

CATALOGUE OF PRODUCTS

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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 petrol and diesel engines.

Designation	Improves dispersive and detergent properties of lubricating oils.
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Physicochemical properties	C-5A mark A	C-5A mark B	C-5A mark V
	Typical values		
Kinematic viscosity at 100 °C, cSt	95	88	60
Density at 60 °C, kg/m ³	890	890	890
Flash temperature, °C	210	210	210
TBN, mg KOH/g	32,3	29	23
Nitrogen content, % wt.	1,78	1,55	1,5
Color at dilution 15:85	4,0	4,0	4,0
Acid number, mg KOH/g	2,0	2,0	2,0
Mechanical impurities content	0,055	0,055	0,055
Water content, % wt.	0,06	0,06	0,06
Active material, % wt.	52	44	42

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets.
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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 petrol and diesel engines.

Designation	Improves detergent, dispersive and anticorrosive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		80,0	
Density at 60 °C, kg/m ³		895	
Flash temperature, °C	160		
TBN, mg KOH/g	10,0	15,0	
Nitrogen content, % wt.	1,0	1,4	
Boron content, % wt.	0,3	0,4	0,8
Mechanical impurities content		0,055	0,06
Water content, % wt.		0,03	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE C-1500 Specification BY 390401182.026-2010	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 petrol and diesel engines.

Designation	Improves dispersive and detergent properties of lubricating oils.
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		230	
Density at 60 °C, kg/m ³		900	
Flash temperature, °C	180		
TBN, mg KOH/g	24,0	30,0	
Nitrogen content, % wt.	1,4	1,5	
Color at dilution 15:85		4,5	6,0
Acid number, mg KOH/g		2,3	4,0
Mechanical impurities content		0,055	0,06
Water content, % wt.		0,06	0,10
Active material, % wt.	50,0	54,0	

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE C-1500B Specification BY 390401182.026-2010	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 petrol and diesel engines.

Designation	Improves detergent, dispersive and anticorrosive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		180	
Density at 60 °C, kg/m ³		900	
Flash temperature, °C	180		
TBN, mg KOH/g	24,0	32,0	
Nitrogen content, % wt.	1,4	1,5	
Color at dilution 15:85		4,0	6,0
Boron content, % wt.	0,20	0,40	
Mechanical impurities content		0,058	0,08
Water content, % wt.		0,03	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE C-2500 Specification BY 390401182.026-2010	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 petrol and diesel engines.

Designation	Improves dispersive and detergent properties of lubricating oils.
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		180	
Density at 60 °C, kg/m ³		890	
Flash temperature, °C	180		
TBN, mg KOH/g	18,0	22,0	
Nitrogen content, % wt.	0,8	1,0	
Color at dilution 15:85		3,0	6,0
Acid number, mg KOH/g		1,5	4,0
Mechanical impurities content		0,058	0,06
Water content, % wt.		0,03	0,10
Active material, % wt.	40,0	45,0	

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE VNII NP-354 Specification 38.101680-77	Zinc dialkylphenyldithiophosphate in mineral oil. It is used in combination with dispersive and neutralizing additives in the process of oil manufacture for petrol and diesel engines, and also for marine diesel engines.

Designation	Improves antioxidant, antiwear, anticorrosive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		20,0	
Density at 60 °C, kg/m ³		960	
Flash temperature, °C	165		
Zinc content, % wt.	2,40	2,60	
Phosphorous content, % wt.	2,3	2,4	
Sulfur content, % wt.	4,5	4,7	
pH of additive solution, pH	2,7	2,8	
Mechanical impurities content		0,08	0,10
Water content, % wt.		0,03	0,03

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE VNII NP-357 Specification 38.401-58-314-2002	Blend of zinc and amine salt of dialkylphenyldithiophosphoric acid solution in mineral oil. It is used in the process of oil manufacture for automobile and marine diesel engines.

Designation	Improves antioxidant and anticorrosive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		25	
Density at 60 °C, kg/m ³		960	
Flash temperature, °C	165		
Zinc content, % wt.	2,2	2,5	
Phosphorous content, % wt.	2,2	2,4	
Nitrogen content, % wt.	0,3	0,5	
pH of additive solution, pH	4,0	4,2	
Mechanical impurities content		0,08	0,10
Water content, % wt.		0,03	0,03

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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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.

