

I. Packages of additives

Product	Type
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Package of additives

PA-4502

Specification

BY 390401182.030-2012

Heavy duty diesel engine oil package of additives.

Main benefits

Excellent protection against wear due to corrosion of bearing and cylinder liners. Excellent protection of engine valve train components. The highest level of prevention against damaging deposits common in high temperature modern diesel engines. Excellent control of soot.

Use recommendations	Treat rate*
CI-4/SL	13.6 % wt.
CH-4/CG-4/SJ	11.9 % wt.
CG-4/SJ	10.5 % wt.

* - in combination with viscosity improver & pour point depressant

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	75.0	120.0
Flash point (COC), °C	170	212	-
TBN, mg KOH/g	72	85	-
Calcium content, % wt.	2.30	2.63	2.90
Zinc content, % wt.	0.85	0.91	0.96
Nitrogen content, % wt.	0.50	0.65	-
Sulfate ash content, % wt.	-	10.3	11.5

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving. Shelf life at ambient temperature – 12 months.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product**Type****Package of additives****PA-4501**

Specification

BY 390401182.025-2011

Top tier a multipurpose cascade package of additives for crankcase oils.**Main benefits**

Excellent protection against wear of bearing and cylinder liners. Excellent protection of engine valve train components. The highest level of prevention against damaging deposits on engine elements.

Use recommendations	Treat rate[*]
SL/CF	11.1% wt.
SJ/CF	4.0 % wt. + 3,7 % wt. PA-2503-1
SG/CD	2.2 % wt. + 4.0 % wt. PA-2503-1 ^{**}
CF-4/SG	1.8 % wt. + 5.5 % wt. PA-2503-1 ^{***}

* - in combination with viscosity improver & pour point depressant

**- equivalent 6.2% wt. PA-2503-2

***- equivalent 7.3% wt. PA-2503-3

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	45.0	-
Flash point (COC), °C	170	210	-
TBN, mg KOH/g	70	85	-
Calcium content, % wt.	2.40	2.75	-
Zinc content, % wt.	0.90	0.97	-
Nitrogen content, % wt.	0.60	0.70	-
Sulfate ash content, % wt.	-	10.8	11.7

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving. Shelf life at ambient temperature – 12 months.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product**Type****Package of additives
PA-2503-1**

Specification
BY 390401182.028-2011

A multipurpose cascade package of additives for passenger car and heavy diesel crankcase oils.

Main benefits

The package of additives provides requirements for passenger car and heavy diesel engines, protection of engine valve train components. Good protection against wear of bearing and cylinder liners.

Use recommendations	Treat rate *
SF/CC	4.2 % wt.
SF/CD	4.5 % wt.
SG/CD	4.0 % wt. + 2.2 % wt. PA-4501 **
SJ/CF	3.7 % wt. + 4.0 % wt. PA-4501
CF-4/SG	5.5 % wt. + 1.8 % wt. PA-4501 ***
SD/CB	3.3 % wt. +0,3 % wt. LUKOI LDF-11κ

* - in combination with viscosity improver & pour point depressant

** - equivalent 6.2% wt. PA-2503-2

*** - equivalent 7.3% wt. PA-2503-3

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	53.0	150
Flash point (COC), °C	170	214	-
TBN, mg KOH/g	140	147	-
Calcium content, % wt.	4.8	5.1	-
Zinc content, % wt.	1.9	2.1	-
Nitrogen content, % wt.	0.45	0.55	-
Sulfate ash content, % wt.	-	20.5	22.0

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving. Shelf life at ambient temperature – 12 months.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product**Type****Package of additives****PA-2503-2**

Specification

BY 390401182.028-2011

Top tier passenger car motor oils package of additives.**Main benefits**

Good level of prevention against damaging deposits on engine elements. Good protection against wear of bearing and cylinder liners.

Use recommendations**Treat rate*****SG/CD**

6.2 % wt.

* - in combination with viscosity improver & pour point depressant

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	49.0	150
Flash point (COC), °C	170	214	-
TBN, mg KOH/g	115	129	-
Calcium content, % wt.	4.10	4.48	-
Zinc content, % wt.	1.55	1.68	-
Nitrogen content, % wt.	0.55	0.62	-
Sulfate ash content, % wt.	-	17.8	21.0

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving. Shelf life at ambient temperature – 12 months.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product**Type****Package of additives****PA-2503-3**

Specification

BY 390401182.028-2011

Heavy duty diesel engine oil package of additives.**Main benefits**

Excellent protection of engine valve train components. Good level of prevention against damaging deposits on engine elements. Good protection against wear of bearing and cylinder liners.

