



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Request for Quotation
 07 - Chemicals

Proc Folder: 584859

Doc Description: ADDENDUM_1: OIL19 - SWC for: Oils, Lubricants, & Grease

Proc Type: Statewide MA (Open End)

Date Issued	Solicitation Closes	Solicitation No	Version
2019-03-29	2019-04-05 13:30:00	CRFQ 0212 SWC1900000011	2

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON
 US

WV 25305

RECEIVED

2019 APR -5 PM 1:08

WV PURCHASING
 DIVISION

VENDOR

Vendor Name, Address and Telephone Number:

Apollo Oil 304-482-0173
 800 First Ave S.
 Nitro, WV 25143

FOR INFORMATION CONTACT THE BUYER

Mark A Atkins
 (304) 558-2307
 mark.a.atkins@wv.gov

Signature X

Michael Starnaci

FEIN #

81-408 4872

DATE

4/3/19

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

ADDENDUM 1: Is issued for the following:

1. To publish the State's response to the questions submitted by Vendors during the Technical Questioning period.
2. To publish the Revised 3/29/2019 Exhibit_A Pricing Pages to adjust estimated quantities for Commodity Line Items #10, #12, #26, #50, and #52 (55-gallon drums).

No other changes made.

The West Virginia Purchasing Division is soliciting bids to establish an open-end Statewide Contract for Oils, Lubricants, and Grease. This contract shall cover all West Virginia state agencies per the attached documents.

INVOICE TO:		SHIP TO:	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER	
No City	WV99999	No City	WV 99999
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Oils, Lubricants, & Grease: Use Exhibit_A Pricing Page	0.00000	EA		

Comm Code	Manufacturer	Specification	Model #
15120000			

Extended Description :

Note: Vendor shall use Exhibit_A Pricing Pages for bid pricing.

If vendor is submitting a bid online, Vendor should enter \$0.00 in the Oasis commodity line.

Vendor shall enter pricing into the Exhibit_A Pricing Pages and must attach with bid.
See section 18 of Instructions to Bidders.

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Technical Questions due by 10:00am EDT	2019-03-29

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9
LINE ITEM	DESCRIPTION	UNIT OF MEASURE (SIZE/WTS) (for information use only and not to be used for calculations)	MANUFACTURER	BRAND BLD	ESTIMATED QTY.	UNIT PRICE	Unit of Measure (For calculation purposes only)	EXTENDED PRICE
	3.1.1 2-CYCLE MOTOR OIL - Chainsaw, Power Blowers, Pumps, & Snowmobiles							
1	Motor oil for lubricating 2 cycle engines in 8 oz. containers (chain saw motor oil) - API TC or equal	8 oz.	Esso	2 Cycle Oil	1800	\$ 6.11	1 qt.	\$ 234.00
	3.1.2 OUTBOARD MOTOR OIL							
2	Motor oil for lubricating 2 cycle engines (outboard motor oil) - API TC-W3 or equal	1 qt.	Marlboro	Marine Turbine Master	1300	\$ 2.75	1 qt.	\$ 3,575.00
	3.1.3 MOTOR OIL SAE (Gas and/or Diesel)							
3	Motor oil SAE30 - CF-4, CF-2 CF/SJ	1 qt.	Warren Distribution	Mag 1 30w	1000	\$ 2.05	1 qt.	\$ 2,050.00
4	Motor oil SAE15W40 - CI-4 CF/SJ CI-4, CI-4 PLUS, CH-4, CK-4	1 qt.	Warren Distribution	Mag 1 FLT 15w40	100,000	\$ 1.90	1 qt.	\$ 190,000.00
5	Motor oil SAE15W40 - CI-4 CF/SJ CI-4, CI-4 PLUS, CH-4, CK-4	1 gal.	Warren Distribution	Mag 1 FLT 15w40	30,000	\$ 7.00	1 gal.	\$ 70,000.00
6	Motor oil SAE15W40 - CI-4, CI-4 PLUS, CH-4, CF-4/SJ, SM, CK-4	55 gal. drum	Compass	HD 15w40	1210	\$ 7.95	1 gal.	\$ 9,619.50
7	Motor oil SAE15W40 - BULK CI-4, CI-4 PLUS, CH-4, CF-4/SJ, SM, CK-4	BULK 6,000 gallon	Compass	HD 15w40	6000	\$ 5.25	1 gal.	\$ 31,500.00
8	Motor oil SAE15W40 - FA-4	1 qt.	Shell	Rotella TS Ultra 10w30	3000	\$ 3.75	1 qt.	\$ 3,750.00
9	Motor oil SAE15W40 - FA-4	1 gal.	Shell	Rotella TS Ultra 10w30	3000	\$ 14.74	1 gal.	\$ 14,740.00
10	Motor oil SAE10 - CF/SN CAT TD-3, ALLISON C-4 or equal	55 gal. drum	Shell	Rotella TS Ultra 10w30	985	\$ 13.75	1 gal.	\$ 5,281.25
11	Motor oil SAE10 - CF/SN CAT TD-3, ALLISON C-4 or equal	5 gallon	Compass	HD Fleet 10w	2400	\$ 6.25	1 gal.	\$ 25,000.00
12	Motor oil SAE10 - CF/SN CAT TD-3, ALLISON C-4 or equal	55 gal. drum	Compass	HD Fleet 10w	550	\$ 6.25	1 gal.	\$ 3,437.50
13	Motor oil 0W20 - GM Dexos approved or Equal	1 qt.	Warren Distribution	Mag 1 0w20 Dexos Full Syn	1500	\$ 2.75	1 qt.	\$ 4,125.00
14	Motor oil 0W20 - GM Dexos approved or Equal	5 qt.	Warren Distribution	Mag 1 0w20 Dexos Full Syn	1000	\$ 2.85	1 qt.	\$ 2,850.00
15	Motor oil 5W20 - CF/SN SM, SJ, ILSAC GF-5	1 qt.	Warren Distribution	Mag 1 5w20	5000	\$ 1.75	1 qt.	\$ 8,750.00
16	Motor oil 5W20 - Synthetic Blend CF/SN SM, SJ, ILSAC GF-5	1 qt.	Warren Distribution	Mag 1 5w20	5000	\$ 1.75	1 qt.	\$ 8,750.00
17	Motor oil 5W20 - Synthetic Blend - BULK - CF/SN SM, SJ, ILSAC GF-5	55 gal. drum	Compass	Blend 5w20	590	\$ 5.80	1 gal.	\$ 3,190.00
18	Motor oil 5W20 - CF/SN ILSAC GF-5	1 qt.	Warren Distribution	Mag 1 5w30	7500	\$ 1.75	1 qt.	\$ 13,125.00
19	Motor oil 5W20 - Synthetic Blend CF/SN ILSAC GF-5	1 qt.	Warren Distribution	Mag 1 5w30	7500	\$ 1.75	1 qt.	\$ 13,125.00
20	Motor oil 5W20 - Synthetic Blend - BULK - CF/SN SM, SJ, ILSAC GF-5	55 gal. drum	Compass	Blend 5w30	550	\$ 5.80	1 gal.	\$ 3,190.00
21	Motor oil 5W30 - GM Dexos approved or Equal	1 qt.	Warren Distribution	Mag 1 5w30 Dexos Full Syn	1000	\$ 2.75	1 qt.	\$ 2,750.00
22	Motor oil 5W30 - GM Dexos approved or Equal	5 qt.	Warren Distribution	Mag 1 5w30 Dexos Full Syn	1000	\$ 2.65	1 qt.	\$ 2,650.00
23	Motor oil 10W30 - CF/SN SM, SJ, ILSAC GF-5	1 qt.	Warren Distribution	Mag 1 10w30	20000	\$ 1.50	1 qt.	\$ 30,000.00
24	Motor oil 10W30 Motorcraft Super Duty or Equal (must meet WSS-M2C171-F1, CES20086, Detroit Diesel 93K2222, Volvo VDS-4.5, & Mack EOS-4.5 standards)	1 qt.	Shell	Rotella T4 10w30	5000	\$ 3.15	1 qt.	\$ 15,750.00
25	Motor oil 10W30 Motorcraft Super Duty or Equal (must meet WSS-M2C171-F1, CES20086, Detroit Diesel 93K2222, Volvo VDS-4.5, & Mack EOS-4.5 standards)	5 qt.	Shell	Rotella T4 10w30	1000	\$ 3.15	1 qt.	\$ 3,150.00
26	Motor oil 10W30 - BULK - Motorcraft Super Duty or Equal (must meet WSS-M2C171-F1, CES20086, Detroit Diesel 93K2222, Volvo VDS-4.5, & Mack EOS-4.5 standards)	55 gal. drum	Valvoline	All Fleet 10w30	330	\$ 8.50	1 gal.	\$ 2,805.00
27	Motor oil 10W30 - Diesel Engine Service SB (synthetic blend)	1 qt.	Shell	Rotella T4 10w30	350	\$ 3.15	1 qt.	\$ 1,102.50
28	Motor oil 10W30 - Diesel Engine Service SB (synthetic blend)	5 qt.	Shell	Rotella T4 10w30	500	\$ 3.15	1 qt.	\$ 1,575.00
29	Motor oil 10W30 - FA-4	1 qt.	Shell	Rotella TS Ultra 10w30	1000	\$ 3.75	1 qt.	\$ 3,750.00
30	Motor oil 10W30 - FA-4	1 gal.	Shell	Rotella TS Ultra 10w30	500	\$ 14.74	1 gal.	\$ 7,370.00
31	Motor oil 10W40 - CF/SN	1 qt.	Warren Distribution	Mag 1 10w40	500	\$ 1.75	1 qt.	\$ 875.00
32	Motor oil 20W50 - CF/SN	1 qt.	Warren Distribution	Mag 1 20w50	500	\$ 1.75	1 qt.	\$ 875.00
33	Synthetic motor oil SAE 5W40 - CF/SN	1 qt.	Warren Distribution	Mag 1 FLT 5w40 Full Syn	500	\$ 4.50	1 qt.	\$ 2,250.00
34	Synthetic motor oil SAE 5W40 - CF/SN	1 gal.	Warren Distribution	Mag 1 FLT 5w40 Full Syn	500	\$ 15.75	1 qt.	\$ 7,875.00
35	Synthetic motor oil SAE 10W30 - CF/SN	1 qt.	Shell	Rotella TS Ultra 10w30	500	\$ 3.75	1 qt.	\$ 1,875.00
36	Synthetic motor oil SAE 5W40 - CI-4, CH-4/SN	1 qt.	Warren Distribution	Mag 1 FLT 5w40 Full Syn	100	\$ 4.90	1 qt.	\$ 490.00
	3.1.4 EXTREME PRESSURE (EP) GEAR LUBRICANT							
37	Extreme pressure gear lubricant 15W50 GL-5, MT-1, MACK GO-J or equal	35 lb.	Compass	HP 80w90	280	\$ 1.20	1 lb.	\$ 336.00
38	Extreme pressure gear lubricant 15W50 GL-5, MT-1, MACK GO-J or equal	120 lb.	Compass	HP 80w90	3360	\$ 1.20	1 lb.	\$ 4,032.00
39	Extreme pressure gear lubricant 15W140 GL-5, MT-1, MACK GO-J or equal	120 lb.	Compass	HP 80w90	720	\$ 1.40	1 lb.	\$ 1,008.00
	3.1.5 GEAR LUBRICANT							
40	Gear Lubricant - mineral gear lube 90 GL-1	35 lb.	Compass	Mineral Gear 90	380	\$ 1.20	1 lb.	\$ 456.00
	3.1.6 SYNTHETIC LUBRICANT							
41	SAES0 Powertrans EW 50 EATON PS-164, R7 MACK GO-A PLUS NAVISTAR TMS 6816 or equal	35 lb.	Valvoline	HD Synthetic Transmission F	250	\$ 4.50	1 lb.	\$ 1,125.00
	3.1.7 WHEEL BEARING & CHASSIS GREASE							
42	Wheel bearing and chassis grease summer weight NLGI #2	14 to 14-1/2 oz. tubes	Phillips 66	Multiplex 220 #2	2500	\$ 0.13	1 oz.	\$ 375.00
43	Wheel bearing and chassis grease summer weight NLGI #2	35 lb.	Phillips 66	Multiplex 220 #2	250	\$ 2.00	1 lb.	\$ 500.00
44	Wheel bearing and chassis grease summer weight NLGI #2	120 lb.	Phillips 66	Multiplex 220 #2	1200	\$ 1.95	1 lb.	\$ 2,340.00
	3.1.8 ALL PURPOSE GREASE (MOLY)							
45	All purpose grease (3% moly) water and heat resistant grease NLGI #2	14 to 14-1/2 oz. tubes	Phillips 66	Multiplex XDS #2	120	\$ 0.18	1 oz.	\$ 21.60
46	All purpose grease (3% moly) water and heat resistant grease NLGI #2	35 lb.	Phillips 66	Multiplex XDS #2	200	\$ 2.25	1 lb.	\$ 450.00
47	All purpose grease (3% moly) water and heat resistant grease NLGI #2	120 lb.	Phillips 66	Multiplex XDS #2	240	\$ 2.20	1 lb.	\$ 528.00

3.1.9 HYDRAULIC OIL (HYDRAULIC HOIST OIL):									
48	Hydraulic oil-light weight RQ22 Turbine/Circulating Oil	5 gal.	Shell	Tellus S2 V22	50	\$	13.95	1 gal.	\$ 697.50
49	Hydraulic oil-light weight (AW32)	5 gal.	Compass	AW 32	400	\$	5.98	1 gal.	\$ 2,392.00
50	Hydraulic oil-light weight (AW32)	55 gal. drum	Compass	AW 32	110	\$	5.75	1 gal.	\$ 632.50
51	Hydraulic oil-medium weight (AW46)	5 gal.	Compass	AW 46	35	\$	5.98	1 gal.	\$ 209.30
52	Hydraulic oil-medium weight (AW46)	55 gal. drum	Compass	AW 46	110	\$	5.75	1 gal.	\$ 632.50
53	Hydraulic oil-heavy weight (AW68)	5 gal.	Compass	AW 68	700	\$	5.98	1 gal.	\$ 1,196.00
54	Hydraulic oil-heavy weight (AW68)	55 gal. drum	Compass	AW 68	880	\$	5.75	1 gal.	\$ 2,392.00
3.1.10 CATAPILLAR HYDRAULIC OIL									
55	Hydraulic Oil - CAT HYDO ADVANCED 10 or equal	5 gal.	Compass	TD-4 10w	120	\$	6.05	1 gal.	\$ 726.00
56	Hydraulic Oil - CAT HYDO ADVANCED 10 or equal	55 gal. drum	Compass	TD-4 10w	6,000	\$	1.06	1 gal.	\$ 11,130.00
3.1.11 TRANSMISSION FLUID									
57	Automatic Transmission Fluid - Multi Vehicle - Dexron II, Mercon, or equal	1 qt.	Warren Distribution	Mag 1 ATF Dex/Merc III	22000	\$	1.75	1 qt.	\$ 38,500.00
58	Automatic Transmission Fluid - Multi Vehicle - Dexron II, Mercon, or equal	55 gal. drum	Compass	ATF Dex/Merc III	495	\$	5.25	1 gal.	\$ 2,598.75
59	Transmission fluid - CAT TO-4, Allison C-4, or Equal	5 gal.	Compass	TO-4 30w	350	\$	7.25	1 gal.	\$ 2,537.50
60	Transmission fluid - CAT TO-4, Allison C-4, or Equal	55 gal. drum	Compass	TO-4 30w	605	\$	6.75	1 gal.	\$ 4,083.75
61	Automatic Transmission Fluid - Multi-Vehicle ATF API DEXRON II, MERCON, MERCON V, ATF+3 ATF+4 or equal	1 qt.	Warren Distribution	Mag 1 Low Viscosity MV ATF	1000	\$	2.99	1 qt.	\$ 2,990.00
62	Transmission fluid - Dexron -VI-ATF or equal	1 qt.	Warren Distribution	Mag 1 Low Viscosity MV ATF	120	\$	2.99	1 qt.	\$ 358.80
63	TES - 295 Allison TES-295 Fluid 8P Autran or Equal	1 qt.	BP	Autran Syn 295	30	\$	7.75	1 qt.	\$ 232.50
64	Automatic Transmission Fluid - MOTORCRAFT MERCON LV or equal	1 qt.	Warren Distribution	Mag 1 Low Viscosity MV ATF	30	\$	2.99	1 qt.	\$ 89.70
65	Automatic Transmission Fluid - MOTORCRAFT MERCON SP or equal	1 qt.	Warren Distribution	Mag 1 Full Synthetic MV ATF	30	\$	4.50	1 qt.	\$ 105.00
66	Transmission Fluid - VALVOLINE CVT FLUID or equal	1 qt.	Warren Distribution	Mag 1 CVT Full Syn	30	\$	4.35	1 qt.	\$ 104.25
3.1.12 COMBINATION FLUID									
67	Combination Fluid: Hydraulic/Transmission Oil: HY-GARD Transmission Oil or equal	5 gal.	Compass	HIT	250	\$	6.30	1 gal.	\$ 1,675.00
68	Combination Fluid: Hydraulic/Transmission Oil: HY-GARD Transmission Oil or equal	55 gal. drum	Compass	HIT	2000	\$	5.75	1 gal.	\$ 120,175.00
3.1.13 RAILROAD DIESEL ENGINE OIL									
69	Railroad diesel engine oil must be a generation 5 oil as designated by (LMCA) SMD approved	55 gal. drum	Compass	Railroad Engine Oil 40w	880	\$	7.00	1 gal.	\$ 5,160.00
3.1.14 SYNTHETIC MULTI-PURPOSE GEAR LUBRICANT									
70	75W90 GL-5 Synthesized multipurpose gear lubricant - DANA SHADES 256, REV. C, EATON E900, MACK GO J PLUS or equal	33 lb.	Compass	Synthetic 75W90	700	\$	2.25	1 lb.	\$ 1,575.00
71	75W90 GL-5 Synthesized multipurpose gear lubricant - DANA SHADES 256, REV. C, EATON E900, MACK GO-J PLUS or equal	120 lb.	Compass	Synthetic 75W90	130	\$	2.30	1 lb.	\$ 276.00
72	80W140 GL-5 Synthesized multipurpose gear lubricant - DANA SHADES 256, ARVIN MERITOR O-26, MACK GO-J or equal	33 lb.	Compass	Synthetic 80W140	140	\$	2.50	1 lb.	\$ 350.00
3.1.15 FORMULATED GEAR OIL (LS)									
73	Limited slip gear lubricant GL-5 80W90	33 lb.	Compass	Gear Oil 80W90	770	\$	1.20	1 lb.	\$ 814.00
74	Limited slip gear lubricant GL-5 80W90	120 lb.	Compass	Gear Oil 80W90	3080	\$	1.20	1 lb.	\$ 1,296.00
3.1.16 DEPOSIT & CREDIT FOR RETURNABLE 55 GALLON DRUMS									
75	Deposit & Credit for Returnable 55 Gal. Drum (Inc. in product price)	55 gal. drum							
								Must be included in Drum Price.	No. Additional Charge per Drum (each)
								GRAND TOTAL:	\$ 781,736.15

Vendor's Name: Apollo Oil
 Contract Manager's Name: Gary Sweeney
 Phone: 304-482-0173
 Fax: 866-231-4639
 Email Address: gsweeney@apollooil.com

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. REVIEW DOCUMENTS THOROUGHLY: The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

2. MANDATORY TERMS: The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

3. PREBID MEETING: The item identified below shall apply to this Solicitation.

A pre-bid meeting will not be held prior to bid opening

A NON-MANDATORY PRE-BID meeting will be held at the following place and time:

A MANDATORY PRE-BID meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. VENDOR QUESTION DEADLINE: Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: March 29, 2019 due by 10:00am EDT

Submit Questions to: Mark Atkins, Senior Buyer
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
Email: Mark.A.Atkins@wv.gov

5. VERBAL COMMUNICATION: Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

6. BID SUBMISSION: All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile.

The bid delivery address is:
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID: SWC OIL19
BUYER: Mark Atkins, File#42
SOLICITATION NO.: CRFQ 0212 SWC1900000011
BID OPENING DATE: 04/05/2019
BID OPENING TIME: 1:30pm EST
FAX NUMBER: 304-558-3970

The Purchasing Division may prohibit the submission of bids electronically through wvOASIS at its sole discretion. Such a prohibition will be contained and communicated in the wvOASIS system resulting in the Vendor's inability to submit bids through wvOASIS. Submission of a response to an Expression or Interest or Request for Proposal is not permitted in wvOASIS.

For Request For Proposal ("RFP") Responses Only: In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus *n/a* convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)

- Technical
 Cost

7. BID OPENING: Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: April 05, 2019 at 1:30pm EDT

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. ADDENDUM ACKNOWLEDGEMENT: Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. BID FORMATTING: Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

10. ALTERNATE MODEL OR BRAND: Unless the box below is checked, any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

This Solicitation is based upon a standardized commodity established under W. Va. Code § 5A-3-61. Vendors are expected to bid the standardized commodity identified. Failure to bid the standardized commodity will result in your firm's bid being rejected.