Designation	Improves antioxidant and anticorrosive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		35	
Density at 60 °C, kg/m ³		950	
Flash temperature, °C	160		
Sulfur content, % wt.	2,8	3,0	
Phosphorous content, % wt.	2,1	2,4	
Nitrogen content, % wt.	1,9	2,1	
Mechanical impurities content		0,08	0,10
Water content, % wt.		0,03	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE DF-11 Specification BY 390401182.003-2008	Zinc dithiophosphate solution in mineral oil. It is used in combination with dispersive and neutralizing additives in the process of oil manufacture for petrol and diesel engines.

Designation	Improves antioxidant, antiwear, anticorrosive properties of lubricating oils
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Physicochemical properties	DF-11 mark A			DF-11 mark B		
	Min	Typical value	Max	Min	Typical value	Max
Kinematic viscosity at 100 °C, cSt		7,0			16,5	
Density at 60 °C, kg/m ³		1020			1160	
Flash temperature, °C	170			170		
Zinc content, % wt.	5,0	5,4	5,6	8,8	9,2	
Phosphorous content, % wt.	4,4	4,5	4,9	8,0	8,3	
pH of additive solution, pH	5,5	5,6		5,6	5,7	
Color at dilution 15:85		1,0	3,5		1,5	3,5
Mechanical impurities content		0,08	0,10		0,08	0,10
Water content, % wt.		0,03	0,09		0,06	0,09

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE H-101 Specification BY 390401182.024-2009	Zinc dithiophosphate solution in mineral oil. It is used in combination with dispersive and neutralizing additives in the process of oil manufacture for petrol and diesel engines.

Designation	Improves antioxidant and anticorrosive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		15	
Density at 60 °C, kg/m ³		1160	
Flash temperature, °C	160		
Zinc content, % wt.	10,5	10,8	
pH of additive solution, pH	5,5	6,0	
Mechanical impurities content		0,08	0,10
Water content, % wt.		0,06	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE C-150 Specification 38.101685-84	Average alkaline calcium sulfonate, produced on mineral raw material basis. It is used in combination with other detergents and retardants in the process of oil manufacture for petrol and diesel engines.

Designation	Improves detergent and neutralizing properties of lubricating oils
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Physicochemical properties	C-150 mark A			C-150 mark «concentrate»		
	Min	Typical value	Max	Min	Typical value	Max
Kinematic viscosity at 100 °C, cSt		40,0			70,0	
Density at 60 °C, kg/m ³		980			1060	
Flash temperature, °C	180			180		
TBN, mg KOH/g	120	145	150	230	250	
Calcium sulfonate content, % wt.	28,0	30,0		-	-	-
Calcium content, % wt.	-	-	-	9,0	9,5	
Sulfate ash content, % wt.	17,0	22,0	24,0		32,0	35,0
Mechanical impurities content		0,08	0,08		0,08	0,10
Water content, % wt.		0,06	0,12		0,06	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE C-300 Specification BY 390401182.023-2010	High alkaline calcium sulfonate, produced on mineral raw material basis. It is used in combination with other detergents and retardants in the process of oil manufacture for petrol and diesel engines.

Designation	Improves detergent and neutralizing properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		70,0	
Density at 60 °C, kg/m ³		1070	
Flash temperature, °C	180		
TBN, mg KOH/g	280	290	310
Calcium sulfonate content, % wt.	28,0	29,0	
Calcium content, % wt.	9,0	10,3	
Sulfate ash content, % wt.		35,2	40,0
Mechanical impurities content		0,08	0,10
Water content, % wt.		0,06	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE HCCK-30 Specification BY 390401182.022-2009	Neutral calcium sulfonate, produced on synthetical dialkyl benzene sulphonic acid. It is used in combination with other detergents and retardants in the process of high quality oil manufacture of the highest performance groups for petrol and diesel engines.