Use recommendations**Treat rate *****CF-4/SG**

7.3 % wt.

* - in combination with viscosity improver & pour point depressant

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	50.0	150
Flash point (COC), °C	170	210	-
TBN, mg KOH/g	135	141	-
Calcium content, % wt.	4.30	4.75	-
Zinc content, % wt.	1.55	1.65	-
Nitrogen content, % wt.	0.50	0.58	-
Sulfate ash content, % wt.	-	18.6	22.0

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving. Shelf life at ambient temperature – 12 months.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product**Type****Package of additives****PA-2503-4**

Specification

BY 390401182.028-2011

Diesel engine oil package of additives

Use recommendations	Treat rate *
CB	1.85 % wt.+ 0.15 % wt. LUKOIL DF-11k
CC	2.8 % wt.
CD	4.2 % wt.

* - in combination with viscosity improver & pour point depressant

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	47.0	150
Density at 60 °C, kg/m ³	-	1061	-
Flash point (COC), °C	170	214	-
TBN, mg KOH/g	220	230	-
Calcium content, % wt.	8.0	8.5	-
Zinc content, % wt.	2.2	2.3	-
Sulfate ash content, % wt.	-	31.3	35.0

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving. Shelf life at ambient temperature – 12 months.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product	Type
Package of additives PA-2600	Multifunctional package of additives for monograde and multigrade engine oils using appropriate Group I base stock.

Main benefits

Package of additives provide safety protection for high-sulfur fueled engines in hot climate conditions. The package of additives provides requirements for passenger car and heavy diesel engines, protection of engine valve train components.

Use recommendations	SAE Viscosity Grade	Treat rate*
SL/CF/CF-4 (8,5 TBN)	Monograde & Multigrade	4.1% wt. + 3.4% wt. PA-2620 ⁴
SJ/CF/CF-4 (8 TBN)	Monograde & Multigrade	4.0 % wt. + 2.5 % wt. PA-2610 ³
CF-4/SG (11 TBN)	Monograde & Multigrade	4.0 % wt. + 1,5% wt. PA-2610 + 0,8 % wt. CCK-400D ²
SG/CD (7 TBN)	Monograde & Multigrade	3.6 % wt. + 1.6% wt. PA-2610 ¹
CF/SF (10 TBN)	Monograde & Multigrade	4.25 % wt. + 0.6 % wt. CCK-400D
SF/CD, CD (12 TBN)	Monograde & Multigrade	3.8 % wt. + 1.3% wt. CCK-400D
SF/CD, CD (10 TBN)	Monograde & Multigrade	3.8 %wt. + 0.8 % wt. CCK-400D
SF/CC/CD (7 TBN)	Monograde & Multigrade	3.8 % wt.
SE/CC (6 TBN)	Multigrade	3.2 % wt.
SE/CC (5 TBN)	Monograde	2.8 % wt.
CC (7 TBN)	Monograde & Multigrade	2.2 % wt. + 0.75 % wt. CCK-400D
SC/CC (4 TBN)	Monograde	2.2 % wt.
SB/CB (3,5 TBN)	Multigrade	1.85 % wt.
SB/CB (3 TBN)	Monograde	1.6 % wt.

* - in combination with viscosity improver & pour point depressant

1- equivalent 5.2% wt. PA-2615 3- equivalent 6.5% wt. PA-2635

2- equivalent 6.3% wt. PA-2625 4- equivalent 7.5% wt. PA-2645

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	50.0	120
Flash point (COC), °C	170	220	-
TBN, mg KOH/g	180	189	200
Calcium content, % wt.	6.0	6.5	7.3
Zinc content, % wt.	2.3	2.4	2.5
Nitrogen content, % wt.	-	0.4	-
Sulfate ash content, % wt.	-	26.7	29.0