11. EXCEPTIONS AND CLARIFICATIONS: The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. COMMUNICATION LIMITATIONS: In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

13. REGISTRATION: Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee, if applicable.

14. UNIT PRICE: Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

15. PREFERENCE: Vendor Preference may be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and should include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at:
<http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

15A. RECIPROCAL PREFERENCE: The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. A request form to help facilitate the request can be found at:
<http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES: For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

17. WAIVER OF MINOR IRREGULARITIES: The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

18. ELECTRONIC FILE ACCESS RESTRICTIONS: Vendor must ensure that its submission in wvOASIS can be accessed and viewed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately accessed and viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening to make a file viewable if those documents are required with the bid. A Vendor may be required to provide document passwords or remove access restrictions to allow the Purchasing Division to print or electronically save documents provided that those documents are viewable by the Purchasing Division prior to obtaining the password or removing the access restriction.

19. NON-RESPONSIBLE: The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform, or lacks the integrity and reliability to assure good-faith performance.”

20. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b.”

21. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor’s entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled “confidential,” “proprietary,” “trade secret,” “private,” or labeled with any other claim against public disclosure of the documents, to include any “trade secrets” as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

22. INTERESTED PARTY DISCLOSURE: West Virginia Code § 6D-1-2 requires that the vendor submit to the Purchasing Division a disclosure of interested parties to the contract for all contracts with an actual or estimated value of at least \$1 Million. That disclosure must occur on the form prescribed and approved by the WV Ethics Commission prior to contract award. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

23. WITH THE BID REQUIREMENTS: In instances where these specifications require documentation or other information with the bid, and a vendor fails to provide it with the bid, the Director of the Purchasing Division reserves the right to request those items after bid opening and prior to contract award pursuant to the authority to waive minor irregularities in bids or specifications under W. Va. CSR § 148-1-4.6. This authority does not apply to instances where state law mandates receipt with the bid.

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or "Agencies" means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or "Proposal" means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or "Vendors" means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

Term Contract

Initial Contract Term: This Contract becomes effective on Upon Award and extends for a period of (1) one year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to Three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Alternate Renewal Term – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

Fixed Period Contract: This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

Fixed Period Contract with Renewals: This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that maintenance, monitoring, or warranty services will be provided for _____ year(s) thereafter.

One Time Purchase: The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

Other: See attached.

4. NOTICE TO PROCEED: Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

Open End Contract: Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

Service: The scope of the service to be provided will be more clearly defined in the specifications included herewith.

Combined Service and Goods: The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

One Time Purchase: This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

BID BOND (Construction Only): Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

PERFORMANCE BOND: The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

LABOR/MATERIAL PAYMENT BOND: The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

MAINTENANCE BOND: The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

LICENSE(S) / CERTIFICATIONS / PERMITS: In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

8. INSURANCE: The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below and must include the State as an additional insured on each policy prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed in this section.

Vendor must maintain:

- Commercial General Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.
- Automobile Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.
- Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: _____ per occurrence.
- Commercial Crime and Third Party Fidelity Insurance** in an amount of: _____ per occurrence.
- Cyber Liability Insurance** in an amount of: _____ per occurrence.
- Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.
- Pollution Insurance** in an amount of: _____ per occurrence.
- Aircraft Liability** in an amount of: _____ per occurrence.
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Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be named as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

9. WORKERS' COMPENSATION INSURANCE: The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. [Reserved]

11. LIQUIDATED DAMAGES: This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

_____ for _____

Liquidated Damages Contained in the Specifications

12. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

13. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

14. PAYMENT IN ARREARS: Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

15. PAYMENT METHODS: Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

16. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

17. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

18. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

19. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

20. TIME: Time is of the essence with regard to all matters of time and performance in this Contract.

21. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

22. COMPLIANCE WITH LAWS: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

23. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

24. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

25. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

26. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices; sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

27. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

28. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

29. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

34. VENDOR CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. INDEMNIFICATION: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. PURCHASING AFFIDAVIT: In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State, Vendors are required to sign, notarize, and submit the Purchasing Affidavit to the Purchasing Division affirming under oath that it is not in default on any monetary obligation owed to the state or a political subdivision of the state.

38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE: This Contract may be utilized by other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"), provided that both the Other Government Entity and the Vendor agree. Any extension of this Contract to the aforementioned Other Government Entities must be on the same prices, terms, and conditions as those offered and agreed to in this Contract, provided that such extension is in compliance with the applicable laws, rules, and ordinances of the Other Government Entity. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

39. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

40. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

41. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision. The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Revised 01/24/2019

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
- c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
- d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a

“substantial labor surplus area”, as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

44. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE: W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least \$1 million, the vendor must submit to the Agency a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-award interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Gary Sweeney - Territory Business Manager
(Name, Title)
Gary Sweeney - Territory Business Manager
(Printed Name and Title)
800 First Ave S.
(Address)
304-482-0173 / 866-231-4639
(Phone Number) / (Fax Number)
gsweeney@apollooil.com
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Apollo Oil
(Company)

Michael Stefanacci - Vice President
(Authorized Signature) (Representative Name, Title)

Michael Stefanacci - Vice President
(Printed Name and Title of Authorized Representative)

4/3/19
(Date)

336-460-2164 / 866-231-4639
(Phone Number) (Fax Number)

SOLICITATION NUMBER: CRFQ 0212 SWC1900000011
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as CRFQ 0212 SWC1900000011 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- Modify bid opening date and time
- Modify specifications of product or service being sought
- Attachment of vendor questions and responses
- Attachment of pre-bid sign-in sheet
- Correction of error
- Publish Revised 3-29-2019 Exhibit_A Pricing Pages.

Description of Modification to Solicitation:

1. To publish the State's response to the questions submitted by Vendors during the Technical Questioning period.
2. To publish the Revised 3/29/2019 Exhibit_A Pricing Pages to adjust estimated quantities for Commodity Line Items #10, #12, #26, #50, and #52 (55-gallon drums).

No other changes made.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT_A

ADDENDUM_1
CRFQ 0212 SWC1900000011

QUESTION #1: How do we find out which products are going to each location?

RESPONSE #1: All commodity items on the Exhibit_A Pricing Pages must be available to order for any location throughout the State. This includes all State Agencies and any municipalities, Political Subdivisions, Boards of Education, etc.

QUESTION #2: I don't have a list of locations and the products that location receives. Is there one out there or do all locations receive all of these products?

RESPONSE #2: See Response #1. Since this is an open-ended contract, any government entity may utilize the contract and therefore it is not possible to have a list of potential users, locations, or what commodity item is needed.

QUESTION #3: Also, is the quantity based off of gallons or is it per item (ex.- 10,000 drums)?

RESPONSE #3: All pricing is broken down to the least possible container pricing and the pricing pages formatted to calculate based upon this model. For example, Drums are broken down to the gallon price. Please note that a newly revised pricing page is included with this addendum to adjust some of the drum quantities so that the gallons required can be easily divided by the container amount of 55 gallons per container.

I.e. revised commodity item #10 Motor Oil SAE15W40 – FA-4 is for the estimated quantity of 7 drums. $7 \times 55 = 385$ gallons. The vendor should input the gallon price for 385 gallons (7 drums) for their bid.

Using \$1.00 as an example for the unit price per gallon, the pricing page will calculate as such for the 7 (55 gallon) drums:

15	10	Motor Oil SAE15W40 - BULK - FA-4	55 gal. drum		385	\$	1.00	1 gal.	\$	385.00
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ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFQ 0212 SWC190000011

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Apollo Oil
Company

Michael Starnacci
Authorized Signature

4/3/19
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

SWC1900000011	Document Phase Final	Document Description ADDENDUM_1: OIL19 - SWC for: Oils, Lubricants, & Grease	Page 3 of 3
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

West Virginia Ethics Commission



Disclosure of Interested Parties to Contracts

Pursuant to *W. Va. Code* § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of \$1 million or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

"Business entity" means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation, but does not include publicly traded companies listed on a national or international stock exchange.

"Interested party" or "Interested parties" means:

- (1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;
- (2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company); and
- (3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

"State agency" means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of *W. Va. Code* § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: ethics@wv.gov; website: www.ethics.wv.gov.

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Apollo Oil

Authorized Signature: Michael Stefanec Date: 4/3/2019

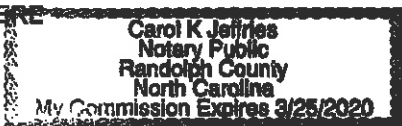
State of North Carolina

County of Randolph, to-wit:

Taken, subscribed, and sworn to before me this 3rd day of April, 2019.

My Commission expires 3/25/2020.

AFFIX SEAL HERE



NOTARY PUBLIC

Carol K. Jeffries

Purchasing Affidavit (Revised 01/19/2018)

West Virginia Ethics Commission
Disclosure of Interested Parties to Contracts

(Required by W. Va. Code § 6D-1-2)

Name of Contracting Business Entity: Apollo Oil Address: 800 1st Ave S.
Nitro, WV 25143

Name of Authorized Agent: Michael Stefanacci Address: 800 1st Ave S, Nitro, WV 25143

Contract Number: 0212SW1900000011 Contract Description: Oils, Lubricants, and Grease

Governmental agency awarding contract: State of West Virginia

Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

- 1. Subcontractors or other entities performing work or service under the Contract**
 Check here if none, otherwise list entity/individual names below.
- 2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)**
 Check here if none, otherwise list entity/individual names below.
- 3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)**
 Check here if none, otherwise list entity/individual names below.

Signature: Michael Stefanacci Date Signed: 4/3/2019

Notary Verification

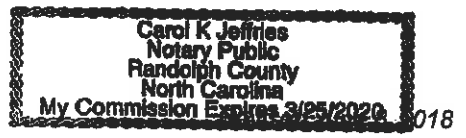
State of North Carolina, County of Randolph:

I, Michael Stefanacci, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 3rd day of April, 2019.

Carol K. Jeffries
Notary Public's Signature

To be completed by State Agency:
Date Received by State Agency: _____
Date submitted to Ethics Commission: _____
Governmental agency submitting Disclosure: _____



State of West Virginia
VENDOR PREFERENCE CERTIFICATE

Certification and application is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is an individual resident vendor and has resided continuously in West Virginia, or bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia, for four (4) years immediately preceding the date of this certification; or,
 Bidder is a resident vendor partnership, association, or corporation with at least eighty percent of ownership interest of bidder held by another entity that meets the applicable four year residency requirement; or,
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is a nonresident vendor that employs a minimum of one hundred state residents, or a nonresident vendor which has an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia and employs a minimum of one hundred state residents, and for purposes of producing or distributing the commodities or completing the project which is the subject of the bidder's bid and continuously over the entire term of the project, on average at least seventy-five percent of the bidder's employees or the bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years and the vendor's bid; or,
4. **Application is made for 5% vendor preference for the reason checked:**
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules*.**
 Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.
8. **Application is made for reciprocal preference.**
 Bidder is a West Virginia resident and is requesting reciprocal preference to the extent that it applies.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) rescind the contract or purchase order; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Apollo Oil

Signed: Michael Stefanacci

Date: 4/3/19

Title: Vice President

REQUEST FOR QUOTATION
CRFQ 0212 SWC1900000011
(OIL19)
Statewide Contract for Oils, Lubricants & Grease

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids to establish an open-end Statewide Contract for Oils, Lubricants, and Grease. This contract shall cover all West Virginia state agencies.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.
 - 2.1 **“Contract Item” or “Contract Items”** means the list of items identified in Section 3.1 below and on the Pricing Pages.
 - 2.2 **“Pricing Pages”** means the schedule of prices, estimated order quantity, and totals contained in wvOASIS or attached hereto as Exhibit A and used to evaluate the Solicitation responses.
 - 2.3 **“Solicitation”** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
 - 2.4 **“SAE”** mean the “Society of Automotive Engineering” used to grade motor oils according to their viscosity.
 - 2.5 **“API”** means the “American Petroleum Institute”.
 - 2.6 **“ILSAC”** means the “International Lubricant Standardization and Approval Committee.
 - 2.7 **“LMOA”** means the “Locomotive Maintenance Officers Association.
 - 2.8 **“EMD”** Means “Electro-Motive Diesel” engine.
 - 2.9 **“NLGI”** means the “National Lubricating Grease Institute”.
 - 2.10 **“OSHA”** means the “Occupational Safety and Health Association”.

REQUEST FOR QUOTATION
CRFQ 0212 SWC190000011
(OIL19)

Statewide Contract for Oils, Lubricants & Grease

3. GENERAL REQUIREMENTS:

3.1 Contract Items and Mandatory Requirements: Vendor shall provide Agency with the Contract Items listed below on an open-end and continuing basis. Contract Items must meet or exceed the mandatory requirements as shown below.

3.1.1 2-CYCLE MOTOR OIL - CHAINSAW, POWER MOWERS, PUMPS, & SNOWMOBILES:

3.1.1.1 Motor Oil must be specifically compounded and marketed for mixing with gasoline to lubricate air- and water-cooled engines.

3.1.1.2 Motor Oil must meet the minimum requirements as an engine lubricant for the major manufacturers of two-cycle engines.

3.1.1.3 Motor Oil must be satisfactory for use in any fuel to oil ration as specified by the engine manufacturer up to and including 50:1 ration.

3.1.1.4 Motor Oil shall be available in the SAE viscosity grade(s) specified for use in Homelite, McCulloch, Poulan, Stihl, Husqvarna, or other two-cycle engines or equal.

3.1.2 OUTBOARD MOTOR OIL:

3.1.2.1 Outboard Motor Oil specifically compounded and marketed for mixing with gasoline to lubricate two-cycle, water cooled engines.

3.1.2.2 Outboard Motor Oil must be tested and certified by the National Marine Manufacturers Association (NMMA) for TCW III.

3.1.2.3 Outboard Motor Oil must be satisfactory for use in any fuel to oil ration as specified by the engine manufacturer up to and including 50:1 ration.

**REQUEST FOR QUOTATION
CRFQ 0212 SWC1900000011
(OIL19)
Statewide Contract for Oils, Lubricants & Grease**

3.1.2.4 Outboard Motor Oil shall be available in the SAE viscosity grade(s) specified by the engine manufacturers for use in Evinrude, Johnson, Mercury, Yamaha, Honda, or other two-cycle outboard motors or equal.

3.1.3 MOTOR OIL (GAS AND/OR DIESEL):

3.1.3.1 Shall be produced from virgin materials.

3.1.3.2 Shall be suitable for use in passenger cars, trucks, and heavy construction equipment.

3.1.3.3 Shall be approved for gasoline and diesel engines.

3.1.3.4 Shall be API certified and have the API seal of approval on the product.

3.1.3.5 Shall meet the performance requirement ("Primary Performance Criteria") described in ASTM designated D4485 for performance categories: API Service CK-4, CJ-4, CI-4 Plus, CH-4/SN, SN Plus, SM, SL, SJ, FA-4.

3.1.3.5.1 Conformance of the oil furnished with the performance requirements shall be determined with the test methods identified in the most recent edition of ASTM D4485 for all categories.

3.1.3.6 Crankcase oil must be suitable for use in new model gasoline and diesel engines where this service category oil requirement is specified by the engine manufacturer.

3.1.3.7 Must meet the performance level of MIL-L 2104E and MIL-L 45152D or equal.

3.1.3.8 Sulfate ash (ASTMD-874) shall be a maximum of 1.00% by weight.

3.1.3.9 Minimum viscosity index for all motor oils shall be 95.

**REQUEST FOR QUOTATION
CRFQ 0212 SWC190000011
(OIL19)
Statewide Contract for Oils, Lubricants & Grease**

3.1.3.10 Synthetic Motor Oil:

3.1.3.10.1 Must be approved for both Gas and/or Diesel engines.

3.1.3.10.2 Must be API Certified and have the API seal of approval on the product.

3.1.3.10.3 Must meet GM-6094M, GM-4718M, and Ford ESE-MC153-E or Equal

3.1.3.10.4 Must meet the performance level of MIL-L-46152E and MIL-L-2104D or Equal.

3.1.4 EXTREME PRESSURE (EP) GEAR LUBRICANT:

3.1.4.1 API Service Category: GL-5, PG-1, PG-2

3.1.4.2 SAE Viscosity Grades: 80W90 and 85W140

3.1.4.2.1 These lubricants are intended for use in passenger car, truck, and tractor differentials (particularly hypoid type), steering gears, and other points requiring a lubricant of exceptional load carrying ability.

3.1.5 GEAR LUBRICANT:

3.1.5.1 API Service Category: GL-1

3.1.5.2 Mineral gear lube 90.

3.1.5.2.1 For use in automotive and heavy equipment transmission differentials where EP lubricant is not required.

**REQUEST FOR QUOTATION
CRFQ 0212 SWC1900000011
(OIL19)
Statewide Contract for Oils, Lubricants & Grease**

3.1.6 SYNTHETIC LUBRICANT:

3.1.6.1 Must be fully synthetic.

3.1.6.2 SAESO Lubricant for use in heavy-duty truck manual transmissions must meet EATON PS-164, R7, MACK GO-A PLUS, NAVISTAR TMS 6816 or Equal.

3.1.7 WHEEL BEARING & CHASSIS GREASE:

3.1.7.1 Shall be designated by manufacturer as suitable for multi-purpose use in cars, light & heavy trucks, and industrial equipment.

3.1.7.2 Must be made from a lithium complex soap.

3.1.7.3 Minimum NLGI Consistency #1 and #2.

3.1.7.4 Must be resistant to oxidation and water washout as specified in ASTM D1264.

3.1.7.5 Must meet minimum leakage resistance as specified in ASTM D1263.

3.1.7.6 Minimum 450-degree Fahrenheit dropping point as specified in ASTM D2265.

3.1.7.7 Worked penetration per ASTM D217 and D1403.

3.1.7.7.1 NLGI#1 310-340

3.1.7.7.2 NLGI#2 265-295

3.1.7.8 NLGI-GC/LB

3.1.8 ALL PURPOSE GREASE (MOLY):

3.1.8.1 Shall be designated by the manufacturer as suitable for use in industrial, automotive, and construction equipment including heavy stock loading conditions.

**REQUEST FOR QUOTATION
CRFQ 0212 SWC1900000011
(OIL19)
Statewide Contract for Oils, Lubricants & Grease**

3.1.8.2 Must meet minimum requirements for all major heavy equipment manufactures such as Caterpillar, John Deere, Komatsu, Case, Volvo, etc.

3.1.8.3 Minimum NLGI Consistency #2.

3.1.8.4 Minimum 500-degree Fahrenheit dropping point as specified in ASTM D2265.

3.1.8.5 Minimum 3% moly.

3.1.9 HYDRAULIC OIL (HYDRAULIC HOIST OIL):

3.1.9.1.1 Turbine/Circulating Oil (RO22): Product must be specially blended for service in hydraulic systems employing either vane or gear-type pumps as utilized on snow removal, road construction, and hydraulic operated equipment. (This oil is not intended for use in hydraulic brakes and automobile type steering units).

3.1.9.1.1.1 Abex Denision HF-0, HF-1, HF-2 or Equal.

3.1.9.1.1.2 Sperry Vickers M-2950-S, 1-286-S or Equal.

3.1.9.1.1.3 Sunstrand Hydrostatics or Equal.

3.1.9.1.2 Hydraulic Oil Light-Weight (AW32):

3.1.9.1.2.1 For use when outside temperature is generally below 32-degrees Fahrenheit.

**REQUEST FOR QUOTATION
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(OIL19)
Statewide Contract for Oils, Lubricants & Grease**

3.1.9.1.3 Hydraulic Oil Medium-Weight (AW46):

3.1.9.1.3.1 For use when outside temperature is generally between 32-100 degrees Fahrenheit.

3.1.9.1.4 Hydraulic Oil Heavy-Weight (AW68):

3.1.9.1.4.1 For use in some systems where ambient temperatures are generally higher and/or when heavier weight products are recommended.

3.1.9.1.5 HYDRAULIC OIL REQUIREMENTS:

3.1.9.1.5.1 Manufactured to meet or exceed manufacturers hydraulic requirements.

3.1.9.1.5.2 Shall not produce deleterious effects on neoprene, leather, or other seals used in hydraulic systems.

3.1.9.1.5.3 Shall contain corrosion, oxidation, anti-wear and foam inhibitors to protect the hydraulic system. This shall include but not limited to pump, motor, and valves.