Designation	Improves detergent, neutralizing and dispersive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		30	
Density at 60 °C, kg/m ³		940	
Flash temperature, °C	180		
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
Color at dilution 15:85		3,5	6,0
Mechanical impurities content		0,05	0,06
Water content, % wt.		0,03	0,15

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE CCK-300 Specification BY 390401182.022-2009	High alkaline calcium sulfonate, produced on alkyl benzene sulphonic acid. It is used in combination with other detergents and retardants in the process of high quality oil manufacture of the highest performance groups for petrol and diesel engines.

Designation	Improves detergent, neutralizing and dispersive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		80,0	
Density at 60 °C, kg/m ³		1150	
Flash temperature, °C	180		
TBN, mg KOH/g	300	340	350
Calcium sulfonate content, % wt.	28,0	29,0	
Calcium content, % wt.	10,5	12,0	
Sulfate ash content, % wt.		40,8	48,0
Mechanical impurities content		0,08	0,08
Water content, % wt.		0,06	0,15

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE CCK-400 Specification BY 390401182.022-2009	High alkaline calcium sulfonate, produced on alkyl benzene sulphonic acid. It is used in combination with other detergents and retardants in the process of high quality oil manufacture of the highest performance groups for petrol and diesel engines, and also for marine diesel engines.

Designation	Improves detergent, neutralizing and dispersive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		100,0	
Density at 60 °C, kg/m ³		1200	
Flash temperature, °C	180		
TBN, mg KOH/g	380	425	430
Calcium sulfonate content, % wt.	25,0	28,0	
Calcium content, % wt.	13,5	14,3	
Sulfate ash content, % wt.		50,7	55,0
Mechanical impurities content		0,08	0,08
Water content, % wt.		0,06	0,20

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE CCK-300D Specification BY 390401182.022-2009	High alkaline calcium sulfonate, produced on dialkyl benzene sulphonic acid. It is used in combination with other detergents and retardants in the process of high quality oil manufacture of the highest performance groups for petrol and diesel engines.

Designation	Improves detergent, neutralizing and dispersive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		50,0	
Density at 60 °C, kg/m ³		1180	
Flash temperature, °C	180		
TBN, mg KOH/g	300	330	350
Calcium sulfonate content, % wt.	28,0	30,0	
Calcium content, % wt.	10,5	12,0	
Sulfate ash content, % wt.		41,0	48,0
Color at dilution 15:85		3,0	6,0
Mechanical impurities content		0,08	0,08
Water content, % wt.		0,06	0,15

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE CCK-400D Specification BY 390401182.022-2009	High alkaline calcium sulfonate, produced on dialkyl benzene sulphonic acid. It is used in combination with other detergents and retardants in the process of high quality oil manufacture of the highest performance groups for petrol and diesel engines.

Designation	Improves detergent, neutralizing and dispersive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		80,0	
Density at 60 °C, kg/m ³		1200	
Flash temperature, °C	180		
TBN, mg KOH/g	380	395	430
Calcium sulfonate content, % wt.	25,0	28,0	
Calcium content, % wt.	13,5	14,1	
Sulfate ash content, % wt.		48,0	55,0
Color at dilution 15:85		3,0	6,0
Mechanical impurities content		0,08	0,08
Water content, % wt.		0,09	0,20

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE B-7120 Specification 0257-008-11246224-97	Calcium high alkaline phenolate additive. It is used in combination with other detergents and retardants in the process of oil manufacture for petrol and diesel engines.

Designation	Improves detergent, neutralizing and anticorrosive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		90,0	
Density at 60 °C, kg/m ³		1020	
Flash temperature, °C	170		
TBN, mg KOH/g	200	210	
Sulfur content, % wt.	3,0	3,1	5,0
Sulfate ash content, % wt.		26,0	30,0
Mechanical impurities content		0,08	0,08
Water content, % wt.		0,03	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
ADDITIVE B-7130D Specification BY 390401182.027-2010	Calcium high alkaline phenolate additive. It is used in combination with other detergents and retardants in the process of oil manufacture for petrol and diesel engines.

