



The Ultimate Lubricant

656

DESCRIPTION:

Omega 656 is a totally new, 100% Synthetic Cutting, Grinding & Machining Fluid that revolutionizes machining operations due to its inherent safety, consistently superior performance, and unique environmentally-friendly formulation that makes disposal at the end of its service life, safe and easy.

OUTSTANDING PERFORMANCE CHARACTERISTICS:

Omega 656 is yet another fine quality product designed to enhance the wide range of Omega superior machining fluids and additives.

Omega 656 can be diluted to extremely economical dosage rates, yet will still give

performance superior to ordinary cutting/machining fluids. It is far better in its ability to cool the area being machined than any "neat", oil-type, soluble cutting fluid. Omega 656 is versatile and can be used with complete confidence on iron, steel, stainless steel, aluminium, and copper as well as non-metals, such as ceramics and glass. This product is so versatile it can be diluted and used to lubricate chains and as a burnishing compound as well.

In addition, Omega 656 contains a new class of EP (Extreme Pressure) additives and corrosion inhibitors that are totally chlorine-free (an environmental hazard), sulphur-free (which causes staining on copper and its alloys), and nitrite-free (a serious worker health hazard)!!!

NOW....COMPLETE ELIMINATION OF "SKIP AND TEAR" MACHINING PHENOMENON:

With ordinary machining fluids, the contact "line" between the cutting tool and the base metal to be machined often encounters "skip and tear" operation. The tool "bites" into the metal with a good angle and feed rate but the heat transmitted gets intense so rapidly that the two surfaces literally weld together for micro-seconds due to the inability of ordinary machining fluids to carry the heat away rapidly enough.

However, the torque of the machining tool then overcomes the instantaneous "hold" exerted by the welding together of the machining tool and base metal surface and destructively "tears" the two temporarily-mated surfaces apart by sheer brute strength. Both the cutting edge of the tool and the base metal surface are left jagged, damaged and microscopically-deformed by the combined effects of heat, instant welding, shearing forces and plastic deformation of the metal surfaces.

This little-known "Skip and Tear" phenomenon causes rapid deterioration of cutting tool effectiveness and, in virtually all cases, damages the machined surface as well. Tool life and the accuracy of the machined surfaces are compromised. In severe cases, the machined surfaces will require additional honing or finishing -which adds substantially to both the time and cost of machining.

LOW FOAMING FOR HIGHLY ACCURATE MACHINING:

Omega 656 features a superior, low foaming chemistry that provides for a degree of working part visibility virtually second to no other machining fluid. With improved workpiece visibility, the accuracy of machining is immeasurably enhanced, with the added advantage that machinists are also less likely to suffer from occupational eye-strain.

SUPER ECONOMICAL DILUTION RATES:

Omega 656 is mixed with water and remains virtually clear at all mixture rates for improved workpiece visibility.

USER-FRIENDLY FORMULATION:

An added benefit with Omega 656 is that the product has an extremely low eye and skin irritation factor which workers appreciate as most machinists suffer from one form of skin dermatitis/infection or other -from time to time -due to exposure to cutting and machining oils. It is a very common occupational hazard faced by machinists and now, with Omega 656, this long-standing problem has finally been thoroughly addressed.

Cleaning of used Omega 656 is also much simpler as the product is water dispersible. Clean up for both workers and for the equipment and machined parts also is no longer hazardous, unpleasant, costly nor time-consuming since Omega 656 does not contain either sulphur or chlorine.

TYPICAL DATA:

TEST	CONDITION	TEST RESULT
pH Values (Approximates)	As is:	9.7
	1:20 Dilution:	9.3
	1:50 Dilution:	9.2
Falex Load Test	1:20 Dilution:	Passed @ 4000-Lb (1814-Kg)
	1:50 Dilution:	Passed @ 3000-Lb (1360-Kg)
Falex Wear Test	1:20 Dilution:	5 mins @ 1000-Lb -0 Teeth To next 250-Lb -85 Teeth
Waring Blendor Foam Test	200-ml of 1:20 solution agitated in Waring Blendor for 1 minute	-
	Initial Foam:	6.4 cm
	After 5-min stopping:	0.8 cm
Cast Iron Chip Test	1:20 Dilution:	Passed
	1:50 Dilution:	Passed
Heat Stability Test*	1:20 Dilution:	Passed
	1.50 Dilution:	Passed

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

*(Solution boiled for 1-hr Observations made on dilution appearance and performance)

RECOMMENDED DILUTION RATIOS:

Applications	Ration of Omega 656: Water
Broaching, Tapping & Threading	Between 1:10 to 1:20
Milling, Drilling & Turning:	Between 1:20 to 1:30
Grinding of Metals:	Between 1:40 to 1:50
Grinding of Ceramics & Glass:	Between 1:50 to 1:80

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

1.1. Product identifier

Product name: Omega 656
Container size: 5 l, 20 l

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

Application: Cutting and cooling liquid

1.3. Details of the supplier of the safety data sheet

<u>Supplier:</u>	GB importer:	<u>Distributed by:</u>	Trust Engineering Company
<u>Manufacturer:</u>	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	9 Abdel Hamid El Deeb Street Alexandria, 21613 Egypt T: +(20)3 5822779 T: +(20)10 1223554 5 Ahmed Shaker Street Fourth Zone Nasr City, 11586 Egypt T: +(20)2 26909965 T: +(20)10 1223553 info@trustengineering-eg.com www.trustengineering-eg.com	
<u>Further information can be obtained from:</u>	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: Eye Irrit. 2; H319 - Aquatic Acute 1; H400 - Aquatic Chronic 2; H411

2.2. Label elements



Warning

H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects.
P273	Avoid release to the environment.
P280	Wear eye protection and gloves.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.
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, 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

Only classified substances above threshold limits or substances with an exposure limit are shown. All substances in the product are either registered or exempt from registration under REACH.