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving. Shelf life at ambient temperature – 12 months.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product	Type
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Package of additives PA- 2610	Passenger car motor oil additive. A performance additive booster.
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Use recommendations	Treat rate [*]
SJ/CF/CF-4 (8 TBN)	2.5 % wt. + 4.0 % wt. PA-2600 ³
CF-4/SG (11 TBN)	1.5 % wt.+ 4.0 % wt. PA-2600 ² + 0.8 % wt. CCK-400D
SG/CD (7 TBN)	1.6 % wt.+ 3.6 % wt. PA-2600 ¹

* - in combination with viscosity improver & pour point depressant
 1- equivalent 5.2% wt. PA-2615 3- equivalent 6.5% wt. PA-2635
 2- equivalent 6.3% wt. PA-2625

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	51	180
Flash point (COC), °C	170	210	-
TBN, mg KOH/g	20	35	45
Nitrogen content, % wt.	-	1.1	-
Zinc content, % wt.	0.50	0.60	0.8
Sulfate ash content, % wt.	-	2.4	5.0

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product**Type****Package of additives
PA- 2620****Passenger car motor oil additive.
A performance additive booster.****Use recommendations****Treat rate*****SL/CF/CF-4 (8.5 TBN)****3.4 % wt. + 4.1 % wt. PA-2600¹**

* - in combination with viscosity improver & pour point depressant

1- equivalent 7.5% wt. PA-2645

Some physical & chemical properties

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	45	200
Flash point (COC), °C	170	208	-
TBN, mg KOH/g	20	30	45
Nitrogen content, % wt.	-	1.4	-
Zinc content, % wt.	0.50	0.55	0.70
Sulfate ash content, % wt.	-	2.4	4.5

Conditions of usage

Recommended solution temperature of package of additives in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

II. Succinimide additives

Product	Type		
ADDITIVE C-5A Specification 38.101146-77	Ash-free succinimide dispersant, produced on polyisobutylene basis with molecular mass 1000. It is used in combination with antioxidant and neutralizing additives in the process of oil manufacture for gasoline and diesel engines.		
Characteristics	C-5A mark A	C-5A mark B Typical values	C-5A mark V
Kinematic viscosity at 100 °C, cSt	95	88	60
Flash point (COC), °C	220	220	220
TBN, mg KOH/g	32.3	29	23
Nitrogen content, % wt.	1.78	1.55	1.45
Acid number, mg KOH/g	2.0	2.0	2.0
Active material, % wt.	52	44	42
Conditions of usage	Recommended solution temperature of additive in base oil is up to 80 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product	Type		
ADDITIVE C-5AB Specification 38.401-58-130-95	Ash-free succinimide dispersant, produced on polyisobutylene basis with molecular mass 1000 and modified by boron. It is used in combination with antioxidant and neutralizing additives in the process of oil manufacture for gasoline and diesel engines.		
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	80,0	200
Flash point (COC), °C	160	210	-
TBN, mg KOH/g	10.0	15.0	-
Nitrogen content, % wt.	1.0	1.25	-
Boron content, % wt.	0.3	0.4	0.8
Conditions of usage	Recommended solution temperature of additive in base oil is up to 80 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product	Type
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ADDITIVE C-1000

Specification
BY 390401182.026-2012

Succinimide ashless dispersant . Additive C-1000 is generally used with oxidation inhibitor and acid neutralizing additives in gasoline and diesel engine oils. It provides excellent low temperature sludge and varnish control in gasoline and effective dispersancy in diesel engine.

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	80	400
Flash point (COC), °C	180	210	-
TBN, mg KOH/g	15.0	18.0	-
Acid number, mg KOH/g	-	2.4	4.0
Nitrogen content, % wt.	1.1	1,2	-
Active material, % wt.	50.0	52.0	-

Conditions of usage

Recommended solution temperature of additive in base oil is up to 80 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product	Type
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ADDITIVE C-1500

Specification
BY 390401182.026-2012

Ash-free succinimide dispersant, produced on polyisobutylene basis with molecular mass 1300. It is used in combination with antioxidant and neutralizing additives in the process of oil manufacture for gasoline and diesel engines.

