

Omega 778

SYNTHETIC "TYPE II" RACING ENGINE OIL

DESCRIPTION:

Omega 778 Synthetic "TYPE II" Racing Engine oil is a second-generation, all-synthetic, high-performance engine oil engineered to far surpass the performance envelope of ordinary synthetic engine oils.

While ordinary synthetic oils promise better performance, Omega 778 "TYPE II" actually provides that superiority through its carefully structured ALL SYNTHETIC "Zero Drag" lubricant components.



ORDINARY SYNTHETIC OILS:

Omega engineers studied existing ordinary synthetic oils and found that while they provide some advantages over mineral oils, they also suffer from problems inherent to lower-quality synthetics.

FIRST-GENERATION ORDINARY SYNTHETIC OILS	PROBLEMS
<ul style="list-style-type: none">• Synthetics using a silicone base provide better thermal stability	<ul style="list-style-type: none">• Poor lubricity for metal-to-metal contacting surfaces
<ul style="list-style-type: none">• Synthetics using a polyalphaolefin formulation for better oxidation stability	<ul style="list-style-type: none">• Does not respond to the addition of high quality additives packages
<ul style="list-style-type: none">• Synthetics using diester fluid base for biodegradability	<ul style="list-style-type: none">• Provides very poor hydrolytic stability (chemically reacts in the presence of water)
<ul style="list-style-type: none">• Synthetics utilizing polyalkylene glycol to prevent carbon residues on vaporization	<ul style="list-style-type: none">• Highly hygroscopic (absorbs water) and is incompatible with other synthetics.

SUPERIOR OMEGA 778 "TYPE II":

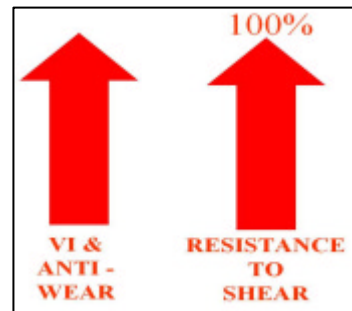
Omega 778 is a second generation engine oil that overcomes the problems inherent to ordinary first-generation synthetic oils. It utilizes **specific all synthetic components** to outperform even the finest mineral oils and ordinary first-generation synthetics

EXTENDS LIFE OF CATALYTIC CONVERTERS

Ordinary synthetic oils shorten the life of expensive catalytic converters due to components in engine oil vapors that cumulatively reduce the efficiency in converting engine exhaust gas emissions. Omega 778 "TYPE II" provides decreased oil volatility and also oil consumption thereby extending the life of expensive catalytic converters.

SUPERIOR LUBRICITY FOR ENHANCED ENGINE PERFORMANCE

Pure Omega 778 "TYPE II" has enhanced anti-frictional characteristics (anti-wear) and is 100% resistant to oil shear. Ordinary engine oils, relying on VI improvers have the tendency to shear under service conditions causing them to thin out and therefore provide decreased lubricity.



Omega 778 "TYPE II" has all-temperature viscometrics (naturally high viscosity index) that can provide full-bodied, highly efficient wear-reducing lubrication -even over a wide temperature range variance and extreme, heavy-duty service.

Omega 778 "TYPE II" provides easier engine cranking (starting) and immediately maintains a rapid flow of "zero drag" oil to all engine components, significantly reducing wear during cold starts-where the highest degree of wear usually takes place in an engine.



LOWERS FUEL CONSUMPTION

Omega 778 "TYPE II" minimizes fuel-wasting friction and promotes faster engine revolution with less mechanical effort exerted on moving engine

components. For a given amount of fuel burnt, Omega 778 "TYPE II" provides both faster acceleration and/or better fuel economy.

EXTENDS OIL DRAIN INTERVALS SIGNIFICANTLY

Since Omega 778 "TYPE II" uses a very expensive all-synthetic formula, the user is compensated by a highly economical interval between recommended drain periods of over 25,000 kms in gasoline-powered cars. This is fully 5 to 6 times the recommended drain interval of ordinary engine oils. In long run, a vehicle owner will definitely reduce his/her maintenance budget by exclusively using OMEGA 778 because it offers reduced vehicle maintenance costs, better fuel economy, easier starting, reduced wear, faster acceleration and far longer drain intervals.

SUPERIOR ENGINE PROTECTION

The corrosive by-products of fuel combustion cause internal engine corrosion and rusting. Omega 778 "TYPE II" protects treated engines with very effective oxidation inhibitors, dispersants and detergents of a pure synthetic nature that keeps rings, pistons, bearings and engine internals spotless and free of damaging deposits of gums, lacquer and sludge. Omega 778 "TYPE II" -treated engines function effectively, efficiently and free of the problems usually inherent with running any vehicle.



TOP PERFORMANCE, EVEN WITH TURBOCHARGED ENGINES

Omega 778 "TYPE II" provides for trouble-free performance even in high output turbocharged engines, even at "soak-down" temperatures exceeding 325°C! Ordinary oils literally "cook" and char, forming highly abrasive residues. These residues in turn destroy turbocharger bearings.

