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February 15, 2018

TO: API Engine Oil Licensing and Certification System (EOLCS) Licensees, API Lubricants Standards Group, Other Interested Parties

SUBJECT: Addendum 7
API 1509, *Engine Oil Licensing and Certification System*, 17th Edition, September 2012
(Addendum 1 October 2014)

On November 9, 2017, the API Lubricants Standards Group approved the adoption of SN PLUS, a new classification that may be used in conjunction with API SN and API SN with Resource Conserving. The user language and requirements for the new classification are part of this notice and may also be downloaded from <http://www.api.org/products-and-services/engine-oil/eolcs-categories-and-documents/documents/api-1509-documents>.

API plans to license oils against the SN PLUS classification, but the date on which SN PLUS licensed oils will appear in the API Directory of Licensees and licensed marketers will be permitted to display SN PLUS in the lower portion of the API Service Symbol Donut still needs to be determined. A decision on the first licensing date will be made after API and the Lubricants Standards Group have vetted Base Oil Interchange/Viscosity Grade Read Across guidelines for the Sequence IX test.

As marketers consider developing oils that comply with the SN PLUS classification, they should keep the following points in mind:

- Marketers may identify oils that meet all of the requirements of the standards as meeting API SN with SN PLUS or API SN with SN PLUS and Resource Conserving prior to the date of first licensing but may not state or imply API certification or licensing of SN PLUS in advance of that date.
- Marketers that want API to license their oils as meeting API SN with SN PLUS and API SN with SN PLUS and Resource Conserving on the first licensing date must apply for licensing through the on-line application system at <https://my.api.org/Account/Login>. API will process applications in the order received, but the right to claim API licensing against the SN PLUS classification will not be allowed until the to-be-determined first licensing date. API will notify licensees when the online application system is ready to accept SN PLUS applications.
- Licensed API SN with SN PLUS and API SN with SN PLUS and Resource Conserving oils will not appear in the online API Directory until the first licensing date.
- Marketers with licensed SN PLUS oils may use SN PLUS in the lower half of the API Donut beginning on the first licensing date.
- Oils licensed by API as API SN with SN PLUS and Resource Conserving and ILSAC GF-5 are eligible to display the API Certification Mark Starburst.

If you have questions, please do not hesitate to contact me.

5.3.2.X.X SN PLUS Classification in Conjunction with API Service Category SN and API SN with Resource Conserving

API Service Category SN engine oils that also carry the classification SN PLUS are formulated to provide API SN performance and additional protection against low-speed pre-ignition for turbocharged direct injection gasoline-powered vehicles.

Oils that meet the requirements for API SN with SN PLUS or API SN with SN PLUS and Resource Conserving at the limit shown in Annex G, Table G-5, and are properly licensed may display “SN PLUS” or “Resource Conserving SN PLUS” in the lower portion of the API Service Symbol in conjunction with API SN in the upper portion (see Figures XX and XX).

Oils that satisfy SN PLUS can also effectively lubricate engines calling for API SN, API SN with Resource Conserving, or ILSAC GF-5. API SN with SN PLUS and API SN with SN PLUS and Resource Conserving are also backward compatible to API Service Categories before API SN.



Figure XX—API SN with SN PLUS Designation



Figure XX—API SN with SN PLUS and Resource Conserving Designations

**Table G-5—Requirements for API Service Category SN and
API SN with Resource Conserving**

	API SN	API SN	API SN with Resource Conserving
	SAE 0W-16, SAE 5W-16, SAE 0W-20, SAE 5W-20, SAE 0W-30, SAE 5W-30, SAE 10W-30	Other Viscosity Grades	All Viscosity Grades ^a
Engine Test Requirements^a			
ASTM D7320 (Sequence IIIG)			
Kinematic viscosity increase @ 40°C, %	150 (max)	150 (max)	150 (max)
Average weighted piston deposits, merits	4.0 (min)	4.0 (min)	4.0 (min)
Hot stuck rings	None	None	None
Average cam plus lifter wear, µm	60 (max)	60 (max)	60 (max)
Or			
ASTM D8111 (Sequence IIH)			
Kinematic viscosity increase @ 40°C, %	150 (max)	150 (max)	150 (max)
Average weighted piston deposits, merits	3.7 (min)	3.7 (min)	3.7 (min)
Hot stuck rings	None	None	None
ASTM D6891 (Sequence IVA)			
Average cam wear (7 position avg), µm	90 (max)	90 (max)	90 (max)
ASTM D6593 (Sequence VG) ^b			
Average engine sludge, merits	8.0 (min)	8.0 (min)	8.0 (min)
Average rocker cover sludge, merits	8.3 (min)	8.3 (min)	8.3 (min)
Average engine varnish, merits	8.9 (min)	8.9 (min)	8.9 (min)
Average piston skirt varnish, merits	7.5 (min)	7.5 (min)	7.5 (min)
Oil screen sludge, % area	15 (max)	15 (max)	15 (max)
Oil screen debris, % area	Rate & report	Rate & Report	Rate & Report
Hot-stuck compression rings	None	None	None
Cold stuck rings	Rate & report	Rate & report	Rate & Report
Oil ring clogging, % area	Rate & report	Rate & report	Rate & Report
ASTM D7589 (Sequence VID) ^c			
SAE XW-16 viscosity grade			
FEI SUM	NR	NR	2.8% min
FEI 2			1.3% min after 100 hours aging
SAE XW-20 viscosity grade			
FEI SUM	NR	NR	2.6% min
FEI 2			1.2% min after 100 hours aging
SAE XW-30 viscosity grade			
FEI SUM	NR	NR	1.9% min
FEI 2			0.9% min after 100 hours aging
SAE 10W-30 and all other viscosity grades not listed above			
FEI SUM	NR	NR	1.5% min
FEI 2			0.6% min after 100 hours aging
ASTM D6709 (Sequence VIII)			
Bearing weight loss, mg	26 (max)	26 (max)	26 (max)
ASTM DXXXX (Sequence IX) ^d			
Average number of events	5 (max) ^d	5 (max) ^d	5 (max) ^d