3.1.9.1.5.4 Minimum viscosity index for all hydraulic oil shall be 95.

3.1.9.1.5.5 Hydraulic oil shall be tested per ASTM D2619 and approved.

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3.1.10 CATAPILLAR HYDRUALIC OIL:

3.1.10.1 Cat Hydro Advanced 10 or Equal:

3.1.10.1.1 Must meet minimum requirements for all CAT Machine Hydraulic Systems.

3.1.10.1.2 Must meet minimum oxidation stability per ASTM D943.

3.1.10.1.3 Must have a minimum viscosity index of 114 per ASTM D2270.

3.1.10.1.4 SAE Viscosity grade IOW.

3.1.11 TRANSMISSION FLUID:

3.1.11.1 Dexron II – Mercon or Equal:

3.1.11.1.1 This automatic transmission fluid shall be suitable for use in any application where conventional ATF is specified.

3.1.11.1.2 1T0-4 Fluids:

3.1.11.1.2.1 Must meet CAT T0-4 requirements.

3.1.11.1.2.2 Must meet Allison C-4 requirements.

3.1.11.1.2.3 Must provide rust corrosion control, oxidation stability, foam resistance, and elastomer compatibility.

3.1.11.1.3 Dexron III, Mercon, Mercon V, ATF+3, & ATF+4 or Equal:

3.1.11.1.3.1 This automatic transmission fluid shall be suitable for use in any application where multi-vehicle ATF is specified.

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3.1.11.1.4 Dexron VI or Equal:

3.1.11.1.4.1 ATF meeting GM specifications or equal.

3.1.11.1.5 TES-295 Allison Fluid BP Autran or Equal:

3.1.11.1.5.1 ATF must meet Allison specifications or equal.

3.1.11.1.6 Motorcraft Mercon LV or Equal:

3.1.11.1.6.1 ATF must meet Ford Motor Company specifications.

3.1.11.1.6.2 Minimum Viscosity index must be 155.

3.1.11.1.7 Motorcraft Mercon SP or Equal:

3.1.11.1.7.1 ATF must meet Ford Motor Company specifications.

3.1.11.1.7.2 Minimum Viscosity index must be 155.

3.1.11.1.8 Valvoline CVT Fluid or Equal:

3.1.11.1.8.1 Must be formulated with premium synthetic base stocks, long-life friction modifiers, anti-wear additives and shear stable viscosity modifiers.

3.1.11.1.8.2 Minimum Viscosity @ 100-degrees Celsius must be 7.2.

3.1.11.1.8.3 Must meet all major automobile (i.e. Ford, Chrysler, GM, Toyota, etc.) manufacturers specifications for belt and chain driven continually variable transmissions (CVT) and will not void vehicle warranties.

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3.1.12 COMBINATION FLUID (Universal Tractor Hydraulic/Transmission Oil):

3.1.12.1 HY-GUARD OIL or Equal.

3.1.12.2 Minimum Viscosity @ 40-degree Celsius must be ISO grade 46.

3.1.12.3 Must meet the minimum manufacturer requirements for farm equipment, off highway machinery, and industrial tractor transmissions, final drives, wet brakes, and hydraulics when supplied from a common fluid reservoir.

3.1.12.3.1 This fluid shall meet or exceed all of the manufacturer requirements for John Deere J20A, John Deere J20C, Allis Chalmers 257541, Massey Ferguson Permatran III, White Equipment Q-1722, and Ford M2C134A, or Equal.

3.1.13 RAILROAD DIESEL ENGINE OIL:

3.1.13.1 Must be generation 4 SAE40 oil as designated by (LOMA) EMD approved.

3.1.14 SYNTHETIC MULTIPURPOSE GEAR LUBRICANT:

3.1.14.1 API Service Category GL-5.

3.1.14.2 SAE Viscosity grade 75W90.

3.1.14.2.1 DANA SHADES 256, REV.C, EATON E500, MACK GO-J PLUS, or Equal.

3.1.14.3 SAE Viscosity grade 80W140.

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(OIL19)
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**3.1.14.3.1 DANA SHADES 256, ARVIN
MERITOR O-76, MACK GO-J or
Equal.**

3.1.14.4 Shall be manufactured from synthesized hydrocarbon base oils and a sulfur phosphorus gear lubricant additive package.

3.1.14.5 Must meet manufacturers minimum requirements for farm equipment, off highway machinery, and industrial tractors.

3.1.15 FORMULATED GEAR OIL (Limited-Slip Gear Lubricant):

3.1.15.1 API Service Category GL-5.

3.1.15.2 SAE Viscosity grade 80W90.

3.1.15.3 Must contain rust, corrosion, anti-wear and foam inhibitors.

3.1.16 55 GALLON DRUMS:

3.1.16.1 All drums shipped become the property of the ordering agency and cannot be invoiced separately for deposits or credits.

3.1.16.2 Vendor should include the price of the drum into their Unit Price cost for each commodity item shipped in drum packaging.

3.1.16.2.1 If an Agency desires to return any drum purchased when empty, the vendor may pick up the drum at no charge to the agency if the vendor desires.

3.1.16.3 See Section 6.1 for additional drum requirements.

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4. CONTRACT AWARD:

- 4.1 Contract Award:** The Contract is intended to provide Agencies with a purchase price on all Contract Items. The Contract shall be awarded to the Vendor that provides all Contract Items meeting the required specifications for the lowest overall Grand Total Cost as shown on the Pricing Pages.
- 4.2 Pricing Pages:** Vendor should complete the Exhibit_A Pricing Pages by entering the Manufacturer, Brand Name, and Unit Price into the correct boxes and complete the vendor information at the bottom of the pricing page. The Exhibit_A Pricing pages are formatted to automatically calculate the Extended Price and Grand Total Cost when the Unit Price is entered. However, it is the vendors responsibility to ensure the calculations for their bid is correct before submitting. In the event of an error, the Unit Price shall prevail. The Purchasing Division may correct errors at its discretion. Vendor should complete the Pricing Pages in their entirety as failure to do so may result in Vendor's bids being disqualified.

If submitting in wvOasis, vendor should download the Exhibit_A Pricing pages and complete then upload as an attachment to their bid.

If responding on paper, vendor should download the Exhibit_A Pricing pages, complete, then print and attach with their bid submission.

The Pricing Pages contain a list of the Contract Items and estimated purchase volume. The estimated purchase volume for each item represents the approximate volume of anticipated purchases only. No future use of the Contract or any individual item is guaranteed or implied.

Vendor should electronically enter the information into the Pricing Pages through wvOASIS, if available, or as an electronic document.

5. ORDERING AND PAYMENT:

- 5.1 Ordering:** Vendor shall accept orders through wvOASIS, regular mail, facsimile, e-mail, or any other written form of communication. Vendor may, but is not required to, accept on-line orders through a secure internet ordering portal/website. If Vendor has the ability to accept on-line orders, it should include in its response a brief description of how Agencies may utilize the on-line ordering system. Vendor shall ensure that its on-line ordering system is properly secured prior to processing Agency orders on-line.

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Spending Units (Agencies) shall process release orders through WVOasis using Agency delegated release orders (ADO).

Minimum orders shall be \$100.00 and shipped FOB Destination. Orders less than \$100.00 may be obtained by the Agency using proper purchasing procedures.

5.2 Payment: Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia.

6. DELIVERY AND RETURN:

6.1 Delivery Time: Vendor shall deliver standard orders within seven (7) calendar days after orders are received (ARO). Vendor shall deliver emergency orders within three (3) calendar days after orders are received. Vendor shall ship all orders in accordance with the above schedule and shall not hold orders until a minimum delivery quantity is met.

DRUMS: All Drums furnished shall be labeled as required by OSHA for hazardous materials. Material Safety Data Sheets (MSDS) shall be furnished in accordance with the current federal and state laws and requirements concerning hazardous chemicals to the ordering Agency. MSDS must be submitted and shipped with the product ordered.

A packing slip must accompany all shipments. All drums must be sealed and shipped on a two-way, non-refundable pallet.

6.2 Late Delivery: The Agency placing the order under this Contract must be notified in writing if orders will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the delayed order, and/or obtaining the items ordered from a third party.

Any Agency seeking to obtain items from a third party under this provision must first obtain approval of the Purchasing Division.

6.3 Delivery Payment/Risk of Loss: Standard order delivery shall be F.O.B. destination to the Agency's location. Vendor shall include the cost of standard order delivery charges in its bid pricing/discount and is not permitted to charge the Agency separately for such delivery. The Agency will pay delivery charges on all emergency orders provided that Vendor invoices those delivery costs as a separate charge with the original freight bill attached to the invoice.

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(OIL19)**

Statewide Contract for Oils, Lubricants & Grease

- 6.4 Return of Unacceptable Items:** If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.
- 6.5 Return Due to Agency Error:** Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

7. VENDOR DEFAULT:

7.1 The following shall be considered a vendor default under this Contract.

- 7.1.1** Failure to provide Contract Items in accordance with the requirements contained herein.
- 7.1.2** Failure to comply with other specifications and requirements contained herein.
- 7.1.3** Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.
- 7.1.4** Failure to remedy deficient performance upon request.

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(OIL19)

Statewide Contract for Oils, Lubricants & Grease

7.2 The following remedies shall be available to Agency upon default.

7.2.1 Immediate cancellation of the Contract.

7.2.2 Immediate cancellation of one or more release orders issued under this Contract.

7.2.3 Any other remedies available in law or equity.

8. MISCELLANEOUS:

8.1 **No Substitutions:** Vendor shall supply only Contract Items submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.

8.2 **Vendor Supply:** Vendor must carry sufficient inventory of the Contract Items being offered to fulfill its obligations under this Contract. By signing its bid, Vendor certifies that it can supply the Contract Items contained in its bid response.

8.3 **Reports:** Vendor shall provide quarterly reports and annual summaries to the Agency showing the Agency's items purchased, quantities of items purchased, and total dollar value of the items purchased. Vendor shall also provide reports, upon request, showing the items purchased during the term of this Contract, the quantity purchased for each of those items, and the total value of purchases for each of those items. Failure to supply such reports may be grounds for cancellation of this Contract.

8.4 **Contract Manager:** During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager: Gary Sweeney
Telephone Number: 304-482-0173
Fax Number: 866-231-4639
Email Address: gsweeney@apollooil.com



***ITASCA OUTDOORS
2-Cycle Engine Oil***

Warren Oil Company

Product Data Sheet

Itasca Outdoors 2-Cycle Engine Oil is specifically formulated for 2-cycle engines such as motorbikes, scooters, lawnmowers, pumps, garden tractors, chain saws and string trimmers.

Benefits

- Meets the requirements of JASO FB
- Low Ash content
- Contains anti-scuffing compounds for extra protection
- Mixes readily with gasoline
- Dyed for easy identification
- Provides rust and corrosion protection

Follow manufacturer's recommended mix: For 16-to-1 proportions mix 8 oz. with one gallon of gasoline. For 32-to-1 proportions mix 8 oz. with two gallons of gasoline. For 50-to-1 proportions mix 8 oz. with three gallons of gasoline. To mix, partially fill clean can with gasoline and add correct amount of Itasca Outdoor 2-Cycle Engine Oil. Shake well, then add remainder of gasoline to achieve proper proportions.

Typical Characteristics

**ITASCA
Outdoor 2-Cycle Oil**

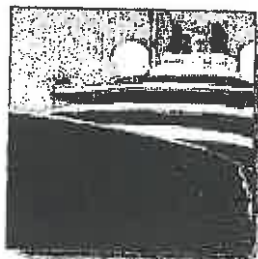
Gravity, API	0.8937
Pound per gallon	7.45
Viscosity (typical)	
@40 Deg. C, cSt	67.5
@100 Deg. C, cSt	8.3
Viscosity Index	90
Pour Point Deg. F	-20
Calcium Content, ppm	170
Appearance	Green

Warren Oil Company, Inc.

*Dunn, NC 28334; Benton, AL 36758; San Antonio, TX 78210;
Marion, IL 62959; Johnstown, PA 1590; West Memphis, AR 72303*

Marine-Terrain 2-Cycle Oil

A premium quality 2-cycle engine oil designed for use in air and water-cooled 2-cycle engines with and without oil injection.



Applications include:

- Outboards, snowmobiles, motorcycles, lawn mowers, snow blowers, and others.

Solvent treated for easy mixing and dyed for identification in gasoline. Meets NMMA TC-W3[®]. Also suitable for TC[®], TC-W[®] and TC-WII[®].

Typical Properties

Color	Green
Gravity, °API	30.1
Viscosity, cSt @ 40° C	44.4
cSt @ 100° C	8.3
Viscosity Index	165
Flash Point, °C	95
Pour Point, °C Max	-46

Available in: Bulk Transport/55 Gallon/1 Quart



MAG 1® SAE 30 MOTOR OIL

CONVENTIONAL MOTOR OIL PASSENGER CAR MOTOR OIL



MAG 1® SAE 30W Motor Oil is formulated for older vehicles and/or high-temperature climates, if thicker oil is preferred.

- Reduced friction for excellent protection against engine wear.
- High resistance to viscosity and thermal breakdown.

MAG 1® SAE 30 MOTOR OIL FEATURING *EVOLUTIONARY PERFORMANCE™*

MAG 1® with FMX® Technology – Friction Management for Xtreme protection™ provides these benefits:

PERFORMANCE

- Outstanding control of friction and wear.

STRENGTH

- Provides a strong oil film to protect rotating engine parts, even under extreme stress conditions.

DURABILITY

- Stands up to the heat and shearing so it extends oil life.

APPLICATIONS

- Formulated to meet all API, SN, SM, and SL requirements.

INDUSTRY/OEM SPECIFICATIONS

Approved
Approved
Meets Requirements
Meets Requirements
Meets Requirements

TYPICAL PROPERTIES

ASTM D5185	0.018
ASTM D5185	0.132
ASTM D1500	3
ASTM D92	210
ASTM D92	410
ASTM D892 (Opt. A)	0/0
ASTM D892 (Opt. A)	0/0
ASTM D892 (Opt. A)	0/0
ASTM D287	29.85
ASTM D6082 (Opt. A)	10/0
ASTM D5481	3.38
ASTM D5185	0.043
ASTM D5185	0.004
ASTM D4629	0.086
ASTM D6375	8.1
ASTM D5185	0.077
ASTM D5950	-33°C (-27°F)
ASTM D4052	0.877
ASTM D874	0.92
ASTM D4851	0.3
ASTM D2896	7.0
ASTM D445	10.94
ASTM D446	87.96
ASTM D2270	110
ASTM D5185	0.085

4/5/2019

<https://mag1.com/products/49/pds/>

CONTAINER/BULK AVAILABILITY

Product Number - 64877

Product Number - 00402

Product Number - 61848

Available in Bulk

Information accurate as of April 4, 2019

MAG 1® PREMIUM CONVENTIONAL 15W-40 CK-4 HEAVY DUTY DIESEL ENGINE OIL

PREMIUM CONVENTIONAL HEAVY DUTY DIESEL ENGINE OIL HEAVY DUTY ENGINE OIL



Featuring MAG 1® with FMX® Technology – Friction Management for Xtreme protection™. Delivers unsurpassed protection when thicker oil is preferred or recommended by the OEM.

MAG 1® Premium Conventional 15W-40 CK-4 is technologically advanced heavy duty diesel engine oil that provides outstanding performance, including the following benefits:

- Recommended for use in a wide range of heavy-duty applications and operating environments found on and off highway, including engines operating under heavy loads.
- Meets or exceeds the requirements of OEMs.
- Backward compatible with diesel engines in which the API CJ-4, CI-4, CI-4 Plus and CH-4 service categories are recommended.

ENGINEERING AND INNOVATION FOR EXTRA PROTECTION

MAG 1® with FMX® Technology provides unsurpassed protection in every viscosity. FMX Technology creates a strong, durable and high-performing level of protection that controls friction and reduces metal-to-metal contact.

Our advanced oil technology actually improves oil properties over time, retaining viscosity, friction and anti-wear benefits, even in today's hotter engines. This is exactly the kind of protection called for in today's engines that deliver greater horsepower and better fuel economy.

PREMIUM CONVENTIONAL HEAVY DUTY DIESEL ENGINE OIL FEATURING FMX® TECHNOLOGY AND EVOLUTIONARY PERFORMANCE™

The latest MAG 1 Heavy Duty Diesel Engine Oils are specially engineered and formulated to provide:

PERFORMANCE

Unsurpassed protection.

- **FMX Technology.** Provides unsurpassed protection and performance.

STRENGTH

Up to 53% better wear protection.¹

- **Enhanced friction reduction.** MAG 1 provides a very strong oil film to prevent metal-to-metal contact between rotating parts, delivering up to 53% better wear protection.²
- **Unsurpassed wear protection.** The latest generation API CK-4 MAG 1 engine oils provide increased protection against harmful engine and bearing wear due to cavitation, because they improve oil aeration.

DURABILITY

Up to 83% better oxidation control.¹

Up to 63% better deposit control.¹

- **Better oxidation and deposit control.** FMX Technology stands up to high heat and stress to protect as well on the last day as it does on the first day. Up to 83% better oxidation control and 63% better deposit control.³
- **Formulated with higher starting TBN (10).** Provides added oxidation control and protection against acid buildup that can cause rust and corrosion.

¹ Compared to new limits of API CK-4 requirements.

² To measure friction reduction benefits, engineers used the bell-on-disk traction test.

³ Compared to new limits of API CK-4 requirements.

APPLICATIONS

- For naturally aspirated and turbocharged four-stroke diesel engines in which the API CK-4 service category is recommended.
- It is backward compatible for CJ-4 and older API service categories.
- Approved by or meets requirements of major OEMs such as Cummins, Detroit Diesel, Mack/Volvo, Paccar, Navistar, Caterpillar, and others.

INDUSTRY/OEM SPECIFICATIONS

API CK-4	Approved
API SN	Approved
Cummins 2006	Approved
Detroit Diesel 93K222	Approved
Ford WSS-M2C171-F1	Approved
Mack EOS-4.5	Approved
Renault RLD-4	Approved
Volvo VDS-4.5	Approved
ACEA E9, E7, E4, E2	Approved
API CI-4 Plus, CI-4, CH-4, CG-4, CF-2, CF	Meets Requirements
	Meets Requirements

API CJ-4	Meets Requirements
API SJ, SH, SG, SF	Meets Requirements
API SL	Meets Requirements
API SM	Meets Requirements
CAT ECF-3, ECF-2, ECF-1-a	Meets Requirements
Chrysler/Fiat MS-10982	Meets Requirements
CID A-A-52306, MIL-PRF-2104G	Meets Requirements
Cummins CES 20081, 20077, 28876	Meets Requirements
Detroit Diesel 83K218, 93K215, 93K214	Meets Requirements
Ford WSS-M2C171-E	Meets Requirements
Global DHD-1	Meets Requirements
JASO DH-2	Meets Requirements
Meck ED-D Premium Plus, ED-N Premium Plus 03, ED-M Plus, and prior	Meets Requirements
MAN 3275, 270	Meets Requirements
MAN 3575	Meets Requirements
MB 228.3, 228.31	Meets Requirements
MTU 2.1	Meets Requirements
MTU Type I, Type II	Meets Requirements
Voive VDS-4, 3, 2	Meets Requirements
CAT TD-2	Meets Requirements
Allison C-4	Suitable for use
	Suitable for Use

TYPICAL PROPERTIES

Calcium, wt. %	ASTM D5185	0.105
Cold Cranking Simulator at (°C), cP	ASTM D5293	5832 (-20)
Color	ASTM D1500	3
Flash Point °C	ASTM D92	224
Flash Point °F	ASTM D92	435
Gravity, °API	ASTM D287	30.10
High Temperature / High Shear Visc at 150°C, cP	ASTM D5481	4.2
Magnesium, wt. %	ASTM D5185	0.1
Molybdenum, wt. %	ASTM D6185	0.0086
Nitrogen, wt. %	ASTM D4629	0.105
Noack Volatility, % loss	ASTM D6375	10
Phosphorus, wt. %	ASTM D5185	0.116
Pour Point °C (°F)	ASTM D5950	-36°C (-33°F)
Pumping Viscosity at (°C), cP	ASTM D4684	20,000 (-25)
Specific Gravity @ 60°F (15.6°C)	ASTM D4052	0.8758
Sulfated Ash, wt. %	ASTM D974	0.99
Sulfur, wt. %	ASTM D4951	0.32
TBN, mgKOH/g	ASTM D2898	10
Total Acid Number, mgKOH/g	ASTM D684	2.8
Viscosity @ 100°C cSt	ASTM D446	15.58
Viscosity @ 40°C cSt	ASTM D446	116.2
Viscosity Index	ASTM D2270	141
Zinc, wt. %	ASTM D5185	0.127

CONTAINER/BULK AVAILABILITY

5 Gallon Pail	Product Number - 67980
6/1 Quart - Not for sale in US	Product Number - 69081
5 Gallon Pail - Not for sale in US	Product Number - 84257
2/2.5 Gallon	Product Number - 61170
6 Gallon Enviro Box®	Product Number - 68280
3/1 Gallon	Product Number - 62631
330 Gallon Tote	Product Number - 67985
55 Gallon Drum	Product Number - 67983
3/1 Gallon - Not for sale in US	Product Number - 84255
6/1 Quart	Product Number - 61658
3/4 Liter	Product Number - 63583

Available in Bulk

Information accurate as of April 4, 2019

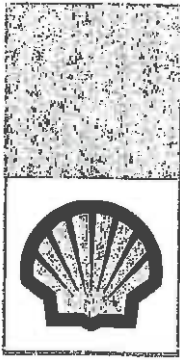


PRODUCT DATA SHEET
Compass Heavy Duty Diesel Motor Oil

COMPASS HEAVY DUTY DIESEL 15W40 MOTOR OIL is specifically engineered to meet the latest requirements for EGR / EGP engines. 15W-40 meets or exceeds API CK-4/SN, and is backwards compatible with CJ-4, CI-4 PLUS, CI-4 and CH-4. 10W-30 meets or exceeds API CK-4, and is designed to maximize fuel economy in today's current engine. Both oils meet MACK EOS-4.5, EO-0 Premium Plus, EO-N, Volvo VDS-4.5, VDS-4, VDS-3, Caterpillar ECF-3, ECF-2, Cummins CES20086, CES 20081, CES 20087, DD DFS, 93K222, DFS 93K218, DFS 93K233, Daimler MB 228.31, MTU Category 2.1 and Renault RLD-4, RLD-3.