Designation	Improves detergent, neutralizing and anticorrosive properties of lubricating oils
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		110	
Density at 60 °C, kg/m ³		1020	
Flash temperature, °C	165		
TBN, mg KOH/g	275	280	290
Sulfur content, % wt.	2,0	2,9	5,0
Sulfate ash content, % wt.		35,0	46,0
Mechanical impurities content		0,08	0,10
Water content, % wt.		0,06	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
PACKAGE OF ADDITIVES Lukoil LLK-2501 Specification 0257-001- 79345251-2006	Package of additives (of sulfonated phenolate type) for automobile engine oils of CB, CC, CD, SD/CB, SF/CC, SG/CD, CF-4/SG groups according to API. It is used in combination with dithiophosphoric and succinimide additives, oil thickeners and depressants.
Designation	Improves antioxidant, anticorrosive, detergent, dispersive and neutralizing properties of lubricating oils

Use recommendations	
	Recommended oil dosage: - CB group – 1,8 % wt. - M-14B2 according to GOST 12337 – 3,15 % wt.
	- CC group according to API (M-8(10)G2, M-8(10,14)G2K according to GOST 8581) – 2,45 % wt.
	- CD group according to API (M-8(10)DM according to GOST 8581) – 3,15 % wt.
	- SD/CB groups according to API (M-8B, M-6з/10B according to GOST 10541) – 1,55 % wt.
	- SG/CD groups according to API – 2,1 % wt.
	- CF-4/SG groups according to API – 2,9 % wt.

Physicochemical properties	Lukoil LLK-2501	Lukoil LLK-2501-1	Lukoil LLK-2501-2
	Typical values		
Kinematic viscosity at 100 °C, cSt	140,0	15,0	110,0
Density at 60 °C, kg/m ³	1070	960	1100
Flash temperature, °C	not lower than 180	not lower than 180	not lower than 180
TBN, mg KOH/g	290	150	280
Calcium content, % wt.	10,0	5,5	10,5
Sulfate ash content, % wt.	37,0	18,0	37,0
Mechanical impurities content	0,08	0,08	0,08
Water content, % wt.	0,03	0,03	0,03

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type		
Package of additives PA-2503-1 Specification BY 390401182.028-2010	Multifunctional package of additives for all-purpose engine oils for passenger cars and commercial motors production. It is used in combination with oil thickeners and depressants.		
Designation	Engine oil production of group: -M-8B according to GOST 10541; - SD/CB, SF/CC according to API.		
Use recommendations	<p>Recommended oil dosage:</p> <p>- SD/CB groups according to API (M-8B according to GOST 10541) – 3,3 % wt., in combination with additive DF-11 mark «B» 0,3 % wt., viscosity modifiers and depressants.</p> <p>- SF/CC groups according to API – 4,5 % wt., in combination with viscosity modifiers and depressants</p>		
Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		40,0	
Density at 60 °C, kg/m ³		990	
Flash temperature, °C	170		
Appearance		transparent brown liquid	
TBN, mg KOH/g	145	154	
Calcium content, % wt.	5,00	5,25	
Zinc content, % wt.	2,0	2,31	
Nitrogen content, % wt.	0,45	0,47	
Sulfate ash content, % wt.		20,4	25,0
Mechanical impurities content		0,083	0,100
Water content, % wt.		0,060	0,100
Safety requirements	Specified in material safety data sheet (MSDS) of the product		
Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets		

Product	Type
PACKAGE OF ADDITIVES PA-2503-2 Specification BY 390401182.028- 2010	Multifunctional package of additives for all-purpose engine oils for passenger cars and commercial motors production. It is used in combination with oil thickeners and depressants.
Designation	Engine oil production of SG/CD group according to API.

Use recommendations	Recommended oil dosage for oils of SG/CD groups– 6,2 % wt., in combination with viscosity modifiers and depressants.
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		40,0	
Density at 60 °C, kg/m ³		1020	
Flash temperature, °C	170		
Appearance		transparent brown liquid	
TBN, mg KOH/g	120	129	
Calcium content, % wt.	4,10	4,23	
Zinc content, % wt.	1,60	1,68	
Nitrogen content, % wt.	0,55	0,57	
Sulfate ash content, % wt.		17,3	21,0
Mechanical impurities content		0,084	0,100
Water content, % wt.		0,060	0,100

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type
PACKAGE OF ADDITIVES PA-2503-3 Specification BY 390401182.028-2010	Multifunctional package of additives for all-purpose engine oils for passenger cars and commercial motors production. It is used in combination with oil thickeners and depressants.
Designation	Engine oil production of CF-4/SG group according to API.

