND/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: UK Statutory Instruments, 2021 No. 904, CONSUMER PROTECTION ENVIRONMENTAL PROTECTION HEALTH AND SAFETY. The REACH etc. (Amendment) Regulations 2021.
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.
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019 (SI 2019 No. 720), as amended.
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.

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: 1, 2, 3, 4, 7, 8, 9, 11, 12, 13, 14, 15, 16.

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
Web site : www.magnagroup.com

Abbreviations and acronyms used in the safety data sheet:	CSA= Chemical Safety Assessment. 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.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
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.