Typical Characteristics:	
	15W-40
API Service	CK-4/SN
Kinematic Viscosity	
cSt @ 40°C	113.9
cSt @ 100°C	15.6
Viscosity Index	145
CCS Viscosity	
cP @ -20°C	5,500
HTHS Viscosity cP	4.2
Flash Point, °C	226
Pour Point, °C	-33
Color (ASTM)	L 4.0
Specific Gravity @ 15°C (60°F)	.0869
TBN	10
Sulfated Ash, wt%	1.0

Note: Values shown above are representative of current production and may vary within modest ranges.



SHELL ROTELLA® T5 ULTRA 10W-30

ALL THE HARD WORK YOU EXPECT, ONLY BETTER

The next generation of heavy duty diesel engine oils is here. Engine manufacturers sought a new diesel engine oil that would provide improved fuel economy over existing oils. The API FA-4 performance standard requires the oil to be blended to a thinner viscosity, which helps improve fuel economy and lower emissions*. Shell ROTELLA® T5 Ultra 10W-30 meets and exceeds the new performance standard without sacrificing engine protection.

* Compared to CK-4 heavy duty engine oils

Main Applications



Shell ROTELLA® T5 Ultra 10W-30 is suitable for use in 2017 as well as some later model engines **allowing** an API FA-4 diesel oil in this viscosity. Some engine manufacturers do not yet approve the use of API FA-4 engine oils, while some allow limited backwards compatibility to earlier model year engines. Check with your original equipment manufacturer regarding the use of API FA-4 diesel oil.

About Triple Protection Plus™

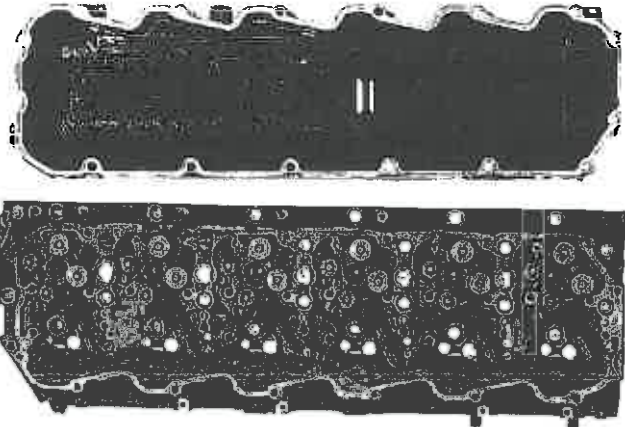
Hardworking diesel engines need a heavy-duty oil that works just as hard. Shell ROTELLA® T5 Ultra 10W-30 with Triple Protection Plus™ technology is designed to provide modern diesel engines with hardworking protection that adapts to virtually any driving condition. Triple Protection Plus™ is the unique combination of Triple Protection® - advanced additive technology and synthetic base oils. Triple Protection Plus™ represents protection against wear, deposits, oil breakdown plus better fuel economy performance. This unique combination helps to deliver excellent equipment protection, long engine life and maintain viscosity control under high temperatures.



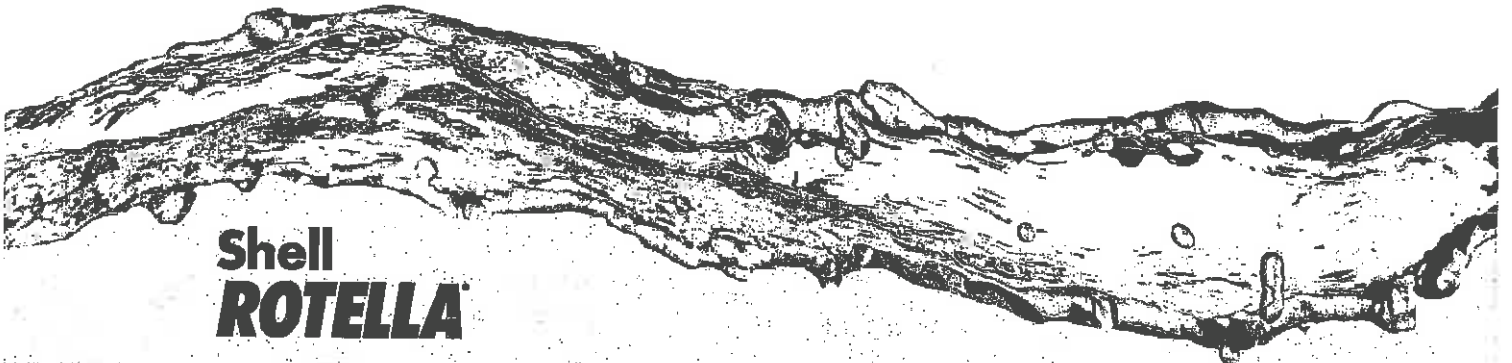
Delivers savings without compromising protection

Shell ROTELLA® T5 Ultra 10W-30 with Triple Protection Plus™ provides enhanced fuel savings compared to a conventional SAE 15W-40 oil. It can help you save on fuel but without sacrificing wear protection. Wear protection is critical to prolonging engine life and Shell ROTELLA® T5 Ultra 10W-30 delivers an average result across all the API FA-4 and OEM tests that is 32.5% of the respective limit. So customers can expect excellent wear protection while saving on fuel.

Shell Lubricants goes beyond the lab to test products in the field where they will actually be used by our customers. Field trials further demonstrated the excellent deposit control seen in the lab.



These pictures are from a Cummins ISX engine with 460,913 miles running Shell ROTELLA® T5 Ultra 10W-30. The valve deck received a rating of 9.72 and the Rocker Cover a rating of 9.74 with 10 being clean.



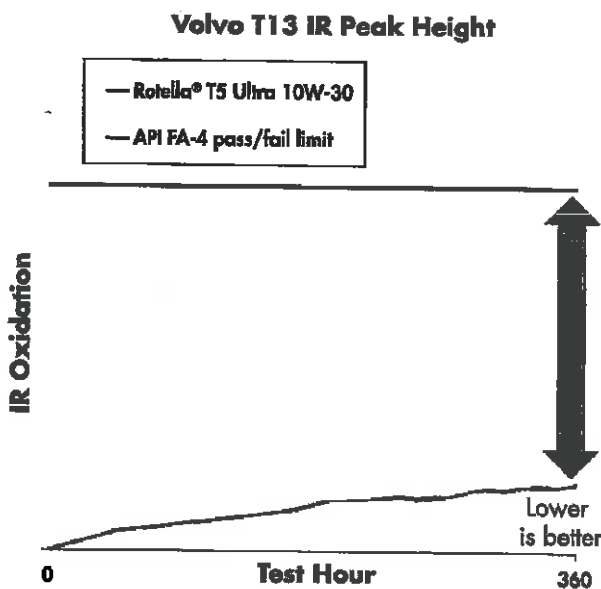
Shell ROTELLA

The Engine Oil That Works As Hard As You™

ADDITIONAL SHELL ROTELLA® T5 ULTRA PERFORMANCE, FEATURES AND BENEFITS:

Oxidation Protection

Shell ROTELLA® T5 Ultra 10W-30 performs outstanding in API and OEM oxidation tests: resisting oxidative thickening, delivering results that far exceed the maximum allowable thickening. This demonstrates the ability to control harmful acid buildup which can cause corrosive wear in the engine. In addition, strong oxidation protection means better viscosity control, which helps maintain fuel economy. If the oil is not thickening up, then the fuel economy performance will be better maintained throughout the oil drain. It also helps prevent deposits in the engine and maintain engine cleanliness, which can prolong engine life.



Exceptional oil consumption control

Shell ROTELLA® T5 Ultra 10W-30 with Triple Protection Plus™ has been formulated to minimize and control oil consumption and help reduce the need for oil top off.

Low emissions for 2017 and beyond

Shell's exclusive ROTELLA® T5 Ultra low ash formulation helps protect the exhaust catalysts and particulate filters found on 2017 and beyond on-highway low emission vehicles. It meets the requirements of all of the major U.S. and European engine manufacturers for low emission applications requiring an API FA-4 quality diesel oil.

Our Complementary Range

In addition to a full range of Shell ROTELLA® heavy duty engine oils, Shell Lubricants offers a complete portfolio of lubricants for every part of your equipment, including Shell SPIRAX® gear/axle oils and transmission fluids, Shell GADUS® greases, Shell ROTELLA® ELC Extended Life Coolant/Antifreeze, and Shell HD Antifreeze/Coolant.

For more information, contact your local Shell Lubricants Representative or visit www.rotella.com or www.shell.ca/rotella in Canada

OEM SPECIFICATIONS AND APPROVALS

SAE 10W-30
API FA-4 Cummins CES 20087 Detroit Diesel Fluid Specification (DFS) 93K223

PRODUCT MATERIAL CODE & PACKAGE SIZE

PRODUCT	3 * 1 GALLON JUG/3 * 3 LITRE JUG	55 GALLON DRUM	BULK
US	550046254	550046249	500010121
Canada	550046250	550046249	500010121

The term 'Shell Lubricants' collectively refers to individual Shell Group companies engaged in the lubricants business throughout the world. These are separate and distinct entities. The collective expressions 'Shell' and 'Shell Lubricants' may be used herein for convenience where reference is made in general to those companies or where no useful purpose is served by identifying any particular company or companies.



PRODUCT DATA SHEET
Compass Heavy Duty Motor Oil

COMPASS HDMOs are SAE Single-Grade crankcase oils formulated for diesel and gasoline engines. These oils are blended from selected and highly refined base stocks. They are compounded with detergents, dispersants, wear control elements, anti-oxidants, corrosion inhibitors, and a foam suppressant additive.

Recommended for all major automotive diesel and four-cycle gasoline engines in all services and under all operating conditions. SAE grades 30, 40, and 50 meet former API Service Classifications CF, CF-2. SAE Grades 10W and 20W meet former API Service Classification CF. All comply with obsolete API classifications CD, CD-II, CE. These products meet the performance requirements of MIL-PRF-2104G (SAE 10W, 30, 40), MIL-L-46152D and conform to all major automobile manufacturers' and automotive/truck diesel engine builders' requirements, including Caterpillar, Cummins, Detroit Diesel-Allison, and Mack Truck. SAE 10W thru SAE 30 meet the Allison Type C-3, C-4 transmission performance requirements recommended for hydraulic systems.

[Do not use in EMD Diesel Engines (railroad, marine) which requires oil with <10 ppm zinc content].

Typical Characteristics:		
	10	30
Specific Gravity @ 15.6°C (60°F)	27.9	26.5
Viscosity		
cSt @ 40°C	42	114
cSt @ 100°C	6.5	11.8
SUS @100°F	210	560
SUS @210°F	48	65
Viscosity Index	+90	+90
Flash Point, °F	+400	+435
Pour Point, °F	-25	-5
TBN-E, Neut. No.	7.5	7.5
Ash %wt.-Sulfated	<1.0	<1.0
Zinc Content, ppm	<10	

Note: Values shown above are representative of current production and may vary within modest ranges.

MAG 1® FULL SYNTHETIC 0W-20 MOTOR OIL

FULL SYNTHETIC MOTOR OIL PASSENGER CAR MOTOR OIL



MAG 1 Full Synthetic 0W-20 Motor Oil is our purest and most advanced formulation for the best fuel mileage performance. It delivers unsurpassed protection and performance, including the following benefits:

- MAG 1 Full Synthetic 0W-20 Motor Oil meet or exceed GM dexos1™ Gen 2 specifications for worldwide warranty requirements for all GM automotive gasoline engines currently in use. The oils are fully licensed by GM.
- Engineered to improve fuel mileage and to maximize horsepower and acceleration.
- Longer and better engine protection than conventional oils due to strong and uniform synthetic base oils and advanced molecules that provide a strong film barrier to control friction, resist wear and keep metal surfaces from coming into contact.
- Created for extreme hot and cold driving conditions: stop and go, frequent short trips, heavy loads and dusty conditions.
- Meets or exceeds dexos1™ Gen 2, API SN Plus and ILSAC GF-5 requirements.

FORMULATED FOR TODAY'S ENGINE DESIGNS

OEMs continue to evolve engine designs that demand more from motor oil. One brand has evolved right alongside – MAG 1®. It provides unsurpassed protection, even in our lightest viscosities. Protects better than the thick oils of the past.

UNSURPASSED PROTECTION, EVEN IN THE LIGHTEST VISCOSITY

MAG 1® with FMX® Technology provides unsurpassed protection in every viscosity. Even our lowest viscosity oils protect better than thick oils of the past. Our advanced oil chemistry actually improves oil properties through time, retaining viscosity, friction and anti-wear benefits, in spite of severe engine temperatures.

FULL SYNTHETIC MOTOR OIL FEATURING *EVOLUTIONARY PERFORMANCE™*

MAG 1® with FMX® Technology – Friction Management for Xtreme protection™ provides these benefits:

PERFORMANCE

Controls friction and wear more than 80% better than the latest API requirements.¹

- Improved fuel economy. Reduces fuel costs without sacrificing engine protection and performance. Also improves acceleration.
- Extended oil drain intervals.
- Engineered to handle the most extreme conditions.
- 100% pure synthetic oils. Contains uniform molecules that provide the best, longest-lasting engine protection and performance.

STRENGTH

Provides a strong oil film to avoid metal-to-metal contact, even under extreme stress.

- Unsurpassed wear protection. Advanced molecules bond together to avoid metal-to-metal contact of rotating engine parts.
- Enhanced friction reduction. MAG 1 oils react to heat to produce a critical friction-reducing barrier that protects metal surfaces.²

DURABILITY

Stands up to the heat and shearing so it extends oil life.

- Stands up to the heat and shearing so it extends oil life.

¹ Based on Sequence IV Wear test.

² To measure friction reduction benefits, engineers used the ball-on-disk traction test.

APPLICATIONS

- Gasoline-fueled and flex-fuel passenger cars, light trucks and sport utility vehicles, including gasoline-electric hybrids, especially when operating under severe conditions.
- Formulated to protect turbochargers and emission control system catalysts.
- Formulated for use in vehicles operating on ethanol-containing fuels up to E85.

INDUSTRY/OEM SPECIFICATIONS

API SN	Approved
API SN Plus	Approved
dexos1™ Gen2	Approved
ILSAC GF-5	Approved
API SJ, SH, SG, SF	Meets Requirements
API SL	Meets Requirements
API SM	Meets Requirements
Chrysler MS-6395	Meets Requirements
GM 4718M	Meets Requirements
GM 6094M	Meets Requirements
ILSAC GF-4	Meets Requirements

TYPICAL PROPERTIES

Boron, wt. %	ASTM D5185	0.023
Calcium, wt. %	ASTM D5185	0.135
Cold Cranking Simulator at (-°C), cP	ASTM D5289	5600 (-35)
Color	ASTM D1580	3
Flash Point °C	ASTM D92	226
Flash Point °F	ASTM D92	439
Foam Seq. III (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Foam Seq. II (Tendency/Stability), mL	ASTM D892 (Opt. A)	5/0
Foam Seq. I (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Gravity, °API	ASTM D287	35.66
High Temperature Fouling, static foam	ASTM D6082 (Opt. A)	20/0
High Temperature / High Shear Vis at 100°C, cP	ASTM D6616	5.76
High Temperature / High Shear Vis at 150°C, cP	ASTM D5491	2.7
Magnesium, wt. %	ASTM D5185	0.059
Molybdenum, wt. %	ASTM D5185	0.0079
Nitrogen, wt. %	ASTM D4829	0.104
Nonack Volatility, % loss	ASTM D6375	13
Phosphorus, wt. %	ASTM D5185	0.076
Pour Point °C (°F)	ASTM D5950	-45°C (-49°F)
Pumping Viscosity at (-°C), cP	ASTM D4684	21,000 (-40)
Shear Stability, Final Viscosity in cSt	ASTM D6278	7.5
Specific Gravity @ 60°F (15.6°C)	ASTM D4052	0.8465
Sulfated Ash, wt. %	ASTM D874	0.8
Sulfur, wt. %	ASTM D4951	0.3
TBN, mgKOH/g	ASTM D2696	7.9
Viscosity @ 100°C cSt	ASTM D445	8.475
Viscosity @ 40°C cSt	ASTM D445	44.58
Viscosity Index	ASTM D2270	170
Zinc, wt. %	ASTM D5185	0.085

CONTAINER/BULK AVAILABILITY

330 Gallon Tote	Product Number - 65832
55 Gallon Drum	Product Number - 65830
6 Gallon Enviro Box*	Product Number - 68077
3/5 Quart	Product Number - 66828
6/1 Quart	Product Number - 61794

Available in Bulk

Information accurate as of April 4, 2019

MAG 1® SYNTHETIC BLEND 5W-20 MOTOR OIL

SYNTHETIC BLEND MOTOR OIL PASSENGER CAR MOTOR OIL



OEMs continue to evolve engine designs that demand more from motor oil. One brand has evolved right alongside – MAG 1®.

Synthetic Blend 5W-20 Motor Oil provides extra protection and peace of mind, compared with conventional oil. It provides unsurpassed protection, even in our lightest viscosities. Protects better than the thick oils of the past.

- MAG 1 resists thermal breakdown and reduces deposit formation for longer, better engine protection than conventional oils.
- Additives work to keep engines clean.
- Provides a strong film barrier to control friction, resist wear and keep metal surfaces from coming into contact.
- Meets or exceeds U.S. and import car and light truck warranty requirements for most automotive gasoline engines currently in use.

SYNTHETIC BLEND MOTOR OIL FEATURING *EVOLUTIONARY PERFORMANCE™*

MAG 1® with FMC® Technology – Friction Management for Xtrame protection™ provides these benefits:

PERFORMANCE

Controls friction and wear more than 85% better than the latest API requirements.¹

- Engineered to handle the most severe or extreme conditions.
- Provides extra protection, compared to conventional oil.

STRENGTH

Provides a strong oil film to avoid metal-to-metal contact, even under extreme stress.

- Unsurpassed wear protection. Advanced molecules bond together to prevent metal-to-metal contact of rotating engine parts.
- Enhanced friction reduction. MAG 1 oils react to heat to produce a critical friction-reducing barrier that protects metal surfaces.²

DURABILITY

Stands up to the heat and shearing so it extends oil life.

- Better oxidation and deposit control. New engine design strategies for some OEMs result in higher operating temperatures and the need for greater protection.
- Retains viscosity and prevents thermal breakdown. The oil excels even in the harshest conditions.

¹ As measured against the Sequence IV Average Cam Wear Limit for API SN.

² To measure friction reduction benefits, engineers used the ball-on-disk traction test.

APPLICATIONS

- Provides extra performance benefits for passenger cars, light trucks and sport utility vehicles; plus new and rebuilt engines.
- Formulated to exceed ILSAC GF-5 performance requirements.