Bench Test and Measured Parameter^a

Aged oil low-temperature viscosity

ASTM D4684, (Sequence III GA), aged oil low-temperature viscosity	Pass	Pass ^e	Pass
Or			
ASTM D7528, (ROBO Test), aged oil low-temperature viscosity	Pass	Pass ^e	Pass
ASTM D7320, (Sequence III GB) phosphorus retention, % min	NR	NR	79
Or			
ASTM D8111, (Sequence III HB) phosphorus retention, % min	NR	NR	81
ASTM D4683, D4741, or D5481, High Temp./High Shear Viscosity @ 150°C, mPa·s, min	2.3	2.6	2.3
ASTM D6557 (Ball Rust Test), avg. gray value, min ^b	100	100	100
ASTM D5800, evaporation loss, 1 hour at 250°C, % max ^f	15	15	15
ASTM D6417, simulated distillation at 371°C, % max	10	10	10
ASTM D6795, EOFT, % flow reduction, max	50	50	50
ASTM D6794, EOWTT, % flow reduction, max			
with 0.6% H ₂ O	50	50	50
with 1.0% H ₂ O	50	50	50
with 2.0% H ₂ O	50	50	50
with 3.0% H ₂ O	50	50	50
ASTM D4951, phosphorus % mass, max ^g	0.08 ^g	NR	0.08 ^h
ASTM D4951, phosphorus % mass, min ^g	0.06 ^h	0.06 ^h	0.06 ^h
ASTM D4951, or D2622, sulfur % mass, max ^g			
SAE 0W-16, 5W-16, 0W-20, 0W-30, 5W-20, and 5W-30	0.5 ^g	NR	0.5 ^g
SAE 10W-30	0.6 ^g	NR	0.6 ^g
All other viscosity grades	NR	NR	0.6 ^g
ASTM D892 (Option A), foaming tendency			
Sequence I, mL, max, tendency/stability	10/0 ⁱ	10/0 ^j	10/0 ⁱ
Sequence II, mL, max, tendency/stability	50/0 ⁱ	50/0 ^j	50/0 ⁱ
Sequence III, mL, max, tendency/stability	10/0 ⁱ	10/0 ^j	10/0 ⁱ
ASTM D6082 (Option A), high-temperature foaming mL, max, tendency/stability ⁱ	100/0	100/0	100/0

ASTM D6922, homogeneity and miscibility	k	k	k
ASTM D6709, (Sequence VIII) shear stability	l	l	l
ASTM D7097, TEOST MHT, high-temperature deposits, deposit wt, mg, max ^g	35	45	35
ASTM D5133, gelation index, max ^b	12 ^m	NR	12 ^m
ASTM D6335, TEOST 33C, high-temperature deposits, total deposit weight, mg, max			
SAE XW-16	NR	NR	NR
SAE 0W-20	NR	NR	NR
All other viscosity grades	NR	NR	30
ASTM D7563, emulsion retention	NR	NR	no water separation
ASTM D7216 Annex A2, elastomer compatibility	Table G-6	Table G-6	Table G-6

Note: All oils must meet the requirements of the most recent edition of SAE J300; NR = Not required.

^aTests are per ASTM requirements.

^bIf CI-4, CJ-4, CK-4 and/or FA-4 categories precede the "S" category and there is no API Certification Mark, the Sequence VG (ASTM D6593), Ball Rust (ASTM D6557), and Gelation Index (ASTM D5133) tests are not required.

^cViscosity grades are limited to 0W, 5W and 10W multigrade oils.

^dRequired only for oils claiming to meet API SN with SN PLUS or API SN with SN PLUS and Resource Conserving.

^eNot required for monograde and 15W, 20W, and 25W multigrade oils.

^fCalculated conversions specified in ASTM D5800 are allowed.

^gFor all viscosity grades: If CH-4, CI-4 and/or CJ-4 categories precede the "S" category and there is no API Certification Mark, the "S" category limits for phosphorus, sulfur, and the TEOST MHT do not apply. However, the CJ-4 limits for phosphorus and sulfur do apply for CJ-4 oils. This footnote cannot be applied if CK-4 or FA-4 is also claimed. Note that these "C" category oils have been formulated primarily for diesel engines and may not provide all of the performance requirements consistent with vehicle manufacturers' recommendations for gasoline-fueled engines.

^hThis is a non-critical specification as described in ASTM D3244.

ⁱAfter 1-minute settling period.

^jAfter 10-minute settling period.

^kShall remain homogenous and, when mixed with ASTM reference oils, shall remain miscible.

^lTen-hour stripped kinematic viscosity must remain in original SAE viscosity grade except XW-20 which must remain ≥ 5.6 mm²/s.

^mTo be evaluated from -5°C to temperature at which 40,000 cP is attained or -40°C , or 2 Celsius degrees below the appropriate MRV TP-1 temperature (defined by SAE J300), whichever occurs first.