



# High Performance Lubricants



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## Technical Data

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### Carbon Series

Rock Oil's R&D facility has successfully developed the next generation in 100% synthetic automotive racing oils – the Carbon Series. This development, in conjunction with extensive field-trials with leading racing teams has resulted in a significant breakthrough in lubrication performance. Market leading additive technology has been combined with the three types of advanced next generation synthetic base stocks. Independent tests have shown that conventional synthetic ester base oils of the polar type have an affinity for internal engine surfaces which can actually be detrimental for wear protection. (These esters can compete with additives for the surface, reducing additive performance). Our latest non-polar extreme performance esters do not compete with anti-wear additives for the surface hence the step-change in wear protection realised by the Rock Oil Carbon Series products demonstrated below:

The Sequence IV-A (ASTM D6891) is the oil industry's benchmark flat tappet valve-train wear test.

API SL Limit	=	120 microns maximum wear on cam lobes
API SM & SN Limit	=	90 microns maximum wear on cam lobes
Rock Oil Carbon 5W-30	=	26 microns

In addition to outstanding wear protection, to release full engine power the Rock Oil Carbon Series has been developed to significantly reduce friction through the use of unique organic friction modifier technology.

### Features & Benefits

Tri-Synthetic Formula – includes Non-Polar Synthetic Ester, Polyalphaolefin (PAO) and a proprietary next generation fully synthetic base oil  
Outstanding resistance to Permanent Viscosity Loss (PVL) through use of active, self healing Viscosity Modifiers– extremely important for highly stressed, tight tolerance racing engines  
Exceptionally low NOACK volatility – results in very low oil consumption  
Unsurpassed wear protection – especially important for racing applications

### Rock Oil Carbon Series specifications:

All grades:	API SN, SM, CF
0W-40 only:	BMW LL-01, MB 229.5, PORSCHE A40, NISSAN GTR
10W-60 only:	BMW 'M' Models

Important Note: The Carbon Series of products are not recommended for road use where vehicles are fitted with after-treatment devices; specifically Diesel Particulate Filters (DPF's).

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### Typical Physical Characteristics

SAE Viscosity (J300)	5W-30	0W-40	10W-50	10W-60
Density @ 15°C (kg/L)	0.863	0.851	0.860	0.857
Viscosity @ 40°C (cSt)	69.0	82.0	117.0	169.0
Viscosity @ 100°C (cSt)	11.5	14.6	17.6	24.3
Viscosity Index	160	186	166	175
CCS Viscosity (cP)	6400@-30°C	5800@-35°C	6000@-25°C	6400@-25°C
HT/HS Viscosity @ 150°C (cP)	3.7	4.5	5.5	6.5
Total Base Number (mgKOH/g)	8.0	8.0	8.0	8.0
Pour Point	-40°C	-40°C	-40°C	-40°C
Flash Point	240°C	240°C	240°C	240°C
NOACK Volatility @ 250°C	5% Loss	6% Loss	4.5% Loss	5.5% Loss
Foaming Tendency:				
Seq. I/II/III (24.5°C/93.5°C)	0/0/0	0/0/0	0/0/0	0/0/0
Seq. IV (150°C)	0	0	0	0
Appearance	Amber	Amber	Amber	Amber
Product Code	-	-	-	-

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