INDUSTRY/OEM SPECIFICATIONS

API SN	Approved
API SN Plus	Approved
ILSAC GF-5	Approved
API SJ, SH, SG, SF	Meets Requirements
API SL	Meets Requirements
API SM	Meets Requirements
Chrysler MS-10797	Meets Requirements
Chrysler MS-6395	Meets Requirements
Ford WSS M2C945-A, M2C930-A, M2C153	Meets Requirements
GM 6894M	Meets Requirements
ILSAC GF-4	Meets Requirements

TYPICAL PROPERTIES

Boron, wt. %	ASTM D5185	0.018
Calcium, wt. %	ASTM D5185	0.132
Cold Cranking Simulator at (°C), cP	ASTM D6253	5550 (-30)
Color	ASTM D1500	3
Flash Point °C	ASTM D92	208
Flash Point °F	ASTM D82	403
Foam Seq. III (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Foam Seq. II (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Foam Seq. I (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Gravity, °API	ASTM D287	33.40

High Temperature Foaming, static foam	ASTM D6082 (Opt A)	30/0
High Temperature / High Shear Vis at 100°C, cP	ASTM D6616	8.01
High Temperature / High Shear Vis at 150°C, cP	ASTM D5481	2.72
Magnesium, wt. %	ASTM D5185	0.043
Niobium, wt. %	ASTM D5185	0.004
Nitrogen, wt. %	ASTM D4629	0.088
Nonck Volatility, % loss	ASTM D6375	14.8
Phosphorus, wt. %	ASTM D5185	0.077
Pour Point °C (°F)	ASTM D6950	-45°C (-49°F)
Pumping Viscosity at (°C), cP	ASTM D4684	23,600 (-35)
Shear Stability, Final Viscosity in cSt	ASTM D6278	7.31
Specific Gravity @ 60°F (15.6°C)	ASTM D4052	0.8581
Sulfated Ash, wt. %	ASTM D874	0.92
Sulfur, wt. %	ASTM D4951	0.3
TBN, mgKOH/g	ASTM D2896	7.0
Viscosity @ 100°C cSt	ASTM D445	9,012
Viscosity @ 40°C cSt	ASTM D445	52.43
Viscosity Index	ASTM D2270	153
Zinc, wt. %	ASTM D5185	0.086

CONTAINER/BULK AVAILABILITY

330 Gallon Tote	Product Number - 65579
55 Gallon Drum	Product Number - 62909
6 Gallon Enviro Box*	Product Number - 65888
3/5 Quart	Product Number - 62941
6/1 Quart	Product Number - 62943

Available in Bulk

Information accurate as of April 4, 2019



PRODUCT DATA SHEET
Compass Synthetic Blend Motor Oil

COMPASS SYNTHETIC BLEND MOTOR OILS are specially formulated with a combination of Group II+ and Group III base oils plus state-of-the art performance additives and are engineered to exceed the demands of turbocharged and high-power, high-efficiency gasoline, propane, and natural gas engines in the latest model passenger cars and light duty trucks. SAE 5W-20 and 5W-30 grades are Resource Conserving motor oils that exceed API service SN and ILSAC Starburst GF-5, as well as older service categories SM, SL, and previous ILSAC categories.

Typical Characteristics:			
	5W-20	5W-30	10W-30
API Service	SN	SN	SN
ILSAC	GF-5	GF-5	GF-5
Kinematic Viscosity			
cSt @ 40°C	51.6	65.7	65.1
cSt @ 100°C	8.8	10.9	10.1
Viscosity Index	150	158	141
CCS Viscosity			
cP @ -30°C	6000	6200	-
cP @ -25°C	-	-	5100
Evaporative Loss, NOACK, wt%	<15	<15	<15
Specific Gravity @ 15.6°C (60°F)	0.858	0.860	0.861
Flash Point, °C	220	220	220
Pour Point, °C	-44	-44	-40
Color (ASTM)	3.0	3.0	3.0
Sulfated Ash, wt%	0.92	0.92	0.92

Note: Values shown above are representative of current production and may vary within modest ranges.

MAG 1® SYNTHETIC BLEND 5W-30 MOTOR OIL

SYNTHETIC BLEND MOTOR OIL PASSENGER CAR MOTOR OIL



OEMs continue to evolve engine designs that demand more from motor oil. One brand has evolved right alongside – MAG 1®.

Synthetic Blend 5W-30 Motor Oil provides extra protection and peace of mind, compared with conventional oil. It provides unsurpassed protection, even in our lightest viscosities. Protects better than the thick oils of the past.

- Resists thermal breakdown and reduces deposit formation for longer, better engine protection than conventional oils.
- Additives work to keep engines clean.
- Provides a strong film barrier to control friction, resist wear and keep metal surfaces from coming into contact.
- Meets or exceeds U.S. and import car and light truck warranty requirements for all automotive gasoline engines currently in use.

SYNTHETIC BLEND MOTOR OIL FEATURING *EVOLUTIONARY PERFORMANCE™*

MAG 1® with FMX® Technology – Friction Management for Xtreme protection™ provides these benefits:

PERFORMANCE

Controls friction and wear more than 65% better than the latest API requirements.¹

- Engineered to handle the most severe or extreme conditions.
- Provides extra protection, compared to conventional oil.

STRENGTH

Provides a strong oil film to avoid metal-to-metal contact, even under extreme stress.

- Unsurpassed wear protection. Advanced molecules bond together to prevent metal-to-metal contact of rotating engine parts.
- Enhanced friction reduction. MAG 1 oils react to heat to produce a critical friction-reducing barrier that protects metal surfaces.²

DURABILITY

Stands up to the heat and shearing so it extends oil life.

- Better oxidation and deposit control. New engine design strategies for some OEMs result in higher operating temperatures and the need for greater protection.
- Retains viscosity and prevents thermal breakdown. The oil excels even in the harshest conditions.

¹ As measured against the Sequence IV Average Cam Wear Limit for API SN.

² To measure friction reduction benefits, engineers used the ball-on-disk traction test.

APPLICATIONS

- Provides extra performance benefits for passenger cars, light trucks and sport utility vehicles; plus new and rebuilt engines.
- Formulated to exceed ILSAC GF-5 performance requirements.

INDUSTRY/OEM SPECIFICATIONS

API SN	Approved
API SN Plus	Approved
ILSAC GF-5	Approved
API SJ, SH, SQ, SF	Meets Requirements
API SL	Meets Requirements
API SM	Meets Requirements
Chrysler MS-6395	Meets Requirements
Ford WSS M2C946-A, M2C929-A	Meets Requirements
GM 6094M	Meets Requirements
ILSAC GF-4	Meets Requirements

TYPICAL PROPERTIES

Boron, wt. %	ASTM D6185	0.018
Calcium, wt. %	ASTM D5185	0.132
Cold Cranking Simulator at (°C), cP	ASTM D5253	6119 (-30)
Color	ASTM D1500	3
Flash Point °C	ASTM D92	215
Flash Point °F	ASTM D92	419
Foam Seq. III (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Foam Seq. II (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Foam Seq. I (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Gravity, °API	ASTM D287	33.32

High Temperature Foaming, static foam	ASTM D6082 (Opt A)	20/0
High Temperature / High Shear Vis at 100°C, cP	ASTM D6616	6.94
High Temperature / High Shear Vis at 150°C, cP	ASTM D5481	3.14
Magnesium, wt. %	ASTM D5185	0.043
Molybdenum, wt. %	ASTM D5185	0.004
Nitrogen, wt. %	ASTM D4628	0.088
Heck Volatility, % loss	ASTM D6375	14.2
Phosphorus, wt. %	ASTM D5185	0.077
Pour Point °C (°F)	ASTM D5950	-45°C (-49°F)
Pumping Viscosity at (°C), cP	ASTM D4984	28,400 (-35)
Shear Stability, Final Viscosity in cSt	ASTM D6278	8.5
Specific Gravity @ 60°F (15.6°C)	ASTM D4052	0.8585
Sulfated Ash, wt. %	ASTM D874	0.92
Sulfur, wt. %	ASTM D4951	0.3
TBN, mgKOH/g	ASTM D2896	7.0
Viscosity @ 100°C cSt	ASTM D445	11.11
Viscosity @ 40°C cSt	ASTM D445	66.92
Viscosity Index	ASTM D2270	159
Zinc, wt. %	ASTM D5185	0.085

CONTAINER/BULK AVAILABILITY

330 Gallon Tote	Product Number - 86580
55 Gallon Drum	Product Number - 80181
6 Gallon Enviro Box®	Product Number - 85667
3/5 Quart	Product Number - 82937
8/1 Quart	Product Number - 81852

Available in Bulk

Information accurate as of April 4, 2019

MAG 1® FULL SYNTHETIC 5W-30 MOTOR OIL

FULL SYNTHETIC MOTOR OIL PASSENGER CAR MOTOR OIL



MAG 1® Full Synthetic 5W-30 Motor Oil is our purest and most advanced formulation. It delivers unsurpassed protection and performance, including the following benefits:

- MAG 1® Full Synthetic 5W-30 Motor Oil meet or exceed GM dexos1™ Gen 2 specifications for worldwide warranty requirements for all GM automotive gasoline engines currently in use. The oils are fully licensed by GM.
- Engineered to improve fuel mileage and to maximize horsepower and acceleration.
- Longer and better engine protection than conventional oils due to strong and uniform synthetic base oils and advanced molecules that provide a strong film barrier to control friction, resist wear and keep metal surfaces from coming into contact.
- Created for extreme hot and cold driving conditions: stop and go, frequent short trips, heavy loads and dusty conditions.
- Meets or exceeds API, SN Plus and ILSAC GF-5 requirements

FORMULATED FOR TODAY'S ENGINE DESIGNS

OEMs continue to evolve engine designs that demand more from motor oil. One brand has evolved right alongside – MAG 1®. It provides unsurpassed protection, even in our lightest viscosities. Protects better than the thick oils of the past.

UNSURPASSED PROTECTION, EVEN IN THE LIGHTEST VISCOSITY

MAG 1® with FMX® Technology provides unsurpassed protection in every viscosity. Even our lowest viscosity oils protect better than thick oils of the past. Our advanced oil chemistry actually improves oil properties through time, retaining viscosity, friction and anti-wear benefits, in spite of severe engine temperatures.

FULL SYNTHETIC MOTOR OIL FEATURING *EVOLUTIONARY PERFORMANCE*™

MAG 1® with FMX® Technology – Friction Management for Xtreme protection™ provides these benefits:

PERFORMANCE

Controls friction and wear more than 80% better than the latest API requirements.¹

- Improved fuel economy. Reduces fuel costs without sacrificing engine protection and performance. Also improves acceleration.
- Extended oil drain intervals.
- Engineered to handle the most extreme conditions.
- 100% pure synthetic oils. Contains uniform molecules that provide the best, longest-lasting engine protection and performance.

STRENGTH

Provides a strong oil film to avoid metal-to-metal contact, even under extreme stress.

- Unsurpassed wear protection. Advanced molecules bond together to avoid metal-to-metal contact of rotating engine parts.
- Enhanced friction reduction. MAG 1 oils react to heat to produce a critical friction-reducing barrier that protects metal surfaces.²

DURABILITY

Stands up to the heat and shearing so it extends oil life.

- Stands up to the heat and shearing so it extends oil life.

¹ Based on Sequence IV Wear test.

² To measure friction reduction benefits, engineers used the ball-on-disk traction test.

APPLICATIONS

- Gasoline-fueled and flex-fuel passenger cars, light trucks and sport utility vehicles, including gasoline-electric hybrids, especially when operating under severe conditions.
- Formulated to protect turbochargers and emission control system catalysts.
- Formulated for use in vehicles operating on ethanol-containing fuels up to E85.

INDUSTRY/OEM SPECIFICATIONS

API SN	Approved
API SN Plus	Approved
dexos1® Gen2	Approved
ILSAC GF-5	Approved
API SJ, SH, SG, SF	Meets Requirements
API SL	Meets Requirements
API SM	Meets Requirements
Chrysler MS-6395	Meets Requirements
Ford WSS M2C946-A, M2C929-A	Meets Requirements
GM 4718M	Meets Requirements
GM 6094M	Meets Requirements
ILSAC GF-4	Meets Requirements

TYPICAL PROPERTIES

Boron, wt. %	ASTM D5185	0.023
Calcium, wt. %	ASTM D5185	0.135
Cold Cranking Simulator at (°C), cP	ASTM D5293	4400 (-30)
Color	ASTM D1500	3
Flash Point °C	ASTM D92	227
Flash Point °F	ASTM D92	441
Foam Seq. III (Tendency/Stability), ml.	ASTM D882 (Opt. A)	0/0
Foam Seq. II (Tendency/Stability), ml.	ASTM D882 (Opt. A)	10/0
Foam Seq. I (Tendency/Stability), ml.	ASTM D882 (Opt. A)	0/0
Gravity, °API	ASTM D287	34.93
High Temperature Foaming, static foam	ASTM D6082 (Opt A)	16/0
High Temperature / High Shear Vis at 100°C, cP	ASTM D6816	6.9
High Temperature / High Shear Vis at 150°C, cP	ASTM D5481	3.2
Magnesium, wt. %	ASTM D5185	0.059
Molybdenum, wt. %	ASTM D5185	0.0079
Nitrogen, wt. %	ASTM D4629	0.104
Noack Volatility, % loss	ASTM D6375	12
Phosphorus, wt. %	ASTM D5185	0.076
Pour Point °C (°F)	ASTM D5950	-45°C (-49°F)
Pumping Viscosity at (°C), cP	ASTM D4684	15,000 (-35)
Shear Stability, Final Viscosity in cSt	ASTM D6278	9.4
Specific Gravity @ 80°F (15.8°C)	ASTM D4052	0.8502
Sulfated Ash, wt. %	ASTM D874	0.6
Sulfur, wt. %	ASTM D4951	0.3
TBN, mgKOH/g	ASTM D2886	7.9
Viscosity @ 100°C cSt	ASTM D445	10.81
Viscosity @ 40°C cSt	ASTM D445	62.09
Viscosity Index	ASTM D2270	169
Zinc, wt. %	ASTM D5185	0.085

CONTAINER/BULK AVAILABILITY

3/4 Liter	Product Number - 67836
3/1 Gallon	Product Number - 69146
6/1 Quart	Product Number - 61790
330 Gallon Tote	Product Number - 65476
55 Gallon Drum	Product Number - 64878
6 Gallon Enviro Box®	Product Number - 65446
3/5 Quart	Product Number - 64193

Available in Bulk

Information accurate as of April 4, 2019

MAG 1® CONVENTIONAL 10W-30 MOTOR OIL

CONVENTIONAL MOTOR OIL PASSENGER CAR MOTOR OIL



MAG 1® Conventional 10W-30 Motor Oil is formulated for older vehicles and/or high-temperature climates, if thicker oil is preferred. It also delivers the following benefits:

- Resists thermal breakdown and reduces deposit formation for longer, better engine protection than conventional oils.
- Additives work to keep engines clean.
- Provides a strong film barrier to control friction, resist wear and keep metal surfaces from coming into contact.

CONVENTIONAL MOTOR OIL FEATURING *EVOLUTIONARY PERFORMANCE™*

MAG 1® with FMX® Technology – Friction Management for Xtreme protection™ provides these benefits:

PERFORMANCE

Controls friction and wear.

- Engineered to handle the most severe or extreme environmental conditions and engine stress.

STRENGTH

Provides a strong oil film to avoid metal-to-metal contact, even under extreme stress.

- Excellent wear protection. Advanced molecules bond together to prevent metal-to-metal contact of rotating engine parts.
- Enhanced friction reduction. MAG 1 oils react to heat to produce a critical friction-reducing barrier that protects metal surfaces.¹

DURABILITY

Stands up to the heat and shearing so it extends oil life.

- Excellent oxidation and deposit control.
- Retains viscosity and prevents thermal breakdown. The oil excels even in the harshest conditions.

¹ To measure friction reduction benefits, engineers used the ball-on-disk traction test.

APPLICATIONS

- Provides performance benefits for passenger cars, light trucks and sport utility vehicles; plus new and rebuilt engines.
- Formulated to exceed ILSAC GF-5 performance requirements.

INDUSTRY/OEM SPECIFICATIONS

API SN	Approved
API SN Plus	Approved
ILSAC GF-5	Approved
API SJ, SH, SG, SF	Meets Requirements
API SL	Meets Requirements
API SM	Meets Requirements
Chrysler MS-8395	Meets Requirements
GM 6094M	Meets Requirements
ILSAC GF-4	Meets Requirements

TYPICAL PROPERTIES

Boron, wt. %	ASTM D5185	0.018
Calcium, wt. %	ASTM D5185	0.132
Cold Cracking Simulator at (°C), cP	ASTM D5283	4000 (-25)
Color	ASTM D1500	3
Flash Point °C	ASTM D92	208
Flash Point °F	ASTM D92	403
Foam Seq. III (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Foam Seq. II (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Foam Seq. I (Tendency/Stability), mL	ASTM D892 (Opt. A)	0/0
Gravity, °API	ASTM D287	32.37
High Temperature Foaming, static foam	ASTM D6082 (Opt. A)	20/0
High Temperature / High Shear Vis at 100°C, cP	ASTM D6816	7.04
High Temperature / High Shear Vis at 150°C, cP	ASTM D5481	3.08
Magnesium, wt. %	ASTM D5185	0.043
Molybdenum, wt. %	ASTM D5185	0.004
Nitrogen, wt. %	ASTM D4825	0.085

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Moack Volatility, % loss	ASTM D6375	14.5
Phosphorus, wt. %	ASTM D5195	0.077
Pour Point °C (°F)	ASTM D6960	-42°C (-44°F)
Pumping Viscosity at (°C), cP	ASTM D4884	15,800 (-30)
Shear Stability, Final Viscosity in cSt	ASTM D6278	8.64
Specific Gravity @ 60°F (15.6°C)	ASTM D4052	0.8636
Sulfated Ash, wt. %	ASTM D874	0.92
Sulfur, wt. %	ASTM D4851	0.3
TBN, mgKOH/g	ASTM D2896	7.0
Viscosity @ 100°C cSt	ASTM D446	10.35
Viscosity @ 40°C cSt	ASTM D445	63.85
Viscosity Index	ASTM D2270	150
Zinc, wt. %	ASTM D5185	0.085

CONTAINER/BULK AVAILABILITY

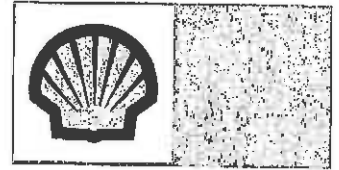
55 Gallon Drum	Product Number - 62848
5 Gallon Pail	Product Number - 00504
2/2.5 Gallon	Product Number - 00502
3/5 Quart	Product Number - 62939
3/1 Gallon - Not for sale in US	Product Number - 64153
6/1 Quart	Product Number - 61648

Available in Bulk

Information accurate as of April 4, 2019



SHELL ROTELLA® T4 Triple Protection® 10W-30



Triple Protection® technology against wear, deposits and oil breakdown

Main applications



Suitable for all on/off highway engines requiring an API CK-4, CJ-4, CI-4 Plus, CI-4 or CH-4 diesel oil in this viscosity.

About Triple Protection®

Today's demands on your engine are greater. And that demands a harder working oil, designed to deliver protection and performance under the most severe engine conditions in modern, low-emission engines as well as in older equipment.

The most technically advanced Shell ROTELLA® formulation ever

Shell ROTELLA® T4 Triple Protection® is the same Triple Protection® technology customers have come to depend on. But today, it's better than ever, with advanced additive technology that adapts to your driving conditions to protect against wear, deposits and oil breakdown. That's why it's recommended by a wide range of OEMs.

Works harder to save on fuel

Shell ROTELLA® T4 10W-30 Triple Protection® also protects your bottom line. Compared to a 15W-40, its lower viscosity allows for less resistance in the engine for improved fuel economy.

Triple Protection® performance, features & benefits:

Exceptional wear protection

Proven over millions of miles of real world performance, Shell ROTELLA® T4 Triple Protection® provides exceptional wear protection to maximize engine efficiency and prolong engine life.

Exceptional engine cleanliness

Formulated for enhanced deposit protection to help keep engines clean over the oil drain interval.

Emissions system compatibility

This formulation, exclusive to Shell, helps protect exhaust catalysts and particulate filters found on the latest low emission vehicles to help maintain vehicle emission compliance and engine fuel efficiency.

Enhanced shear stability performance

Shell ROTELLA® continues its heritage of outstanding shear stability for improved viscosity control and optimal oil pressure.

SPECIFICATIONS AND APPROVALS

SHELL ROTELLA® T4 10W-30

API CK-4, CJ-4, JASO DH-2, Cummins 20086, Volvo VDS-4.5, MACK EOS-4.5, Detroit Diesel 93K222, Caterpillar ECF-2, ECF-3, Ford WSS-M2C171-F1

PRODUCT MATERIALS & PACKAGE SIZE

PRODUCT	12x1 Quart	3x1 Gal Jug	55 Gal Drum	275 Gal Tote	Bulk
T4 10W-30 (CK-4)	550045146	550045144	550045137	550045145	500010011





VALVOLINE™ ALL-FLEET PLUS™ E900 ENGINE OIL

Valvoline All-Fleet Plus E900 Motor Oil is formulated to provide enhanced oxidation control and shear stability demanded in modern diesel engines operating under a wide variety of service conditions, including engines with diesel particulate filters (DPF) and cooled exhaust gas recirculation (EGR). They are blended with premium basestocks and high-quality additive chemistry to achieve the following benefits: high temperature piston deposit control, foam protection, soot dispersancy and oil-thickening control, oxidation inhibition, low temperature sludge protection, corrosion and rust inhibition, valve train wear protection and TBN retention. These motor oils provide excellent performance in local stop and go routes, on-and off-highway, farm, construction, and mining applications. All Fleet Plus meets all the requirements for Tier IV engines and is backwards compatible with Tier III.

