



*The Ultimate Lubricant*

# 28

## DESCRIPTION:

Omega 28 is a totally new and exclusive Fluoroether Synthetic Grease that displays exemplary inertness to many chemicals, coupled with exceptional oxidative and thermal stability - even under arduous application environments. It will even resist hydrocarbon fuels and most solvents, while providing exceptional lubrication qualities.

## EXEMPLARY STABILITY:

Omega 28 is perfect for virtually any hostile operating environment, including radiation exposure, since the advanced chemistry employed provides this in-novative Omega grease with superior resistance and the ability to withstand the harshest operating conditions including exposure and/or direct contact with:

- Nitrogen Tetroxide
- Oxygen
- Ethyl Alcohol
- Aniline
- Ammonia
- Hydrazine
- Fluorine
- Unsymmetrical Dimethylhydrazine
- Turbine Fuel
- Boiling Sulphuric Acid
- Boiling Nitric Acid
- Molten Sodium Hydroxide
- Diethylenetriamine
- up to 90% Hydrogen Peroxide

It is designed and engineered for critical and previously "impossible" lubricating conditions that conventional greases cannot tolerate, such as lubricating pipe threads for high-pressure oxygen pipes, and for seals, threads, joints and stems used for liquids, gas and strenuous vacuum service environments.

Omega 28 features such highly stable properties that thermal degradation will generally not take place until direct contact temperatures exceeding 500°F (260°C) are encountered. It provides excellent lubrication service for severe applications where chemical resistance and resistance to fuel is required, and where superior film strength needs to be maintained at high temperatures.

## WIDE RANGE OF APPLICATIONS:

Omega 28 can be used for a wide range of applications which demand the highest performance lubrication, including aeronautical equipment, satellites, aircraft components, ground support equipment, etc.

Suggested applications include:

- Lubrication of mining, plastic compounding and oil-well drilling equipment.
- Lubrication of O-Rings, plastics & ceramics, couplings, instruments, valves, circuit breakers & railway switch machine bearings.
- Food Processing, Canning & Textile equipment & machinery.
- Lubrication of valves and other fittings used in gaseous, liquid oxygen and reactive chemical processing.
- Anti-Seize applications and as a releasing agent and gasket sealant.

- Lubrication of plug valves, pressure release valves and pumping equipment handling highly reactive or corrosive liquids.
- Lubrication of equipment and instruments used in high vacuum applications, cryogenic apparatus and pneumatic systems.
- Lubrication of bearings used in hot air fans in chemical drying processes and sealed roller bearings of track & chain conveyors in high temperature environments.
- Lubrication of shaft bearings in petrochemical plants that come into contact with aromatic hydrocarbons.
- Lubrication of rolling contact bearings and fan bearings used to cool solid state electronic systems including gyroscopes.
- Lubrication of fuel pump bearings pumping jet fuel.

Omega 28 is also eminently suitable for many critical applications in the Drugs & Pharmaceuticals industry, the manufacture of Computer Chips, in Oxygen Producing plants, Automotive Manufacture (where Painting & Drying Ovens and Conveyors are used), in Electroplating plants, Fertilizer Factories, in Wooden Chipboard Manufactories and as an oxygen pipe sealant in Hospitals, Clinics, Hospices, etc.

#### TYPICAL DATA:

TEST	ASTM TEST METHOD	TEST RESULT
Base Fluid:-		
Viscosity @ 100°F(37.8°C), cSt	D-445	500
Viscosity @ 210°F(98.9°C), cSt	D-445	43
Viscosity Index	D-2270	144
Flash Point	D-92	None
Pour Point	D-97	-20°F (-28.8°C)
Vapour Pressure	Knudsen Method	
	@ 100°F (37.8°C)	6x10 <sup>-9</sup> torr
	@ 500°F (260°C)	3x10 <sup>-4</sup> torr
Evaporation, 5-1/2hours @ 400°F (204°C)	D-972	Less that 1%
Unworked Penetration	D-217	249
Worked Penetration (60Times) @ 77°F (25°C)	D-217	265-295
Oil Separation, 24hrs @ 302°F (150°C)	D-1742	7.5%
Evaporation, 22hrs @ 302°F (150°C)	D-2595	1.1%
Neutralization Number	D-974	0.11mg KOH/g
Specific Gravity @ 25°C (77°F)	---	1.93
Copper Corrosion	D-130	2C, No corrosion
NLGI Grade	---	#2
Operating Temperature Range		-30°C to 260°C (-22°F to 500°F)
Color		Off White

### CAUTIONARY NOTE:

Since Omega 28 provides superior lubricity when used as a thread sealant, the use of the torque wrench is recommended when mounting nuts on treated threads to avoid over-tightening. In addition, inhaling vapours from Omega 28 at high temperatures over 480°F (250°C) (such as when smoking) should be avoided.

When applying Omega 28 for the first time, parts to be lubricated should be dismantled and thoroughly purged (cleaned) of any existing greases or oils, using chlorinated solvents in an agitated bath and full soak as Omega 28's chemistry is incompatible with ordinary greases.

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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 28  
Container size: 100 g

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

Application: Grease.

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

<u>Supplier:</u>	GB importer:	Sovereign Lubricants (UK) Ltd, Crowtrees Lane, Rastrick, West Yorkshire, HD6 3LZ
<u>Manufacturer:</u>	ITW PP & F Korea Limited	T: 01484 718674 - F: 01484 400164
	13th Fl., Unit B, PAX Tower	enquiries@sovereign-omega.co.uk
	609 Eonju-ro, Gangnam-Gu	www.sovereign-omega.co.uk
	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

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## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

CLP: The product is classified: Acute Tox. 4;H302

### 2.2. Label elements



Warning

H302	Harmful if swallowed.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P301 + P312	IF SWALLOWED: Call a POISON CENTRE/doctor/... if you feel unwell.
P330	Rinse mouth.
P501	Dispose of contents/container in accordance with local regulations.