Use recommendations	Recommended oil dosage for oils of CF-4/SG group – 7,3 % wt., in combination with viscosity modifiers and depressants.
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		50,0	
Density at 60 °C, kg/m ³		1040	
Flash temperature, °C	170		
Appearance		transparent brown liquid	
TBN, mg KOH/g	125	134	
Calcium content, % wt.	4,30	4,42	
Zinc content, % wt.	1,70	1,80	
Nitrogen content, % wt.	0,50	0,53	
Sulfate ash content, % wt.		17,9	22,0
Mechanical impurities content		0,082	0,100
Water content, % wt.		0,060	0,100

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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Product	Type		
PACKAGE OF ADDITIVES PA-2503-4 Specification BY 390401182.028-2010	Multifunctional package of additives for diesel engine oils for commercial motors production. It is used in combination with oil thickeners, depressants and antioxidant additives.		
Designation	Engine oil production of group - CB, CC, CD according to API; - M-10B2, M-14B2, M-8(10)G2, M-8(10,14)G2K, M-8(10)DM according to GOST		
Use recommendations	<p>Recommended oil dosage:</p> <p>- CB group according to API (M-10B2 according to GOST 8581) – 1,85 % wt., in combination with additive DF-11 mark «B» 0,15 % wt., and depressants.</p> <p>- M-14B2 according to GOST 12337 – 2,8 % wt., in combination with depressants.</p> <p>- CC group according to API (M-8(10)G2, M-8(10,14)G2K according to GOST 8581) – 2,9 % wt., in combination with depressants.</p> <p>- CD group according to API (M-8(10)DM according to GOST 8581) – 4,25 % wt., in combination with depressants.</p>		
Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		80,0	
Density at 60 °C, kg/m ³		1100	
Flash temperature, °C	170		
Appearance		transparent brown liquid	
TBN, mg KOH/g	230	232	
Calcium content, % wt.	8,0	8,2	
Zinc content, % wt.	2,2	2,3	
Sulfate ash content, % wt.		31,3	35,0
Mechanical impurities content		0,084	0,100
Water content, % wt.		0,060	0,100
Safety requirements	Specified in material safety data sheet (MSDS) of the product		
Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets		

Product	Type
PA-2503-1 PA-2503-2 PA-2503-3 PA-2503-4	Multifunctional package of additives for all-purpose engine oils for passenger cars and commercial motors production.
	Dosage (% wt.)

Use recommendations	PA-2503-1	PA-2503-2	PA-2503-3	PA-2503-4	DF-11 mark B
CB according to API (M-10B2 according to GOST 8581)				1,85±0,1	0,15±0,1
M-14B2 according to GOST 12337				2,8±0,1	
CC according to API (M-8(10)G2, M-8(10,14)G2K according to GOST 8581)				2,9±0,1	
CD according to API (M-8(10)DM according to GOST 8581)				4,25±0,1	
SD/CB according to API (M-8B according to GOST 10541)	3,3±0,1				0,3±0,1
SF/CC according to API	4,5±0,1				
SG/CD according to API		6,2±0,1			
CF-4/SG according to API			7,3±0,1		

Dissolving conditions

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

Physicochemical properties	PA-2503-1	PA-2503-2	PA-2503-3	PA-2503-4
	Typical values			
Kinematic viscosity at 100 °C, cSt	40	40	50	80
Density at 60 °C, kg/m ³	990	1020	1040	1100
Flash temperature, °C	not lower than 170			
Appearance	transparent brown liquid			
TBN, mg KOH/g	154	129	134	232,0
Calcium content, % wt.	5,25	4,23	4,42	8,2
Zinc content, % wt.	2,31	1,68	1,8	2,3
Nitrogen content, % wt.	0,47	0,57	0,53	-
Sulfate ash content, % wt.	20,4	17,3	17,9	31,3
Mechanical impurities content	0,083	0,084	0,082	0,084
Water content, % wt.	0,06	0,06	0,06	0,06

Safety requirements

Specified in material safety data sheet (MSDS) of the product

Package

Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets

Product	Type
PACKAGE OG ADDITIVES PA-4501 Specification BY 390401182.025-2009	Multifunctional package of additives for all-purpose engine oils for passenger cars production.
Designation	Engine oil production of SL/CF group according to API.