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	230	400
Flash point (COC), °C	180	210	-
TBN, mg KOH/g	24.0	30.0	-
Nitrogen content, % wt.	1.4	1.5	-
Acid number, mg KOH/g	-	2.3	4.0
Active material, % wt.	50.0	54.0	-

Conditions of usage

Recommended solution temperature of additive in base oil is up to 80 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product		Type	
ADDITIVE C-1500B Specification BY 390401182.026-2012		Ash-free succinimide dispersant, produced on polyisobutylene basis with molecular mass 1300 and modified by boron. It is used in combination with antioxidant and neutralizing additives in the process of oil manufacture for heavy duty diesel engines.	
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	230	400
Flash point (COC), °C	180	210	-
TBN, mg KOH/g	24.0	32.0	-
Nitrogen content, % wt.	1.4	1.5	-
Boron content, % wt.	0.20	1.10	-
Conditions of usage	Recommended solution temperature of additive in base oil is up to 80 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product		Type	
ADDITIVE C-2500 Specification BY 390401182.026-2012		Ash-free succinimide dispersant, produced on polyisobutylene basis with molecular mass 2300. It is used in combination with antioxidant and neutralizing additives in the process of oil manufacture for heavy duty diesel engines.	
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	180	400
Flash point (COC), °C	180	210	-
TBN, mg KOH/g	18.0	22.0	-
Nitrogen content, % wt.	0.8	1.0	-
Acid number, mg KOH/g	-	1.5	4.0
Active material, % wt.	40.0	45.0	-
Conditions of usage	Recommended solution temperature of additive in base oil is up to 80 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

III. Zinc dialkyldithiophosphate additives

Product	Type		
ADDITIVE VNII NP-354 Specification 38.101680-77	Zinc dialkylphenyldithiophosphate in mineral oil. An inhibitor and antiwear additive for crankcase, marine and industrial oils.		
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	20	25
Flash point (COC), °C	165	190	-
Zinc content, % wt.	2.4	2.6	-
Phosphorous content, % wt.	2.3	2.4	-
Sulfur content, % wt.	4.5	4.7	-
pH of additive solution, pH	2.7	2.8	-
Conditions of usage	Recommended solution temperature of additive in base oil is up to 80 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product	Type		
ADDITIVE H-101 Specification BY 390401182.024-2011	Zinc dialkyldithiophosphate solution in mineral oil. An antiwear additive for gear and industrial oils.		
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	13	17
Density at 60 °C, kg/m ³	-	1160	-
Flash point (COC), °C	160	180	-
Zinc content, % wt.	10.5	10.8	-
pH of additive solution, pH	5.5	6.0	-
Conditions of usage	Recommended solution temperature of additive in base oil is up to 40 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product**Type****ADDITIVE H-102**

Zinc dialkyldithiophosphate solution in mineral oil. An inhibitor and antiwear additive for crankcase, industrial, hydraulic oils and greases.

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 40 °C, cSt	-	150,0	200
Density at 20 °C, kg/m ³	-	1060	-
Flash point (COC), °C	150	194	-
Zinc content, % wt.	7.5	8.0	-
Phosphorous content, % wt.	7.0	7.5	-
Sulfur content, % wt.	-	15	-

Conditions of usage

Recommended solution temperature of additive in base oil is up to 50 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product**Type****ADDITIVE
LUKOIL DF-11K**

Specification
0257-005-00044434-99

Zinc dialkyldithiophosphate solution in mineral oil. An inhibitor and antiwear additive for crankcase and industrial, hydraulic oils.

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	11.5	15.0	-
Density at 60 °C, kg/m ³	-	1131	-
Flash point (COC), °C	165	194	-
Zinc content, % wt.	8.8	9.2	9.6
Phosphorous content, % wt.	7.8	8,2	8.5
pH of additive solution, pH	5.5	6.1	-

Conditions of usage

Recommended solution temperature of additive in base oil is up to 50 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

IV. Ashless dialkyldithiophosphates

Product	Type		
ADDITIVE VNII NP -715 Specification 38.1011226-89	Amine salt of dialkylphenyldithiophosphoric acid solution in mineral oil. It is an ash-free antioxidant. It is used in the process of compressor and other low-ash oil manufacture.		
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	27	35	-
Density at 60 °C, kg/m ³	-	942	-
Flash point (COC), °C	160	190	-
Sulfur content, % wt.	2.8	3.0	-
Phosphorous content, % wt.	2.1	2.4	-
Nitrogen content, % wt.	1.9	2.1	-
Conditions of usage	Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

V. Natural sulfonate additives

Product	Type		
ADDITIVE C-150 Specification 38.101685-84	Average alkaline calcium sulfonate, produced on mineral raw material basis.		
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	70.0	-
Flash point (COC), °C	180	210	-
TBN, mg KOH/g	230	250	-
Calcium content, % wt.	9.0	9.5	
Sulfate ash content, % wt.	-	32.0	35.0
Conditions of usage	Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product**Type****ADDITIVE C-300**

Specification
BY 390401182.023-2010

High alkaline calcium sulfonate, produced on mineral raw material basis.