### 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

Only classified substances above threshold limits are shown.

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

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>
5-10	7632-00-0	231-555-9	01-2119471836-27-XXXX	Sodium nitrite	Ox. Sol. 3;H272 Acute Tox. 3;H301 Aquatic Acute 1;H400	

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<u>Chemical name:</u>	<u>SCL</u>	<u>M (ac)</u>	<u>M (chr)</u>	<u>ATE(o)</u> (mg/kg bw)	<u>ATE(d)</u> (mg/kg bw)	<u>ATE(i)</u> (vapour, mg/L)
Sodium nitrite	*	1	-	-	-	-
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: May cause temporary eye irritation.  
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: Extinguish with carbon dioxide or dry powder.

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

Specific hazards: The product is non-combustible. If heated, corrosive and toxic vapours/gases may be formed.  
Fire creates: Hydrogen fluoride (HF).

### 5.3. Advice for firefighters

Protective equipment for fire-fighters: Use air-supplied respirator during fire fighting.

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## 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. Clean contaminated area with oil-removing 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.  
Storage time: max. 4 years

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

Specific use(s): No information available.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

No occupational exposure limit assigned.

### 8.2. Exposure controls

Engineering measures: Provide adequate ventilation. 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.  
Nitrile gloves are recommended.  
Breakthrough time: > 4h; Thickness: > 0.3 mm  
The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

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

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

Environmental Exposure Controls: Not available.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

<u>Physical state:</u>	Grease.
<u>Colour:</u>	White
<u>Odour:</u>	Not available. Not available.
<u>Odour threshold:</u>	Not available.
<u>pH:</u>	Not relevant.
<u>Melting point / freezing point:</u>	Not available.
<u>Boiling point:</u>	Not available.
<u>Flash point:</u>	Not available.
<u>Evaporation rate:</u>	Not available.
<u>Flammability (solid, gas):</u>	Not available.
<u>Explosive limits</u>	Not available.
<u>Vapour pressure:</u>	Not relevant.
<u>Vapour density:</u>	Not relevant.
<u>Relative density:</u>	1.98
<u>Solubility:</u>	Insoluble in water.
<u>Partition coefficient (n-octanol/water):</u>	Not available.
<u>Auto-ignition temperature (°C):</u>	Not available.
<u>Decomposition temperature (°C):</u>	Not available.
<u>Viscosity:</u>	Not available.
<u>Explosive properties:</u>	Not available.
<u>Oxidising properties:</u>	Non-oxidising

### 9.2. Other information

<u>Other data:</u>	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 Keep away from heat, sparks and open flame.

### **10.5. Incompatible materials**

Incompatible materials: Strong oxidising substances. Ammonium compounds

### **10.6. Hazardous decomposition products**

Hazardous decomposition products: Nitrates.

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## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

<u>Acute Toxicity (Oral):</u>	Harmful if swallowed.
<u>Acute Toxicity (Dermal):</u>	Based on available data, the classification criteria are not met.
<u>Acute Toxicity (Inhalation):</u>	Based on available data, the classification criteria are not met.
<u>Skin Corrosion/Irritation:</u>	Based on available data, the classification criteria are not met.
<u>Serious eye damage/irritation:</u>	Based on available data, the classification criteria are not met.
<u>Respiratory or skin sensitisation:</u>	Based on available data, the classification criteria are not met.
<u>Germ cell mutagenicity:</u>	Based on available data, the classification criteria are not met.
<u>Carcinogenicity:</u>	Based on available data, the classification criteria are not met.
<u>Reproductive Toxicity:</u>	Based on available data, the classification criteria are not met.
<u>STOT - Single exposure:</u>	Based on available data, the classification criteria are not met.
<u>STOT - Repeated exposure:</u>	Based on available data, the classification criteria are not met.
<u>Aspiration hazard:</u>	Based on available data, the classification criteria are not met.
<u>Inhalation:</u>	Inhalation of vapours formed during heating of the product will irritate the respiratory system and provoke coughing.
<u>Skin contact:</u>	Degreasing. Prolonged and frequent contact may cause redness and irritation.
<u>Eye contact:</u>	Direct contact may irritate.
<u>Ingestion:</u>	Contains nitrite. Symptoms of nitrite poisoning are headache, nausea, dizziness, vomiting and bluish colouring of skin and mucous membrane and in serious cases, unconsciousness and death.
<u>Specific effects:</u>	Prolonged or repeated contact with used grease may cause serious skin diseases, such as dermatitis. The harmful effects may increase in used grease.
<u>Toxicological data:</u>	Sodium nitrite: LD50 (oral, rat): 85 mg/kg LC50 (inhalation, rat): 5.5 mg/l/4h

### 11.2. Information on other hazards

<u>Endocrine disrupting properties:</u>	The product does not contain any substance identified as having endocrine disrupting properties.
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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 very toxic to aquatic organisms.

Sodium nitrite:

$0.1 < LC_{50} \leq 1 \text{ mg/l}$

$M(ac) = 1$

### 12.2. Persistence and degradability

Degradability: The product is not expected to be 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. 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.

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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/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: Not relevant.

### 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.

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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.

1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16.

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### Abbreviations and acronyms

used in the safety data sheet: CSA= Chemical Safety Assessment.  
LC50 = Lethal Concentration 50%.  
LD50 = Lethal Dose 50%.  
M(ac) = M-factor acute toxicity.  
PBT = Persistent, Bioaccumulative and Toxic.  
SCL = Specific Concentration Limit.  
vPvB = very Persistent and very Bioaccumulative.

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

### Wording of H-statements:

H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.

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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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