MEETS & EXCEEDS VIRTUALLY ALL REQUIREMENTS:

Omega 778 "TYPE II" maximizes performance for all 4stroke petrol and heavy-duty diesel engines and exceeds the following service requirements:

API: SM / CF
 ACEA A3/B3/B4-08
 VW 502/505
 MB 229.1



TYPICAL DATA:

TEST	ASTM TEST METHOD	10W60
Appearance	Visual	Natural, Fluoro
Specific Gravity @ 15°C(60°F)	D-1298	0.850
Viscosity, cSt @ 40°C	D-445	148
Viscosity, cSt @ 100°C	D-445	22.1
Viscosity, cP @ -25°C	D-5293	6200
Viscosity Index	D-2270	178
Flash Point COC, °C (°F)	D-92	235(455)
Pour Point, °C (°F)	D-97	-36(-33)
Total Base Number, mg KOH/g	D-2896	8.88
Foaming Characteristics		
All Sequences After 10 min. Settling	D-892	Nil
Carbon Residue, Conradson, % Mass*	D-524	0.02
Ash, Sulphated, % Mass	D-874	1.068
Zinc, % Mass	D-4951	0.114
Phosphorus, % Mass	D-4951	0.104
Nitrogen, % Mass	D-5291	0.081
Calcium, % Mass	D-4951	0.273

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

SAFETY DATA SHEET



Product name: Omega 778
Supersedes date: 2016-01-29
Product No.:

Page: 1/8
Last revised date: 2016-05-10
SDS-ID: GB-EN/6.1

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

1.1. Product identifier

Product name: Omega 778

Container size: 5 l ****Manufactured in Australia****

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

Application: Engine oil.

1.3. Details of the supplier of the safety data sheet

Supplier: EU 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
www.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

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, 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

The product contains: synthetic oils and additives .

No classified ingredients, or those having occupational exposure limits, present above the levels of disclosure.

SAFETY DATA SHEET

Product name:	Omega 778	Page:	2/8
Supersedes date:	2016-01-29	Last revised date:	2016-05-10
Product No.:		SDS-ID:	GB-EN/6.1

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>
60-100	68037-01-4	500-183-1	01-2119486452-34-XXXX	Polyalphaolefin	-	

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 or after inhalation of oil mist: Seek medical attention and bring along 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 up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring along these instructions.

Ingestion: Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Rinse mouth with water. Get medical attention.

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

Symptoms/effects: Repeated or prolonged contact may cause defatting of the skin resulting in dryness, cracking and dermatitis.

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

Medical attention/treatments: Treat symptomatically.
In case of ingestion: Get medical attention.

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.

SAFETY DATA SHEET

Product name:	Omega 778	Page:	3/8
Supersedes date:	2016-01-29	Last revised date:	2016-05-10
Product No.:		SDS-ID:	GB-EN/6.1

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of oil mist and 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 oil, particularly used oil. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

Technical measures: Use work methods which minimise oil mist production.

Technical precautions: When working with heated oil, 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.

SAFETY DATA SHEET

Product name:	Omega 778	Page:	4/8
Supersedes date:	2016-01-29	Last revised date:	2016-05-10
Product No.:		SDS-ID:	GB-EN/6.1

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No occupational exposure limit assigned.

8.2. Exposure controls

<u>Engineering measures:</u>	Provide adequate ventilation and minimise the risk of inhalation of vapours and oil mist. 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 relevant standards and in discussion with the supplier of the personal protective equipment.
<u>Respiratory equipment:</u>	In case of inadequate ventilation or risk of inhalation of oil mist, suitable respiratory equipment with combination filter (type A2/P3) can be used.
<u>Hand protection:</u>	Risk of contact: Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Other types of gloves can be recommended by the glove supplier.
<u>Eye protection:</u>	Risk of contact: Wear goggles/face shield.
<u>Hygiene measures:</u>	Wash hands after contact. Wash contaminated clothing before reuse.
<u>Environmental Exposure Controls:</u>	Not available.

SAFETY DATA SHEET

Product name:	Omega 778	Page:	5/8
Supersedes date:	2016-01-29	Last revised date:	2016-05-10
Product No.:		SDS-ID:	GB-EN/6.1

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance: Liquid.

Odour: Almost odourless.

pH: Not applicable.

Melting point / freezing point: Not available

Boiling point: Not available

Flash point: > 150°C

Evaporation rate: Not available.

Flammability (solid, gas): Not applicable.

Explosive limits Not available

Vapour pressure: Not available.

Vapour density: Not available.

Relative density: ~ 0,9

Solubility: Insoluble in water. (< 0,1 %)

Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature (°C): Not available.

Decomposition temperature (°C): Not available.

Viscosity: ~ 173 mm²/s @ 40°C

9.2. Other information

Other data: Not available.

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 Avoid heat.

10.5. Incompatible materials

Incompatible materials: Strong oxidising substances.

10.6. Hazardous decomposition products

Hazardous decomposition products: None in particular.

SAFETY DATA SHEET

Product name:	Omega 778	Page:	6/8
Supersedes date:	2016-01-29	Last revised date:	2016-05-10
Product No.:		SDS-ID:	GB-EN/6.1

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, eczema and skin cracking.

Eye contact: Splashes may irritate.

Ingestion: May irritate and cause malaise.

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

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: Oil spills are generally hazardous to the environment.

12.2. Persistence and degradability

Degradability: The product is slowly degradable.

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.

SAFETY DATA SHEET

Product name: Omega 778

Page: 7/8

Supersedes date: 2016-01-29

Last revised date: 2016-05-10

Product No.:

SDS-ID: GB-EN/6.1

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: 13 02 06

SECTION 14: TRANSPORT INFORMATION

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/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: -

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

Transport in bulk: -

SAFETY DATA SHEET

Product name:	Omega 778	Page:	8/8
Supersedes date:	2016-01-29	Last revised date:	2016-05-10
Product No.:		SDS-ID:	GB-EN/6.1

SECTION 15: REGULATORY INFORMATION

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

National regulation: 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.

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.

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 information available.

SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

Handling of used oils:

Protect health - avoid prolonged and repeated skin contact. Wash with soap and water. Protect the environment - do not pollute drains, water courses or the soil. Contact your local authority for any used oil disposal instructions.

The following sections contain revisions or new statements: 1

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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.

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www.dhigroup.com