In addition to the API licenses and OEM approvals listed below, All-Fleet Plus E900 is backwards compatible with older engines calling for Cummins CES20081 and/or CES20078, Detroit Diesel 93K218 and/or 93K215, Mack EO-O and/or EO-N, Volvo VDS-4 and/or VDS-3, Caterpillar ECF-3 and/or ECF-2, API CI-4, CH-4, CG-4, CF-4, CF, CE, CD, and CC, or Ford WSS-M2C171-E. Additionally, Valvoline All-Fleet Plus E900 meets the engine test requirements of API SN and all prior API gasoline categories, ACEA E9/E7, MB 228.31, MAN 3575, MTU 2.1, and Deutz DQC III-10LA.

Approvals and Licenses	15W-40	10W-30
API CK-4, CJ-4, CI-4 PLUS	X	X
API SN	X	**
Cummins CES 20086	X	X
Detroit Diesel 93K222	X	X
Mack EOS-4.5	X	X
Volvo VDS-4.5	X	X
Ford WSS-M2C171-F1	X	X
Typical Properties	15W-40	10W-30
Specific Gravity, 15 C	0.877	0.868
Viscosity @ 40 C, cSt	112	80
Viscosity @ 100 C, cSt	14.9	11.9
Viscosity Index	137	143
CCS Viscosity, cP	6600@-20	6600@-25
HTHS Viscosity, cP	4.2	3.5
Borderline Pumping Viscosity	Pass	Pass
Pour Point, deg. C	<-27	<-33
Total Base Number (D-2896)	10	10
Sulfated Ash, %	1.0	1.0
Zinc, wt %	0.127	0.127
Part Numbers		
Bulk	VV3850	VV3820
Tote	852824	853212
55 Gallon Drum	VV385	VV382
5 Gallon Plastic Pail	VV386	
1 Gallon Jug	773634	
6/1 Quart	822349	

**Meets engine test requirements of API SN

Refer to Valvoline's Material Safety Data Sheet for health and safety instructions.

This information only applies to products manufactured in the following location(s): USA, Canada

Effective Date:
4/3/18

Author's Initials:
ERM

MAG 1® CONVENTIONAL 10W-40 MOTOR OIL

CONVENTIONAL MOTOR OIL PASSENGER CAR MOTOR OIL



MAG 1® Conventional 10W-40 Motor Oil is formulated for older vehicles and/or high-temperature climates, if thicker oil is preferred. It also delivers the following benefits:

- Resists thermal breakdown and reduces deposit formation for longer, better engine protection than conventional oils.
- Additives work to keep engines clean.
- Provides a strong film barrier to control friction, resist wear and keep metal surfaces from coming into contact.

CONVENTIONAL MOTOR OIL FEATURING *EVOLUTIONARY PERFORMANCE™*

MAG 1® with FMX® Technology – Friction Management for Xtreme protection™ provides these benefits:

PERFORMANCE

Controls friction and wear.

- Engineered to handle the most severe or extreme environmental conditions and engine stress.

STRENGTH

Provides a strong oil film to avoid metal-to-metal contact, even under extreme stress.

- Excellent wear protection. Advanced molecules bond together to prevent metal-to-metal contact of rotating engine parts.
- Enhanced friction reduction. MAG 1 oils react to heat to produce a critical friction-reducing barrier that protects metal surfaces.¹

DURABILITY

Stands up to the heat and shearing so it extends oil life.

- Excellent oxidation and deposit control.
- Retains viscosity and prevents thermal breakdown. The oil excels even in the harshest conditions.

¹ To measure friction reduction benefits, engineers used the ball-on-disk traction test.

APPLICATIONS

- Provides performance benefits for passenger cars, light trucks and sport utility vehicles; plus new and rebuilt engines.
- Formulated to exceed ILSAC GF-5 performance requirements.

INDUSTRY/OEM SPECIFICATIONS

Approved
Approved
Meets Requirements
Meets Requirements
Meets Requirements

TYPICAL PROPERTIES

ASTM D5186	0.018
ASTM D5185	0.132
ASTM D5293	4300 (-25)
ASTM D1500	3
ASTM D82	208
ASTM D82	468
ASTM D892 (Opt. A)	0/0
ASTM D892 (Opt. A)	0/0
ASTM D892 (Opt. A)	0/0
ASTM D287	32.84
ASTM D6082 (Opt. A)	20/0
ASTM D5481	4.02
ASTM D5185	0.043
ASTM D5185	0.004
ASTM D4829	0.068
ASTM D6375	11.7
ASTM D5185	0.077
ASTM D695D	-39°C (-38°F)
ASTM D4884	33,800 (-30)
ASTM D6278	11.5
ASTM D4062	0.8605
ASTM D874	0.92

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ASTM D4951	0.3
ASTM D2896	7.0
ASTM D445	14.83
ASTM D445	96.2
ASTM D2270	161
ASTM D5185	0.085

CONTAINER/BULK AVAILABILITY

Product Number - 62849
Product Number - 69136
Product Number - 61650
Product Number - 83579

Available in Bulk

Information accurate as of April 4, 2019

MAG 1® CONVENTIONAL 20W-50 MOTOR OIL

CONVENTIONAL MOTOR OIL, PASSENGER CAR MOTOR OIL



MAG 1® Conventional 20W-50 Motor Oil is formulated for older vehicles and/or high-temperature climates, if thicker oil is preferred. It also delivers the following benefits:

- Resists thermal breakdown and reduces deposit formation for longer, better engine protection than conventional oils.
- Additives work to keep engines clean.
- Provides a strong film barrier to control friction, resist wear and keep metal surfaces from coming into contact.

CONVENTIONAL MOTOR OIL FEATURING *EVOLUTIONARY PERFORMANCE™*

MAG 1® with FMX® Technology – Friction Management for Xtreme protection™ provides these benefits:

PERFORMANCE

Controls friction and wear.

- Engineered to handle the most severe or extreme environmental conditions and engine stress.

STRENGTH

Provides a strong oil film to avoid metal-to-metal contact, even under extreme stress.

- Excellent wear protection. Advanced molecules bond together to prevent metal-to-metal contact of rotating engine parts.
- Enhanced friction reduction. MAG 1 oils react to heat to produce a critical friction-reducing barrier that protects metal surfaces.¹

DURABILITY

Stands up to the heat and shearing so it extends oil life.

- Excellent oxidation and deposit control.
- Retains viscosity and prevents thermal breakdown. The oil excels even in the harshest conditions.

¹ To measure friction reduction benefits, engineers used the ball-on-disk traction test.

APPLICATIONS

- Provides performance benefits for passenger cars, light trucks and sport utility vehicles; plus new and rebuilt engines.
- Formulated to exceed ILSAC GF-5 performance requirements.

INDUSTRY/OEM SPECIFICATIONS

Approved
Approved
Meets Requirements
Meets Requirements
Meets Requirements

TYPICAL PROPERTIES

ASTM D5185	0.018
ASTM D5185	0.132
ASTM D6293	70(4 (-15))
ASTM D1500	3
ASTM D92	240
ASTM D92	464
ASTM D692 (Opt. A)	0/0
ASTM D692 (Opt. A)	0/0
ASTM D692 (Opt. A)	0/0
ASTM D287	29.63
ASTM D6082 (Opt. A)	10/0
ASTM D5481	4.85
ASTM D6185	0.043
ASTM D5185	0.004
ASTM D4629	0.066
ASTM D6375	5.1
ASTM D5185	0.077
ASTM D5850	-33°C (-27°F)
ASTM D4684	21,300 (-15)
ASTM D6278	15.15
ASTM D4052	0.6782
ASTM D874	0.92

ASTM D4951	0.3
ASTM D2896	7.0
ASTM D445	19
ASTM D445	189.8
ASTM D2270	127
ASTM D5186	0.085

CONTAINER/BULK AVAILABILITY

Product Number - 62051
Product Number - 64503
Product Number - 66138
Product Number - 64157
Product Number - 61854
Product Number - 64258
Product Number - 63581

Available in Bulk

Information accurate as of April 4, 2018

MAG 1® FULL SYNTHETIC 5W-40 CK-4 HEAVY DUTY DIESEL ENGINE OIL

FULL SYNTHETIC HEAVY DUTY DIESEL ENGINE OIL HEAVY DUTY ENGINE OIL



Featuring MAG 1® with FMX® Technology – Friction Management for Xtreme protection™. Provides unsurpassed protection, even in our lightest viscosities. Protects better than the thick oils of the past.

MAG 1 Full Synthetic 5W-40 is technologically advanced heavy duty diesel engine oil that provides unsurpassed protection and performance, including the following benefits:

- Our best cold temperature performance.
- Superior extended drain capability.
- Meets or exceeds the requirements of OEMs.

ENGINEERING AND INNOVATION FOR EXTRA PROTECTION

MAG 1® with FMX® Technology provides unsurpassed protection in every viscosity. Even our lowest viscosity oils protect better than thick oils of the past. FMX Technology creates a strong, durable and high-performing level of protection that controls friction and reduces metal-to-metal contact.

Our advanced oil technology actually improves oil properties over time, retaining viscosity, friction and anti-wear benefits, even in today's hotter engines, reducing the need for thicker oil. This is exactly the kind of protection called for in today's engines that deliver greater horsepower and better fuel economy.

FULL SYNTHETIC HEAVY DUTY DIESEL ENGINE OIL FEATURING FMX® TECHNOLOGY AND EVOLUTIONARY PERFORMANCE™

The latest MAG 1® Full Synthetic Heavy Duty Diesel Engine Oils are specially engineered and formulated to provide:

PERFORMANCE

Unsurpassed protection for extended drain intervals.
Up to 1.8% improved fuel mileage.¹

- Improved fuel economy. Reduces fuel costs without sacrificing engine protection and performance.
- Extended oil drain intervals. Fuel economies can be gained when following engine manufacturer recommendations and in conjunction with scheduled oil analysis.

STRENGTH

Up to 53% better wear protection.²

- Enhanced friction reduction. MAG 1® provides a very strong oil film to prevent metal-to-metal contact between rotating parts, delivering up to 53% better wear protection.³
- Unsurpassed wear protection. The latest generation API CK-4 MAG 1 engine oils provide increased protection against harmful engine and bearing wear due to cavitation, because they improve oil aeration.

DURABILITY

Up to 83% better oxidation control.²

Up to 83% better deposit control.²

- Better oxidation and deposit control. FMX® Technology stands up to high heat and stress to protect as well on the last day as it does on the first day. Up to 83% better oxidation control and 83% better deposit control.⁴
- Formulated with higher starting TBN (10). Provides added oxidation control and protection against acid buildup that can cause rust and corrosion.

¹ Using HD 10W-30 CK-4, compared to Conventional HD 16W-40 CK-4 during on-highway long-haul service. Savings will vary on idle time and other driving conditions of your fleet or vehicle.

² Compared to new limits of API CK-4 requirements.

³ To measure friction reduction benefits, engineers used the ball-on-disk traction test.

⁴ Compared to new limits of API CK-4 requirements.

APPLICATIONS

- This product and grade is a fuel economy and mixed fleet engine oil recommended for naturally aspirated and turbocharged four-stroke diesel engines in which the API CK-4 service categories are recommended. It is formulated for engines operating under severe service and a wide range of cold and hot temperatures.
- It is backward compatible for CJ-4 and older API service categories.
- Approved by or meets requirements of major OEMs such as Cummins, Detroit Diesel, Mack/Volvo, Paccar, Navistar, Caterpillar, and others.

INDUSTRY/OEM SPECIFICATIONS

API CK-4	Approved
API SN	Approved
Ford WSS-M2C171-F1	Approved
ACEA E9, E7, E4, E2	Meets Requirements
API CI-4 Plus, CI-4, CH-4, CG-4, CF-2, CF	Meets Requirements
API CJ-4	Meets Requirements
API S-J, SH, S8, SF	Meets Requirements
API SL	Meets Requirements

API SM	Meets Requirements
CAT ECF-3, ECF-2, ECF-1-a	Meets Requirements
Chrysler/Fiat MS-10902	Meets Requirements
CID A-A-92306, MIL-PRF-21048	Meets Requirements
Cummins 28088	Meets Requirements
Cummins CES 20081, 20077, 20076	Meets Requirements
Detroit Diesel 93K218, 93K215, 93K214	Meets Requirements
Detroit Diesel 93K222	Meets Requirements
Ford WSS-M2C171-E	Meets Requirements
Global DHD-1	Meets Requirements
JASO DH-2	Meets Requirements
Meck EO-G Premium Plus, EO-H Premium Plus G3, EO-M Plus, and prior	Meets Requirements
Meck EO3-4.5	Meets Requirements
MAN 3275, 270	Meets Requirements
MAN 3575	Meets Requirements
MB 228.3, 228.31	Meets Requirements
MTU 2.1	Meets Requirements
MTU Type I, Type II	Meets Requirements
Renault RLD-4	Meets Requirements
Valvo VDS-4, 3, 2	Meets Requirements
Valvo VDS-4.5	Meets Requirements
Allison C-4	Suitable for Use

TYPICAL PROPERTIES

Calcium, wt. %	ASTM D6185	0.082
Cold Cranking Simulator at (°C), cP	ASTM D6283	6535 (-30)
Color	ASTM D1500	2.5
Flash Point °C	ASTM D92	225
Flash Point °F	ASTM D92	437
Gravity, °API	ASTM D287	33.57
High Temperature / High Shear Visc at 150°C, cP	ASTM D5481	3.5
Magnesium, wt. %	ASTM D5185	0.118
Molybdenum, wt. %	ASTM D5185	0.007
Nitrogen, wt. %	ASTM D4629	0.124
Noack Volatility, % loss	ASTM D6375	12
Phosphorus, wt. %	ASTM D5185	0.115
Pour Point °C (°F)	ASTM D6950	-45°C (-49°F)
Pumping Viscosity at (°C), cP	ASTM D4884	24,113 (-35)
Specific Gravity @ 60°F (15.6°C)	ASTM D4052	0.8572
Sulfated Ash, wt. %	ASTM D874	0.98
Sulfur, wt. %	ASTM D4961	0.314
TBN, mgKOH/g	ASTM D2896	10
Viscosity @ 100°C cSt	ASTM D445	14.76
Viscosity @ 40°C cSt	ASTM D446	87.75
Viscosity Index	ASTM D2270	177
Zinc, wt. %	ASTM D5185	0.127

CONTAINER/BULK AVAILABILITY

330 Gallon Tote	Product Number - 68035
65 Gallon Drum	Product Number - 68037
5 Gallon Pail	Product Number - 68036
3/1 Gallon	Product Number - 62627
8/1 Quart	Product Number - 62825

Available in Bulk

Information accurate as of April 4, 2019



PRODUCT DATA SHEET
Compass Multipurpose Gear Oil

COMPASS MULTIPURPOSE GEAR OIL is a multi-purpose sulfur/phosphorus type gear lubricants designed for API Service Classifications GL-5 and MT-1. Compounded with highly refined premium base stocks and additives to ensure extreme pressure characteristics, anti-wear performance, anti-corrosion inhibition, rust prevention, anti-foaming tendencies and service fill limited slip capability.

Recommended for differentials, rear axles, final drives, conventional manual transmissions, manual steering gears, and limited slip top-off suitability, in passenger cars and trucks where GL-5 type lubricant is specified. Recommended for gear applications where sulfur/phosphorus controlled chemically-active additive package is designated. Meets MT-1 capability for non-synchronized manual transmissions in heavy duty systems. Meets the requirements of U.S. Military Specification MIL-L-2105D, MIL-PRF-2105E, SAE J2360, and Mack GO-G, H, & GO-J classifications . SAE Grade 80W-90 is primarily recommended for passengers cars and light trucks; Grade 85W-140 for heavy duty equipment, both on and off-highway fleets, as well as many industrial and commercial mechanical systems applications.

Typical Characteristics:		
	80W90	85W140
Specific Gravity @ 60°F	24.5	24.0
Kinematic Viscosity		
cSt @ 40°C	136	406
cSt @ 100°C	14.0	27.0
Viscosity Index	100	96
Viscosity		
SUS @100°F	716	2172
SUS @ 210°F	75.6	133.3
Flash Point, °F	410	420
Pour Point, °F	-15	5

Note: Values shown above are representative of current production and may vary within modest ranges.

AUTOMOTIVE GEAR LUBRICANT GRADES GL-1 SAE GEAR 90 & 140

Typical Properties

SAE Grade		
Gear	90	140
Viscosity, cSt		
At 40 C	270	503
At 100 C	17.5	28.0
Flash Point, (COC) Deg F	420	425
Pour Point, Deg F	10	25
Gravity, API @ 60 F	24.5	22.8

The values shown are typical of current production. Some are controlled in the manufacturing process, while others are not. All of them may vary within tolerable ranges.

An uninhibited gear lubricant designed for API Service Classification "GL-1". These gear oils are blended from highly refined base stocks that resist oxidation and thickening.

APPLICATIONS

Recommended for manual transmissions in passenger cars and trucks, and those applications where API Service Level GL-1 lubricant is specified.



LUBRICANTS

Multiplex® 220

Phillips 66® Multiplex 220 is a high performance, multipurpose, extreme pressure (EP), lithium complex grease developed for the lubrication of automotive and industrial equipment operating under heavy loads and at moderate to high temperatures. It is particularly recommended for use in applications that are too severe or require higher performance than that provided by conventional, extreme pressure lithium greases.

Multiplex 220 is manufactured with high quality base oils, a special polymer and a lithium complex soap thickener. It is fortified with EP and antiwear additives, a tackifier, and rust and oxidation inhibitors to provide outstanding wear protection, excellent thermal stability at high temperatures, and excellent resistance to corrosion and water washout. It forms an effective seal to help minimize bearing contamination and provides a high level of adhesion to bearing surfaces for improved retention and reduced leakage.

Multiplex 220 is NLGI GC-LB certified for use as a multipurpose automotive wheel bearing and chassis lubricant.

Applications

- Wheel bearings of passenger cars, trucks, high performance vehicles, sport utility vehicles and motorcycles, particularly those equipped with disc brakes
- Ball joints, universal joints, other chassis parts and water pumps on passenger cars, trucks and other mobile equipment
- Heavily loaded plain and rolling element bearings in industrial, mining and mobile equipment

Features/Benefits

- Excellent high temperature performance
- Outstanding wear protection
- Good load carrying capacity
- Excellent resistance to water washout
- Protects against rust and corrosion
- Excellent low temperature pumpability
- NLGI GC-LB certified

**Multipurpose
Extreme Pressure
Lithium Complex
Grease
NLGI GC-LB
Certified**





LUBRICANTS

Multiplex® 220

Typical Properties			
NLGI Grade		1	2
Thickener Type		Lithium Complex	Lithium Complex
Color		Red	Red
Texture		Tacky	Tacky
Density, lbs/gal		7.70	7.70
Dropping Point, °C (°F)	ASTM D2265	>260 (>500)	>260 (>500)
Viscosity, Kinematic	ASTM D445		
Viscosity @ 40°C, cSt		220	220
Viscosity @ 100°C, cSt		18.3	18.3
Penetration, Worked (60 strokes)	ASTM D217	310-340	265-295
Oxidation Stability, 100 Hours, psi (kPa)	ASTM D942	5 (34.5)	5 (34.5)
Four-Ball Wear Scar, mm	ASTM D2266	0.52	0.52
Four-Ball EP, Weld Load, Kgf	ASTM D2596	400	400
Timken OK Load, lbs	ASTM D2509	70	70
Corrosion Prevention	ASTM D1743	Pass	Pass
Copper Corrosion	ASTM D4048	1b	1b
Water Wash-out, wt%	ASTM D1264	5.3	6.1

Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via <http://www.phillips66.com/SDS>

01-2019

Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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Megaplex® XD3

Phillips 66® Megaplex XD3 is a high performance, multipurpose, extreme pressure (EP) lithium complex grease developed to satisfy the severe lubrication requirements of construction and off road equipment manufactured by Caterpillar, Komatsu Dresser, Case New Holland, John Deere and others. It is particularly recommended for use in off-highway trucks and heavy equipment, such as excavators, bulldozers, motor graders and wheel loaders operating under heavy or shock loads.

Megaplex XD3 is manufactured with high quality, high viscosity base oils, a special polymer and a lithium complex soap thickener. It is fortified with extreme pressure, rust and antiwear additives, 3% molybdenum disulfide (moly), a tackifier, and oxidation inhibitors. It provides excellent wear and corrosion protection as well as resistance to water washout for equipment subject to heavy or shock load, wet conditions and/or high temperatures.

Megaplex XD3 Grade No. 1 is NLGI GC-LB certified for use as a multipurpose automotive wheel bearing and chassis lubricant.