Use recommendations	Recommended oil dosage for oils of SL/CF group – 11,1 % wt., in combination with viscosity modifiers and depressants.
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Physicochemical properties	Minimum	Typical value	Maximum
Kinematic viscosity at 100 °C, cSt		40,0	
Density at 60 °C, kg/m ³		960	
Flash temperature, °C	170		
Appearance		transparent brown liquid	
TBN, mg KOH/g	75	85	
Calcium content, % wt.	2,40	2,65	
Zinc content, % wt.	0,95	1,00	
Nitrogen content, % wt.	0,6	0,7	
Sulfate ash content, % wt.		10,5	12,0
Mechanical impurities content		0,08	0,10
Water content, % wt.		0,06	0,10

Safety requirements	Specified in material safety data sheet (MSDS) of the product
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Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets
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CASCADE PACKAGES OF ADDITIVES

Multifunctional cascade packages of additives for all-purpose engine oils of SD/CB (M-8B according to GOST), SF/CC, SG/CD, CF-4/SG, SL/CF groups according to API on synthetic, semisynthetic and mineral base oils basis production.

Product	Type
PA-2503-1 PA-4501	Multifunctional packages of additives for production of all-purpose engine oils for passenger cars and commercial motors, distinguishing by low viscosity and possibility of complete dissolving in base oil up to 40-45 °C.

Dosage (% wt.)

Use recommendations	PA-2503-1	PA-4501	DF-11 mark B
API SD/CB according to API (M-8B according to GOST 10541)	3,3±0,1		0,3±0,1
API SF/CC according to API	4,5±0,1		
API SG/CD according to API	4,0±0,1	2,2±0,1	
API CF-4/SG according to API	5,5±0,1	1,8±0,1	
API SL/CF according to API		11,0±0,1	

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

Physicochemical properties	PA-2503-1	PA-4501
	Typical values	
Kinematic viscosity at 100 °C, cSt	40	40
Density at 60 °C, kg/m ³	990	960
Flash temperature, °C	200	
Appearance	transparent brown liquid	
TBN, mg KOH/g	154	85
Calcium content, % wt.	5,25	2,65
Zinc content, % wt.	2,31	1,00
Nitrogen content, % wt.	0,47	0,70
Sulfate ash content, % wt.	20,4	10,5
Mechanical impurities content	0,083	0,083
Water content, % wt.	0,06	0,06

Safety requirements Specified in material safety data sheet (MSDS) of the product

Package

Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets

Product	Type
ALKYLPHENOL Specification BY 300220696.016-2003	A product of phenol alkylation by trimers of propylene
Designation	A component of raw material in production of additives for engine oils, tire and other rubber fabricated products manufacture.
Physicochemical properties	Typical value
Density at 20 °C, kg/m ³	945
Flash temperature, °C	not lower than 120
Phenol content, % wt.	is absent
Monoalkylphenols content, % wt.	94,8
Dialkylphenols content, % wt.	5,2
Water content, % wt.	traces
Safety requirements	Specified in material safety data sheet (MSDS) of the product
Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets

Product	Type
DODECYLPHENOL Specification BY 390401182.018-2009	A product of phenol alkylation by tetramers of propylene..
Designation	A component of raw material in production of additives for engine oils, tire and other rubber fabricated products manufacture.
Physicochemical properties	Typical value
Density at 20 °C, kg/m ³	945
Flash temperature, °C	not lower than 150
Phenol content, % wt.	0,05
Monoalkylphenols content, % wt.	95,0
Dialkylphenols content, % wt.	4,95
Water content, % wt.	traces
Safety requirements	Specified in material safety data sheet (MSDS) of the product
Package	Delivery in tanks, mobile and railway tanks, shipping containers, in barrels with capacity of 216 liters, mounted on pallets