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	130	300
Flash point (COC), °C	180	220	-
TBN, mg KOH/g	280	300	-
Calcium content, % wt.	10.5	11.2	-
Sulfate ash content, % wt.	-	38.0	40.0

Conditions of usage

Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

VI. Synthetic sulfonate additives**Product****Type****ADDITIVE HCCK-30**

Specification
BY 390401182.022-2011

Neutral calcium sulfonate, produced on synthetical dialkyl benzene sulfonic acid.

Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	30	80
Flash point (COC), °C	180	210	-
TBN, mg KOH/g	-	15.0	30.0
Calcium sulfonate content, % wt.	40.0	42.0	-
Calcium content, % wt.	1.8	2.5	-
Sulfate ash content, % wt.	-	8.5	10.0

Conditions of usage

Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.

Safety requirements

Before usage the product please read material safety data sheet (MSDS) of the product.

Product		Type	
ADDITIVE CCK-300 Specification BY 390401182.022-2011		High alkaline calcium sulfonate, produced on alkyl benzene sulfonic acid.	
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	80.0	100
Flash point (COC), °C	180	214	-
TBN, mg KOH/g	300	315	350
Calcium sulfonate content, % wt.	28,0	29.0	-
Calcium content, % wt.	10.5	11.5	-
Sulfate ash content, % wt.	-	39.0	48.0
Conditions of usage	Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product		Type	
ADDITIVE CCK-400 Specification BY 390401182.022-2011		High alkaline calcium sulfonate, produced on alkyl benzene sulfonic acid.	
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	200.0	350.0
Flash point (COC), °C	180	196	-
TBN, mg KOH/g	380	405	430
Calcium sulfonate content, % wt.	25.0	28.0	-
Calcium content, % wt.	13.5	15.5	-
Sulfate ash content, % wt.	-	52.7	55.0
Conditions of usage	Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product		Type	
ADDITIVE CCK-400D Specification BY 390401182.022-2011		High alkaline calcium sulfonate , produced on dialkyl benzene sulfonic acid.	
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	100.0	150.0
Flash point (COC), °C	180	214	-
TBN, mg KOH/g	380	405	430
Calcium sulfonate content, % wt.	25.0	26.0	-
Calcium content, % wt.	13.5	15.2	-
Sulfated ash content, % wt.	-	51.7	55.0
Color at dilution 15:85	-	4.0	6.0
Conditions of usage	Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

VII. Phenolate additives

Product		Type	
ADDITIVE B-7120 Specification 0257-008-11246224-97		Calcium high alkaline phenolate additive. It is used in combination with other detergents in the process of oil manufacture for gasoline and diesel engines.	
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	130.0	250.0
Flash point (COC), °C	170	216	-
TBN, mg KOH/g	200	218	-
Sulfur content, % wt.	3.0	3.2	5.0
Sulfate ash content, % wt.	-	26.0	30.0
Conditions of usage	Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product		Type	
ADDITIVE B-7125 Specification BY 390401182.031-2012		Calcium high alkaline phenolate additive. It is used in combination with other detergents in the process of oil manufacture for gasoline and diesel engines.	
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	180.0	300
Flash point (COC), °C	170	210	-
TBN, mg KOH/g	250	278	-
Sulfate ash content, % wt.	-	33.8	40.0
Conditions of usage	Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

Product		Type	
ADDITIVE B-7130D Specification BY 390401182.027-2012		Calcium high alkaline phenolate additive. It is used in combination with other detergents in the process of oil manufacture for gasoline and heavy duty diesel engines.	
Characteristics	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt	-	200	350
Flash point (COC), °C	170	208	-
TBN, mg KOH/g	250	286	-
Sulfate ash content, % wt.	-	34.0	39.0
Conditions of usage	Recommended solution temperature of additive in base oil is up to 70 °C. Any devices providing uniformity of stirring of package of additives in base oil can be used for dissolving.		
Safety requirements	Before usage the product please read material safety data sheet (MSDS) of the product.		

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