Applications

- Chassis parts and wheel bearings of construction, mining and other heavy mobile equipment
- Universal joints, constant-velocity joints, brake self adjusting screws and clutch release bearings on off-highway trucks and other heavy equipment
- Tractor-trailer fifth wheels
- Heavily loaded plain and rolling element bearings in industrial and mobile equipment where the manufacturer specifies a high temperature, extreme pressure grease with 3% moly

Features/Benefits

- High dropping point (>500°F)
- High load carrying capacity
- Excellent wear protection
- Contains 3% moly for extra protection against galling and wear under shock loads
- Outstanding resistance to water washout
- Excellent resistance to oil separation
- Protects against rust and corrosion
- NLGI GC-LB certified (NLGI Grade No. 1)

**Construction
and Off-Road
Equipment
Extreme Pressure
Lithium Complex
Grease
3% Moly**





Megaplex® XD3

Typical Properties			
NLGI Grade		1	2
Thickener Type		Lithium Complex	Lithium Complex
Color		Gray	Gray
Texture		Tacky	Tacky
Density, lbs/gal		7.90	7.91
Molybdenum Disulfide, wt %		3	3
Dropping Point, °C (°F)	ASTM D2265	>260 (>500)	>260 (>500)
Viscosity, Kinematic	ASTM D445		
Viscosity @ 40°C, cSt		459	459
Viscosity @ 100°C, cSt		27.3	27.3
Penetration, Worked (60 strokes)	ASTM D217	310-340	265-295
Oxidation Stability, 100 Hours, psi (kPa)	ASTM D942	3 (20.7)	3 (20.7)
Four-Ball Wear Scar, mm	ASTM D2266	0.48	0.48
Four-Ball EP, Weld Load, Kgf	ASTM D2596	620	620
Timken OK Load, lbs	ASTM D2509	55	55
Corrosion Prevention	ASTM D1743	Pass	Pass
Copper Corrosion	ASTM D4048	1b	1b
Water Wash-out, wt%	ASTM D1264	2	<5

Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via <http://www.phillips66.com/SDS>.

01-2019

Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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Previous Name: Shell Tellus T

Shell Tellus S2 V 22

- Extra Protection
- Versatile Applications

Industrial Hydraulic Fluid for wide temperature range

Shell Tellus S2 V fluids are high performance hydraulic fluids that use Shell's unique patented technology with excellent viscosity control under both severe mechanical stress and across a wide range of temperatures. They provide outstanding protection and performance in most mobile equipment and other applications subjected to wider ranges of ambient or operating temperatures.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

• Long fluid life – Maintenance saving

Shell Tellus S2 V fluids help extend equipment maintenance intervals by resisting thermal and chemical breakdown. This minimizes sludge formation and provides excellent performance in the industry standard ASTM D 943 TOST test (Turbine Oil Stability Test), providing better reliability and system cleanliness.

Shell Tellus S2 V fluids also have good stability in the presence of moisture, which ensures long fluid life and reduces the risk of corrosion and rusting, particularly in moist or humid environments.

Highly shear stable viscosity modifiers help minimize variations in the fluid properties throughout the fluid drain interval.

• Outstanding wear protection

Proven zinc-based anti-wear additives are incorporated to be effective throughout the range of operating conditions, including low load and severe duty high load conditions. Outstanding performance in a range of piston and vane pump tests, including the tough Denison T6C (dry and wet versions) and the demanding Vickers 35VQ25, demonstrates how Shell Tellus S2 V fluids can help system components last longer.

• Maintaining system efficiency

The extended temperature range capability of Shell Tellus S2 V allows efficient operation of mobile equipment from cold start to normal operating conditions.

Superior cleanliness, excellent filterability and high performance water separation, air release and anti-foam characteristics all help contribute to maintaining or enhancing the efficiency of hydraulic systems.

The unique additive system in Shell Tellus S2 V, in combination with superior cleanliness (meeting the requirements of max ISO 4406 21/19/16 class, ex Shell filling lines. As recognized by DIN 51524 specification, the oil is exposed to various influences with transport and storage that could effect the cleanliness level) helps reduce the impact of contaminants on filter blocking, allowing both extended filter life and use of finer filtration for extra equipment protection.

Shell Tellus S2 V fluids are formulated for fast air release without excessive foaming to help efficient hydraulic power transfer and minimise fluid and equipment impacts of cavitation-induced oxidation that can shorten fluid life.

Main Applications



• Mobile/exterior hydraulic applications

Hydraulic and fluid power transmission systems in exposed environments can be subject to wide variations in temperature. The high viscosity index of Shell Tellus S2 V helps deliver responsive performance from cold start conditions to full load, severe duty operation.

• Precision hydraulic systems

Precision hydraulic systems require excellent control of fluid viscosity over the operating cycle. Shell Tellus S2 V provides greater temperature-viscosity stability compared to ISO HM fluids that can help improve the performance of such systems.

For more severe operating conditions, longer fluid life and enhanced efficiency, the Shell Tellus "S3" and "S4" ranges offer additional performance benefits.

Specifications, Approvals & Recommendations

- Denslon Hydraulics (HF-0, HF-1, HF-2)
- Cincinnati Machine P-68 (ISO 32), P-70 (ISO 46), P-69 (ISO 68)
- Eaton Vickers M-2950 S
- Eaton Vickers I-286 S
- Swedish Standard SS 15 54 34 AM
- ISO 11158 (HV fluids)
- AFNOR NF-E 48-603
- ASTM 6158-05 (HV fluids)
- DIN 51524 Part 3 HVLP type
- GB 111181-1-94 (HV fluids)

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or the OEM Approvals website.

Compatibility & Miscibility

- **Compatibility**
Shell Tellus S2 V fluids are suitable for use with most hydraulic pumps. However, please consult your Shell Representative before using in pumps containing silver plated components.
- **Fluid Compatibility**
Shell Tellus S2 V fluids are compatible with most other mineral oil based hydraulic fluids. However, mineral oil hydraulic fluids should not be mixed with other fluid types (e.g. environmentally acceptable or fire resistant fluids).
- **Seal & Paint Compatibility**
Shell Tellus S2 V fluids are compatible with seal materials and paints normally specified for use with mineral oils.

Typical Physical Characteristics

Properties	Method	Shell Tellus S2 V
ISO Viscosity Grade	ISO 3448	22
ISO Fluid Type		HV
Kinematic Viscosity @ 20°C (cSt)	ASTM D 445	695
Kinematic Viscosity @ 40°C (cSt)	ASTM D 445	22
Kinematic Viscosity @ 100°C (cSt)	ASTM D 445	4.8
Viscosity Index	ISO 2909	142
Density @ 15°C (kg/l)	ISO 12185	872
Flash Point (COC) °C	ISO 2592	190
Pour Point °C	ISO 3016	-42
Dielectric Strength* (kV)	ASTM D 877	>30

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

* Dielectric strength value applies only to "point of manufacture" at a Shell authorized manufacturing facility. As with all hydraulic fluids, contamination with water or particulate leads to a reduction in dielectric strength.

Health, Safety & Environment

- Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from <http://www.epc.shell.com/>
- Protect the Environment
Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

- Advice
Advice on applications not covered here may be obtained from your Shell representative.



PRODUCT DATA SHEET
Compass AW Hydraulic Oil

COMPASS AW HYDRAULIC OILS contain a zinc/phosphorous additive to minimize wear in high speed, high -pressure vane, gear and piston pumps. Meets Cincinnati Machine P-68, P-69, P-70, Denison HF-0, HF-1, HF-2, Vickers 35VQ25, Eaton/Vickers M-2950-S, I-286-S, Ford M6C32, Chrysler, General Motors LS-2, and US Steel 136 specifications for stability and durability.

Typical Characteristics:			
	32	46	68
AGMA Grade	-	1	2
Color	L 1.0	L 1.5	L 2.5
Specific Gravity @ 15.6°C (60°F)	0.854	0.857	0.865
Kinematic Viscosity			
cSt @ 40°C	32.5	43.6	66.5
cSt @ 100°C	5.7	6.9	9.0
Viscosity Index	115	114	111
Flash Point, °C	230	248	254
Pour Point, °C	-39	-36	-33
Demulsibility D1401	Pass	Pass	Pass
Oxidation Stability D943, hrs	6500	6500	5500
Rust Characteristics D665, A & B	Pass	Pass	Pass
Copper Corrosion	1A	1A	1A

Note: Values shown above are representative of current production and may vary within modest ranges.

Product Information

A PRODUCT OF VALVOLINE, A DIVISION OF ASHLAND INC.



Valvoline® Heavy Duty Synthetic Transmission Fluid SAE 80

Valvoline Heavy Duty Synthetic Transmission Fluid SAE 80 is selectively engineered for heavy duty manual transmissions operating in severe service applications (temperature extremes, extended drain intervals, critical shifts, etc.) and requiring a MIL-L-2104 mineral engine oil, and is approved against Eaton PS-164 revision 7. It is a blend of premium synthetic base stocks and high quality additives to meet the challenging demands of manual transmission lubrication in modern equipment. In addition, the reformulated product is now amber in color to differentiate it from older versions, and other products, that do not meet the new Eaton PS-164 revision 7 requirements.

Advantages of Valvoline Heavy Duty Synthetic Transmission Fluid SAE 80 include:

- Improved cold weather shift ability and quicker lubrication of transmission components.
- Longer seal life due to fewer deposits, better seal compatibility and improved high temperature properties.
- Increased thermal stability and reduced component deposits.
- Reduced component wear and deposits lead to longer transmission and lubricant service life.
- Operational benefits such as the potential for fuel economy and reduced downtime maintenance.
- Allows extended warranty coverage (750,000 miles) at Eaton and Rockwell International.
- Meets the requirements of Dana, Navistar, Rockwell International 0-01, Eaton Transmission Division PS-081 & PS-164 REV 7, ArvinMeritor 0-81, Mack TO-A Plus, ZF FreedomLine, International TMS 6S16, and API MT-1.
- Meets the requirements of Volvo 97305-89, and can be used in Volvo I-Shift transmissions at the standard drain intervals.

Typical Properties	SAE 80
Gravity, degree API	29.0
Viscosity @ 100° C, cSt	16.20
Viscosity Index	151
Four Point, °C	<-40
Flash Point - COO, °C	225
Foaming Test (ASTM D-892)	Pass
Copper Strip Corrosion (ASTM D130)	Pass
FZG, stages for pass	10
Part Numbers	
55 Gallon Drum	VV70801
16 Gallon Keg	VV70802
5 Gallon Pail	VV708036M

Refer to Valvoline's Material Safety Data Sheet for health and safety information.

This information only applies to products manufactured in the following location(s): USA, Canada.

Effective Date:	Expiration Date:	Replaces:	Author's Initials:	Pages:	Code:
08/27/2008	N/A	04/14/2008	JH	1	PI 0802

ASHLAND

MAG 1[®] AUTOMATIC TRANSMISSION FLUID

PASSENGER CAR TRANSMISSION PRODUCTS AUTOMATIC TRANSMISSION PRODUCTS

MAG 1 Automatic Transmission Fluid is engineered to extend transmission life and smooth operation of Ford and General Motors vehicles where a DEXRON II/MERCON[®] fluid is specified.

PROTECTION FOR TODAY'S AUTOMATIC TRANSMISSION DESIGNS

Automotive transmissions have evolved dramatically, requiring highly specialized fluids for unique applications. One brand has evolved right alongside – MAG 1[®]. Only the most advanced transmission fluids meet the difficult challenges of effectively balancing performance, strength and durability.

PERFORMANCE

- Delivers superior friction stability to maintain smooth, consistent shifting and prevent shudder.

STRENGTH

- Provides a strong oil film to prevent metal-to-metal contact between rotating parts to prevent wear.

DURABILITY

- Resists thickening due to high operating temperatures.

APPLICATIONS

- Also recommended for all transmissions requiring DEXRON[®] II or IIE, or Type A transmission fluids. Do not use this product in General Motors vehicles after model year 2005 and Ford[®] vehicles after model year 2006. Do not use this product in transmissions that specify Ford Type F, MERCON[®] V fluids or GM Dexron[®] VI fluid.

INDUSTRY/OEM SPECIFICATIONS

	Meets Requirements
	Meets Requirements
	Meets Requirements
	Meets Requirements

TYPICAL PROPERTIES

ASTM D2983	18,500
ASTM D1500	Red
ASTM D130	1B
ASTM D92	204
ASTM D82	400
ASTM D882	<100/0 ml
ASTM D297	32.98
ASTM D2619	Pass
ASTM D6950	-51°C (-60°F)
ASTM D685A	Pass
ASTM D4052	0.8603
	Pass
ASTM D445	7.38
ASTM D445	35.87
ASTM D2270	179

CONTAINER/BULK AVAILABILITY

	Product Number - 85479
	Product Number - 62856
	Product Number - 00905
	Product Number - 84269
	Product Number - 00902
	Product Number - 00908
	Product Number - 00900
	Product Number - 901

Available in Bulk

Information accurate as of April 4, 2019





PRODUCT DATA SHEET
Compass DexMerc ATF

COMPASS DEXMERC AUTOMATIC TRANSMISSION FLUID is formulated to reduce wear, protect against corrosion, and last longer in vehicles with automatic and power-shift transmissions. It is recommended for domestic and imported transmissions that specify DEXRON®-III, DEXRON®IIIE, DEXRON®, MERCON®, ford ESP-M2C138-CJ, ford ESP-M2C166-H or Type A Suffix A, Allison C-3/C-4 or Caterpillar TO-2 fluids.

Typical Characteristics:	
Specific Gravity @ 15.6°C (60°F)	0.862
Kinematic Viscosity	
cSt @ 40°C	32.9
cSt @ 100°C	7.0
Brookfield Viscosity	
cP @ -40°C	17700
Viscosity Index	180
Flash Point, °C	204
Pour Point, °C	-51
Color	Red

Note: Values shown above are representative of current production and may vary within modest ranges.

DEXRON® is a registered trademark of General Motors Corporation.
MERCON® is a registered trademark of Ford Motor Company.



PRODUCT DATA SHEET
Compass DexMerc ATF

COMPASS DEXMERC AUTOMATIC TRANSMISSION FLUID is formulated to reduce wear, protect against corrosion, and last longer in vehicles with automatic and power-shift transmissions. It is recommended for domestic and imported transmissions that specify DEXRON®-III, DEXRON®-IIE, DEXRON®, MERCON®, ford ESP-M2C138-CJ, ford ESP-M2C166-H or Type A Suffix A, Allison C-3/C-4 or Caterpillar TO-2 fluids.

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Pour Point, °C	-51
Color	Red

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DEXRON® is a registered trademark of General Motors Corporation.
MERCON® is a registered trademark of Ford Motor Company.



PRODUCT DATA SHEET
Compass Drive Train Oil

COMPASS DRIVE TRAIN OILS are formulated to meet the performance requirements of Caterpillar Specification TO-4 and Allison C-4 for transmissions, final drives, and hydraulic systems. The fluids are manufactured from selected, highly refined base stocks and compounded with additives to enhance oxidation and heat resistance, specified friction control, cleanliness, load carrying ability, corrosion and wear protection, and low foam tendency. Drive Train Oil has good detergent-dispersant characteristics.

In normal operations the products are designed to meet those applications requiring an SAE 10W primarily for hydraulic systems, viscosity grade SAE 30 for transmissions, and SAE 50 for final drives. They are also suggested for heavy-duty truck automatic transmissions requiring fluids meeting SAE 10W or SAE 30 viscosity characteristics. They should not be used for crankcase motor oil applications or those transmission systems where low brake/clutch chatter is a requirement.

Typical Characteristics:			
	10	30	50
Color	2.0	3.0	4.5
Specific Gravity @ 15.6°C (60°F)	30.0	28.5	27.0
Kinematic Viscosity			
cSt @ 40°C	42.7	95.2	185.2
cSt @ 100°C	6.5	11.0	17.3
Viscosity Index	102	100	100
Flash Point, °F	400	425	460
Pour Point, °F	-25	-10	5
TBN	7.5	7.5	7.5
Sulfate Ash %	1.2	1.2	1.2

Note: Values shown above are representative of current production and may vary within modest ranges.

MAG 1® LOW VISCOSITY MULTI-VEHICLE TRANSMISSION FLUID

PASSENGER CAR TRANSMISSION PRODUCTS AUTOMATIC TRANSMISSION PRODUCTS



MAG 1 Low-Viscosity Automatic Transmission Fluid is a balanced advanced formula utilizing superior additive technology and 100% synthetic base oils, helping to ensure peak performance of almost any automatic transmission.

PROTECTION FOR TODAY'S AUTOMATIC TRANSMISSION DESIGNS

Automotive transmissions have evolved dramatically, requiring highly specialized fluids for unique applications. One brand has evolved right alongside – MAG 1®. Only the most advanced transmission fluids meet the difficult challenges of effectively balancing performance, strength and durability.

Featuring MAG 1® with FMX® Technology – Friction Management for Xtreme protection™. MAG 1 is designed to provide unsurpassed protection.

PERFORMANCE

- Delivers superior friction stability to maintain smooth, consistent shifting and prevent shudder.

STRENGTH

- Provides a strong oil film to prevent metal-to-metal contact between rotating parts to prevent wear.

DURABILITY

- Resists thickening due to high operating temperatures.

APPLICATIONS

MAG 1 Low-Viscosity Multi-Vehicle ATF is licensed by GM and Ford for use where Dexron®-VI and MERCON® LV transmission fluids are recommended. Additional applications may include:

- Audi/VW: 8 052 025, 052 162, 055 025, GUS 000 162
- GM DEXRON®III, II
- Honda: DW-1, Z-1
- Hyundai/Kia/Mitsubishi: SP-II, SP-III, SP-IV
- Mazda ATF M-III, MV, T-IV
- Nissan: Matic-D, J, K, 402
- Subaru: ATF, ATF-HP
- Toyota: WS, T-IV, T-III, T-II

INDUSTRY/OEM SPECIFICATIONS

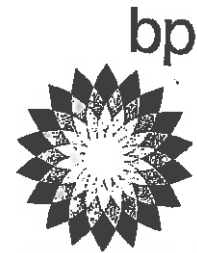
Dexron VI	Approved
Mercon LV (XT-10-QLV)	Approved
Alison TES-388	MAG 1 Recommends this product for use in applications calling for this specification
BMW P/N 83 22 0 024 359, ETL-8072B	Meets Requirements
GMN10050	Meets Requirements
Mercon, Ford ESP-M2C166-H	SFU, Vis Requirements not met
XT-8-DSP, XT-6-DSP, except 6HP26 / 6R60/ 6R75 transmissions	SFU, Vis Requirements not met
Alison C-3	Suitable for Use
Alison C-4	Suitable for Use
Audi 5 HP LT71141, G 052162-A1/A2, G052 025 A2	Suitable for Use
Audi G 052 025, 052 162, 055 025	Suitable for Use
BMW 704SE, LA2634, LT71141	Suitable for Use
BMW JWS 3309, LA2634, ZF 5HP18FL, 5HP24, 5HP30, Mini	Suitable for Use
BMW P/N 83 22 0 0246 522, ETL-7046E	Suitable for Use
BMW P/N 83 22 0 403 249, ETL-8072B	Suitable for Use
BMW P/N 83 22 9 407 765, LA 2634	Suitable for Use
BMW P/N 83 22 9 407 807, LT 711 41	Suitable for Use
Chrysler A388RC, Diamond SP-III	Suitable for Use
Chrysler P/N 051273B2AA, P/N 08043742AA	Suitable for Use
Daewoo LT 71141	Suitable for Use
Daihatsu AMMIX ATF D-II, D-III SP	Suitable for Use
Dexron III 8/M, Dexron II, Dexron, AW1	Suitable for Use
Ezee 71141	Suitable for Use
Fiat T-VI, JWS 3309	Suitable for Use
Ford FNR8	Suitable for Use
Ford M2C138-CJ	Suitable for Use