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CLP:

%:	CAS-No.:	EC No.:	REACH Reg. No.:	Chemical name:	Hazard classification:	Notes:
5-10	111-46-6	203-872-2	-	2,2'-Oxybisethanol	Acute Tox. 4;H302	
1-5	64-02-8	200-573-9	-	Tetrasodium ethylene diamine tetraacetate	Acute Tox. 4;H302 Eye Dam. 1;H318	
0.1-<1	3811-73-2	223-296-5	-	Pyridine-2-thiol 1-oxide, sodium salt	Acute Tox. 3;H311 Acute Tox. 4;H302 Acute Tox. 4;H332 Skin Irrit. 2;H315 Eye Irrit. 2;H319 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	REAC H reg.

Chemical name:	SCL	M (ac)	M (chr)	ATE(o) (mg/kg bw)	ATE(d) (mg/kg bw)	ATE(i) (vapour, mg/L)
2,2'-Oxybisethanol	-	-	-	-	-	-
Tetrasodium ethylene diamine tetraacetate	-	-	-	-	-	-
Pyridine-2-thiol 1-oxide, sodium salt	-	100	10	-	-	-

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.
<u>Skin contact:</u>	Remove contaminated clothes and rinse skin thoroughly with water.
<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 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.

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SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

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 suitable absorbent material. Flush contaminated area with plenty of water.

6.4. Reference to other sections

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

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Observe good chemical hygiene practices. Avoid contact with skin and eyes.
Change contaminated clothing.

Technical measures: Work practice should minimise contact.

Technical precautions: 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 at moderate temperatures in dry, well ventilated area. (10 °C - 30 °C)
Store in tightly closed original container.

7.3. Specific end use(s)

Specific use(s): Not relevant.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
111-46-6	2,2'-Oxydiethanol	-	23 ppm 101 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.

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: Respiratory protection not required.

Hand protection: Wear protective gloves.
Nitrile gloves are recommended.
Thickness: > 0.3 mm; Breakthrough time: >240 min.
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 splashes: Wear goggles/face shield.

Skin protection: Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures: Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Environmental Exposure Controls: Not available.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state: Liquid.
Colour: Amber.
Odour: Characteristic.
pH: ~ 8
Boiling point: >100°C
Flash point: >100°C
Evaporation rate: Not available.
Flammability (solid, gas): Not relevant.
Explosive limits Not available.
Vapour pressure: Not available.
Vapour density: Not available.
Relative density: 1.05 (@15.6 °C)
Solubility: Soluble 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: Non-explosive
Oxidising properties: Not available.

9.2. Other information

Other data: No data available.

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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: None known.

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 Direct sunlight. Extremes of temperatures.

10.5. Incompatible materials

Incompatible materials: Strong oxidising substances. Strong acids.

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: Causes serious eye irritation.

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: The product contains small amounts of organic solvents. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea.

Skin contact: Contains components which may penetrate the skin.

Eye contact: May irritate and cause redness and pain. Effects are expected to be reversible.

Ingestion: May irritate and cause malaise.

Specific effects: The product contains a small amount of sensitising substance which may provoke an allergic reaction among sensitive individuals in contact with skin.

11.2. Information on other hazards

Endocrine disrupting properties: 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: The product is classified: Very toxic to aquatic life with long lasting effects.

Pyridine-2-thiol 1-oxide, sodium salt:
EC50 48 hours, Daphnia, mg/l: 0.15
LC50 (Fish, 96h): 1300 mg/l

M-factor (acute): 100
M-factor (chronic): 10

12.2. Persistence and degradability

Degradability: The degradability of the product has not been stated.

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: 16 10 01

Contaminated packaging: Dispose of contaminated packings as residue.

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SECTION 14: TRANSPORT INFORMATION

The product is covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/AND/RID).

14.1. UN number

UN-No: 3082

14.2. UN proper shipping name

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Pyridine-2-thiol 1-oxide, sodium salt)

14.3. Transport hazard class(es)

Class: 9

14.4. Packing group

PG: III

14.5. Environmental hazards

Marine pollutant: No.

Environmentally Hazardous substance: Yes.

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.

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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: 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

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Abbreviations and acronyms

used in the safety data sheet:

CSA= Chemical Safety Assessment.
EC50 = Effective Concentration 50%.
LC50 = Lethal Concentration 50%.
M(ac) = M-factor acute toxicity.
M(chr) = M-factor chronic 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:

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
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.