Ford M2C166H, 136CJ, 822A1, 824A, JWS 3309	Suitable for Use
Fuchs 3353	Suitable for Use
FUSO ATF-II, SP11, A4	Suitable for Use
Honda DW-1, Z-1	Suitable for Use
Hyundai/Kia/Mitsubishi Diamond SP-II and SP-III, RED-1, SP-IV	Suitable for Use
Hyundai/Kia SP-IV M, RR Dex-II/SP-II, JWS 3314, 9883	Suitable for Use
Hyundai NSWS9638	Suitable for Use
IDEMITSU APOROIL ATF HP	Suitable for Use
ISUZU 88200-9001 / Genuine ATF	Suitable for Use
Jaguar ATF 3403 M115, LT71141, ZF 5HP24, JLM20238	Suitable for Use
Jaguar P/N WSS-M2C822-A-1	Suitable for Use
Jaso M315-2013 1A, 1A-LV, 2A	Suitable for Use
JWS 3388, Auy 3309	Suitable for Use
JWS 3324	Suitable for Use
Lucas JWS 3309	Suitable for Use
NS13-2004 JASO 1A, 2A	Suitable for Use
MAN 339 Type V2	Suitable for Use
MAN 339 Type Z1, Z2, V1	Suitable for Use
Mazda ATF D-II, M-III, M-V, FZ, F-1, S-1, H-1, 3317	Suitable for Use
Mazda ATF M-III, MV, T-IV	Suitable for Use
MB 223.2, 236.1, 226.2, 238.10, 238.12, 238.41, 238.8, 238.9, 238.7, 236.8, 236.9	Suitable for Use
Mini Cooper T-IV	Suitable for Use
MINI P/N 83 22 0 402 413	Suitable for Use
Mitsubishi Diaqueen SK, AW, J2, J3, PA	Suitable for Use
Mopar AS 68 RC, JWS 3309	Suitable for Use
NAG-1	Suitable for Use
Nissan Matic-D, J, K	Suitable for Use
Nissan Matic, J, S	Suitable for Use
Opel	Suitable for Use
Peugeot ZF 4HP28	Suitable for Use
Peugeot P/N 889 917 547 80 (A2)	Suitable for Use
Peugeot ZF 5HP19FL, ZF 5HP20, LT71141, ATF 3483-M115, T-VI, JWS 3389	Suitable for Use
SAAB P/N 22 717 466, 83 186 147 (AW-1)	Suitable for Use
Saturn P/N 21006966	Suitable for Use
Saturn T-IV, GM TASA, T-IV ATF, GM WS ATF	Suitable for Use
Scion	Suitable for Use
Shell 3403, LA2634, Texaco 7045-E, ETL-80728	Suitable for Use
Shell 3403 M115	Suitable for Use
Subaru ATF 8AT, Dex II, AT OIL 5D86	Suitable for Use
Subaru ATF, ATF-HP	Suitable for Use
Suzuki ATF 2328, 2384K, JWS 3309, 3314	Suitable for Use
Texaco H402	Suitable for Use
Toyota D-II, D-III	Suitable for Use
Toyota T-II, T-III, T-IV, WS, Ford XT8QAW	Suitable for Use
Type A	Suitable for Use
Voith 55.6335 (6807)	Suitable for Use
Volvo Passenger Car (4 / 6 sp), Volvo 97340, 97341, 97342	Suitable for Use
Volvo P/N 1161540-8	Suitable for Use
VW 5 HP ZF6 HP 3D, 18FL, 3D, 18FL, 24A, G-055-025 A2, TL 821 62	Suitable for Use
VW G 052 025, 102, 099, 055 025	Suitable for Use
VW P/N GUS 000 182	Suitable for Use
VW TL52162 (LT71141)	Suitable for Use
ZF 845RE / 878RE, ZF 8HP45 / 8HP70 / 8HP90	Suitable for Use
ZF all 3 & 4 speed trans.	Suitable for Use
ZF TE-ML 02F, TE-ML 03D, TE-ML 04D, TE-ML 06, TE-ML 11A	Suitable for Use
ZF TE-ML 14A, TE-ML 14B, TE-ML 14C, TE-ML 16L, ZF TE-ML 17C	Suitable for Use
CAT TO-2	Suitable For Use
Hino Blue Ribbon ATF	Suitable For Use
ISUZU BESCO ATF-II, III	Suitable For Use

*Allison TES-389 is a registered trademark of Allison Transmissions, Inc.

TYPICAL PROPERTIES

Brookfield Viscosity at -40°C, cP	ASTM D2983	10,300
Color	ASTM D1500	Red
Flash Point °C	ASTM D92	220
Flash Point °F	ASTM D92	428
Gravity, °API	ASTM D287	35.80
Pour Point °C (°F)	ASTM D5696	-51°C (-60°F)



Product Data

BP Autran Syn 295 Premium Heavy Duty ATF

Description

BP Autran Syn 295 is a fully synthetic universal shift and automatic transmission fluid designed to increase efficiency through extended drain intervals. BP Autran Syn 295 is formulated to maintain its stability even under the most severe operating conditions.

Application

BP Autran Syn 295 can be used in a variety of applications including:

- Inter/Intra-city buses, school buses
- Delivery trucks and vans
- Refuse fleets
- Emergency vehicles
- Light duty pickup trucks and passenger cars (where DEXRON®-III is approved)
- Recreational vehicles/motor homes
- On/Off-highway vehicles

Advantages

- Superior high/low temperature performance due to high VI synthetic base fluids
- Excellent shear stability provides a stable viscosity, providing wear protection throughout the drain interval
- Excellent corrosion and foaming resistance
- Allows for extended drain intervals and extended filter change intervals reducing operating costs
- Compatible with most other automotive transmission fluids and seals
- Offers flexibility of one fluid for year-round use in all geographic locations
- Provides durable and consistent transmission shifts
- Provides excellent thermal and oxidation stability resulting in lower deposit formation

Typical Physical Characteristics

Test	Method	Typical Results
Viscosity at 40°C, cSt	ASTM D-445	37.7
Viscosity at 100°C, cSt	ASTM D-445	7.35
Viscosity Index	ASTM D-2270	165
Color, Typical	ASTM D-1500	7.0
Appearance		Red
Brookfield Viscosity at -40 C, cP	ASTM D-2983	8,150
Pour Point, °C (°F)	ASTM D-97	-60 (-76)
Flash Point, °C (°F)	ASTM D-92	235 (455)
Specific Gravity, 60°F	ASTM D-1298	0.845
Pounds per Gallon	ASTM D-287	7.03
KRL Shear 20 Hrs, % Viscosity Loss	CEC-L45 A	3.8
Rust Protection	ASTM D1748	No Rust

Product Performance Claims

BP Autran Syn 295 meets or exceeds the performance requirements set forth by OEMs and is listed and approved under the following specifications:

- Allison TES-295 (AN-031002)
- Allison TES-468
- Allison C-4 (33014203)
- ZF TE-ML 14C
- Voith H55.633636 (G-34010)
- DEXRON®-III (G-34746)

Additional Information

Part Numbers and UPCs

	BP Autran 295 Syn
6 x 1 Gal Case Part #	709732
5 Gal Pall Part #	709707
55 Gal Drum Part #	709701

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the applications referred to above and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDSs are available upon request through your sales contact office, or via the Internet at www.castrol.com/us. This product should not be used for purposes other than the applications referred to above. If disposing of used product, take care to protect the environment, return used oil to collection center.

BP Autran Syn 295
28 Mar 2013

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MAG 1® FULL SYNTHETIC MULTI-VEHICLE TRANSMISSION FLUID

PASSENGER CAR TRANSMISSION PRODUCTS AUTOMATIC TRANSMISSION PRODUCTS



MAG 1 Full Synthetic Multi-Vehicle ATF is a balanced advanced formula utilizing superior additive technology and 100% synthetic base oils helping to ensure peak performance of almost any automatic transmission. This premium-quality product meets and exceeds the frictional and wear requirements of many automatic transmissions manufactured after 1983, including many foreign vehicles.

PROTECTION FOR TODAY'S AUTOMATIC TRANSMISSION DESIGNS

Automotive transmissions have evolved dramatically, requiring highly specialized fluids for unique applications. One brand has evolved right alongside -- MAG 1®. Only the most advanced transmission fluids meet the difficult challenges of effectively balancing performance, strength and durability.

Featuring MAG 1® with FMX® Technology – Friction Management for Xtreme protection™. MAG 1 is designed to provide unsurpassed protection.

PERFORMANCE

- Delivers superior friction stability to maintain smooth, consistent shifting and prevent shudder.

STRENGTH

- Provides a strong oil film to prevent metal-to-metal contact between rotating parts to prevent wear.

DURABILITY

- Resists thickening due to high operating temperatures.

APPLICATIONS

- MAG 1 Full Synthetic Multi-Vehicle ATF is recommended for a wide range of vehicles requiring DEXRON®III/MERCON® fluids including: GM (pre -2006 models), Ford® (all models except where MERCON® SP, LV or Type F are required), Mazda, Honda/Acura, and Subaru (all models except Continuously Variable Transmissions (CVTs)), Suzuki JWS-3308, and Volkswagen (pre-2006 models). Additionally recommended for transmissions calling for Toyota Type T, T-III, T-IV; Nissan, SP-III.

INDUSTRY/DEM SPECIFICATIONS

Allison C-4	Suitable for Use
Audi G 052 025, 032 162, 056 025	Suitable for Use
BMW 7945E, LA2634, LT71141	Suitable for Use
BMW P/N 83 22 0 024 359, ETL-8072B	Suitable for Use
BMW P/N 83 22 0 0246 322, ETL-7045E	Suitable for Use
BMW P/N 83 22 0 403 249, ETL-8072B	Suitable for Use
BMW P/N 83 22 9 407 765, LA 2634	Suitable for Use
BMW P/N 83 22 9 407 807, LT 711 41	Suitable for Use
Dexron III 8/H, Dexron II, Dexron, AW1	Suitable for Use
Esso 71141	Suitable for Use
Ford P/N XT-2-DX (MERC), Ford P/N XT-2-SM (SYN MERC)	Suitable for Use
Fuchs 3363	Suitable for Use
Honda DW-1, Z-1	Suitable for Use
Hyundai/Acura/Mitsubishi Diamond SP-II and SP-III, RED-1, SP-IV	Suitable for Use
Hyundai NSW3908	Suitable for Use
IDEMITSU APORDIL ATF NP	Suitable for Use
Idemitsu K17	Suitable for Use
ISUZU 08200-8001 / Gexline ATF	Suitable for Use
Jaguar P/N WSS-M2C922-A-1	Suitable for Use
JWS 3308, Any 3309	Suitable for Use
JWS 3324	Suitable for Use
M315-2004 JASO 1A, 2A	Suitable for Use
MAN 339 Type V2	Suitable for Use
MAN 339 Type Z1, Z2, V1	Suitable for Use
Mazda ATF M-II, M-V, T-IV	Suitable for Use
MB236.1,2,5,6,7,9, 10, 11	Suitable for Use
Mercon, Ford ESP-M2C166-H	Suitable for Use
MINI P/N 83 22 0 482 413	Suitable for Use
NAO-1	Suitable for Use
Nissan Matic-D, J, K	Suitable for Use

Porsche P/N 989 917 547 00 (A2)	Suitable for Use
SAAB P/N 22 717 466, 93 165 147 (AW-1)	Suitable for Use
Saturn P/N 21005386	Suitable for Use
Saturn T-IV, GM TASA, T-IV ATF, GM WS ATF	Suitable for Use
Shell 3403, LA2834, Texaco 7045-E, ETL-89728	Suitable for Use
Shell 3403 M115	Suitable for Use
Subaru ATF, ATF-HP	Suitable for Use
Suzuki 3314, 3317	Suitable for Use
Texaco N402	Suitable for Use
Toyota T-II, T-III, T-IV, WS, Ford XT80AW	Suitable for Use
Valvoline 55.6335 (0607)	Suitable for Use
Volvo Passenger Car (4 / 6 sp), Volvo 97340, 97341, 97342	Suitable for Use
Volvo P/N 1167540-B	Suitable for Use
VW G 052 025, 162, 098, 055 025	Suitable for Use
VW P/N GUS 000 182	Suitable for Use
ZF TE-ML 030, 040, 06L, 08, 11B, 14A, 16L, 17C	Suitable for Use
ZF TE-ML 14B	Suitable for Use

TYPICAL PROPERTIES

Brookfield Viscosity at -40°C, cP	ASTM D2883	10,300
Color	ASTM D1500	Red
Copper Strip Corrosion (3 hrs@100°C)	ASTM D130	1B
Flash Point °C	ASTM D92	216
Flash Point °F	ASTM D92	420
Gravity, °API	ASTM D287	34.68
Pour Point °C (°F)	ASTM D5950	-51°C (-80°F)
Rust Protection	ASTM D665A	Pass
Specific Gravity @ 60°F (15.6°C)	ASTM D4052	0.8516
Viscosity @ 100°C cSt	ASTM D445	7.41
Viscosity @ 40°C cSt	ASTM D445	33.64
Viscosity Index	ASTM D2270	196

CONTAINER/BULK AVAILABILITY

55 Gallon Drum	Product Number - 82869
3/1 Gallon	Product Number - 63341
6/1 Quart	Product Number - 82555

Available in Bulk

Information accurate as of April 4, 2019

MAG 1® CONTINUOUSLY VARIABLE TRANSMISSION FLUID

PASSENGER CAR TRANSMISSION PRODUCTS AUTOMATIC TRANSMISSION PRODUCTS



MAG 1 CVT Fluid is specially formulated with a unique combination of full synthetic base stocks and an advanced additive technology designed for the specific demands of CVTs. This premium-quality product is recommended for use in most belt or chain-driven CVTs. It is not a replacement for ATF.

PROTECTION FOR TODAY'S AUTOMATIC TRANSMISSION DESIGNS

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Featuring MAG 1® with FMX® Technology – Friction Management for Xtreme protection™. MAG 1 is designed to provide unsurpassed protection.

PERFORMANCE

- Delivers superior friction stability to maintain smooth, consistent shifting and prevent shudder.

STRENGTH

- Provides a strong oil film to prevent metal-to-metal contact between rotating parts to prevent wear.

DURABILITY

- Resists thickening due to high operating temperatures.

APPLICATIONS MAY INCLUDE:

- Audi/VW (TL 521 80; G 052 180, TL 521 16; G 052 516)
- BMW Mini Cooper (EZL 779)
- Dodge/Jeep/Chrysler (NS-2 / CVTF-4)
- Honda (HMME, HCF2)
- Hyundai/Kia (CVTF-J1)
- Mazda (JWS 3320)
- Mercedes Benz (236.20)
- Mitsubishi (CVTF-J1, CVTF-J4)
- Nissan (NS-1, NS-2, NS-3)
- Punch CVT
- Subaru (iCVT, iCVT F6, eCVT, Lineartronic CVT and CVT II)
- Suzuki (CVTF TC, NS-2, CVT Green 1)
- Toyota (CVTF TC, CVTF FE)

INDUSTRY/OEM SPECIFICATIONS

Audi/VW (TL 52180; G 052 180; G 052 516)	Suitable for Use
BMW 8322 0 136 379/8322 0 429 154(EZL799/EZL 799A)	Suitable for Use
Daihatsu Amlx CVTF-DC, Daihatsu AMIX CVTF-DFE	Suitable for Use
Dodge / Jeep (NS-2 / CVTF-4/Mopar CVT 4)	Suitable for Use
Ford CFT30/WSS-M2C933-A /Motorcraft XT-7-QCFT	Suitable for Use
GM/Satara (DEX-CVT, CVTF I-Green2)	Suitable for Use
Honda (HMME, HCF-2)	Suitable for Use
Hyundai/Kia CVTF (SP-CVT 1)	Suitable for Use
Mazda CVTF 3320	Suitable for Use
Mercedes Benz (236.20)	Suitable for Use
Mercedes Benz CVT28/MB-Approval 236.20	Suitable for Use
Mini Cooper (EZL 799/ EZL 799A/ZF CVT V1)	Suitable for Use
Mitsubishi (CVTF-J1)	Suitable for Use
Mitsubishi DiaQueen (CVTF-J1, CVTF-J4)	Suitable for Use
Nissan (NS-1, NS-2, NS-3)	Suitable for Use
Punch EZL 799/EZL 799A	Suitable for Use
Renault ELFMATIC	Suitable for Use
Shell Green 1V	Suitable for Use
Subaru (NS-2 / Lineartronic CVTF, i-CVTF, KM25Y0710) e-CVTF	Suitable for Use
Suzuki (TC / NS-2 / CVTF Green 1, CVTF Green 2, CVTF 3320)	Suitable for Use
Toyota (TC, FE)	Suitable for Use

TYPICAL PROPERTIES

4/5/2019

<https://mag1.com/products/58/pds/>

Brookfield Viscosity at -40°C, cP	ASTM D2983	12,300
Color	ASTM D1600	Amber
Flash Point °C	ASTM D92	199
Flash Point °F	ASTM D92	390
Gravity, °API	ASTM D287	34.23
Pour Point °C (°F)	ASTM D6950	-51°C (-80°F)
Specific Gravity @ 60°F (15.6°C)	ASTM D4062	0.8538
Viscosity @ 100°C cSt	ASTM D445	7.21
Viscosity @ 40°C cSt	ASTM D445	33.8
Viscosity Index	ASTM D2270	185

CONTAINER/BULK AVAILABILITY

8/1 Quart

Product Number - 83318

Available in Bulk

Information accurate as of April 4, 2019



PRODUCT DATA SHEET
Compass Hydraulic Tractor Fluid

COMPASS HYDRAULIC TRACTOR FLUID is a premium transmission / differential / hydraulic fluid with superior anti-wear properties recommended for use in power shift / hydrostatic / manual transmissions, differentials, final drives, wet brakes / clutches, power steering, and PTO drives commonly used in farm and construction equipment, off-highway vehicles, and industrial tractors. Some applications include: Power shift transmissions specifying Allison C-3/C-4 or CAT TO-2 fluids; John Deere J20A, J20C; Ford New Holland M2C-41B, -48B, -48C, -86C, -134D; Kubota B6 (UDT); and Vickers 35VQ25.

Typical Characteristics:	
	HTF
Specific Gravity @ 15.6°C (60°F)	0.869
Kinematic Viscosity	
cSt @ 40°C	58.7
cSt @ 100°C	9.4
Brookfield Viscosity	
cP @ -18°C	2600
Flash Point, °C	226
Pour Point, °C	-42
Color	L 3.0

Note: Values shown above are representative of current production and may vary within modest ranges.



PRODUCT DATA SHEET
Compass EMD Railroad DEO Oil

COMPASS EMD RAILROAD DEO OILS are outstanding high-dispersancy, high-alkalinity crankcase oil for railroad and marine diesel engines. SAE Grades 30 and 40 are compounded from MVI Base (Mixed-Base/Paraffinic-Napthenic) Oils to reduce hard carbon deposit formation in the ring belt area to minimize port blocking in 2- stroke cycle diesel engines. Multi-grade 20W-40 is formulated with a shear stable VI Improver to provide better oil flow and lubrication at lower temperatures. All SAE grades contain detergent, dispersant, anti-wear, anti-oxidant, corrosion inhibitor, and foam-suppressant additives. The additive system used does NOT contain 'zinc-compound' derivatives.

Recommended for use in Electro-Motive Division of General Motors Corporation (EMD), Caterpillar, General Electric, and other diesel engines operating on higher than normal sulfur distillate-fuel where sulfated ash of +1% is acceptable. The SAE straight grades are highly recommended for medium speed industrial engines such as Fairbanks-Morse opposed-piston (OP) engines for which a medium viscosity index oil is the preferred product. In many marine applications this product can be used in both main propulsion engines as well as auxiliaries. Meets API Service Classification Level "CF" and obsolete "CD".

Typical Characteristics:	
	40
Specific Gravity @ 15.6°C (60°F)	24
Viscosity	
cSt @ 40°C	180
cSt @ 100°C	14.5
Viscosity Index	77
Flash Point, °F	465
Pour Point, °F	0
TBN, ASTM D 2896	13
Ash %wt.-Sulfated	1.5
Zinc Content, ppm	<10

Note: Values shown above are representative of current production and may vary within modest ranges.



PRODUCT DATA SHEET
Compass Synthetic Multipurpose Gear Oil

COMPASS SYNTHETIC MULTIPURPOSE GEAR OIL is designed to provide superb performance for automobiles, light and heavy duty trucks, and various industrial equipment when API Service Classification GL-5 and MT-1 is specified. The products are compounded with synthesized base stocks that have outstanding thermal and oxidation stability. The additive system provides extreme pressure characteristics, anti-wear performance, anti-corrosion inhibition, rust prevention, and anti-foaming tendencies.

Recommended for differentials, rear axles, final drives, conventional manual transmissions, manual steering gears in passenger cars and trucks where API GL-5 type lubricant is specified for severe service and long life. Recommended for gear applications where a controlled sulfur/ phosphorus additive package is designated or preferred and extreme cold operating conditions are encountered. Complies with API MT-1 capability for non synchronized manual transmissions in heavy duty systems. Meets the performance requirements of U.S. Military Specification MIL-PRF-2105E, Eaton Axle PS-037, PS-163, PS-109(75W-90)/ Dana Drive Axle (E500 Roadranger) SHAES-256 Rev. C, Mack GO-J PLUS(75W-90) and GO-J(80W-140). Due to refined additive technology and state of the art synthetic base materials that provide significant oxidation resistance, these products may be used to extend drain intervals or used in severe applications.

Typical Characteristics:		
	75W90	80W140
Specific Gravity @ 60°F	30.0	30.0
Kinematic Viscosity		
cSt @ 40°C	107.1	212.9
cSt @ 100°C	15.0	25.3
Viscosity Index	146	150
Flash Point, °F	410	420
Pour Point, °F	-15	5

Note: Values shown above are representative of current production and may vary within modest ranges.