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QUALITY SPECIFICATION
Suspension polyvinylchloride (PVC-S)
TU U 24.1-33129683-005:2011
HS code: 39 04 10 00 00

Parameter	Grade standards					
	KSR-57	**KSR-60**	**KSR-67**	**KSF-65**	**KSF-70**	**KSF-75**
1. Quantity of color particles, max	20 pcs./250					
2. K-value	56-58	59-61	66-68	64-66	69-71	74-76
3. Bulk density	540-630 g/l	520-620 g/l	550-610 g/l	460-560 g/l	450-530 g/l	430-510 g/l
4. Residue after sieving with mesh size: 250 µm, max 63 µm, min	1% 95%					
5. Flowability, max	20 s/150g	20 s/150g	20 s/150g	30 s/150g	30 s/150g	30 s/150g
6. Absorbed plasticizer (g) per 100g of PVC	14-20 g/100g	15-22 g/100g	19-25 g/100g	24-30 g/100g	29-35 g/100g	30-36 g/100g
7. Thermostability of film under 160 ^{o}C, min	30 min	30 min	45 min	35 min	40 min	40 min
8. Moisture and volatile matter, max.	0,3 wt.%					
9. Residual vinyl chloride, max	1 ppm					
10. Quantity of transparent dots (fish eyes), max	5 pcs./100cm^2					
11. Volume resistivity, min	not determined				$5*10^{13}$ Ω*cm	not determined

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QUALITY SPECIFICATION
Commercially pure vinyl chloride
TU U 24.1-31256759- 005-2004
HS code: 29 03 21 00 00

Parameter	Specification limit	
	Extra	**Firstclass**
1. Appearance and color	Clear liquid without impurities	
2. Impurity, determined chromatographically in amount, % by wt., not more than, including: Acetylene Acetaldehyde Dichlorethane (1,1 - 1,2) Butadiene - 1,3	0.020 0.0001 0.0006 0.002 0.0010	0.026 0.0001 0.0006 0.002 0.003
3. Hydrogen chloride, % by wt., not more than	0.0001	0.0002
4. Iron, % by wt., not more than	0.0001	0.0001
5. Water, % by wt., not more than	0.02	0.04
6. Phenol, % by wt., not more than	0.0005	0.0005

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QUALITY SPECIFICATION
Caustic soda (sodium hydroxide technical)

TU U 24.1 – 33129683 – 002:2010
HS code: 28 15 12 00 90

Parameter	Grade A standards	
	Highest grade	**First grade**
1. Appearance	Colorless liquid without foreign matter. Crystallizing out sediments are allowed. Light-blue tint is allowed.	
2. Sodium hydroxide (NaOH), min	48 wt.%	46 wt.%
3. Sodium carbonate ($Na2CO_3$), max	0.2 wt.%	0.4 wt.%
4. Sodium chloride (NaCl), max	0.012 wt.%	0.02 wt.%
5. Sodium chlorate ($NaClO_3$), max	0.004 wt.%	0.007 wt.%
6. Sodium sulfate (Na_2SO_4), max	0.02 wt.%	0.04 wt.%
7. Iron (in conversion to Fe_2O_3), max	10 mg/kg	15 mg/kg

Note: Impurities in the caustic soda are given in conversion to 100% product.

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QUALITY SPECIFICATION
Benzene, GOST 9572-93
HS code: 29 02 20 00 00

Parameter	Grade standards
	Pure Benzene
1. Appearance and color	Transparent liquid without foreign matter and water. Color is not darker than solution of 0.003g of $K_2Cr_2O_7$ in 1 liter of water
2. Density at 20 ^oC	0.878 – 0.880 g/cm^3
3. Distillation limits (^oC) of 95%, max (incl. pure benzene boiling point 80.1^oC	-
4. Solidification point, min	5.40 ^oC
5. Benzene, min	99.8 wt.%
6. Impurities, max: n-heptane methylcyclohexane + toluene methylcyclopentane toluene	 0.06 wt.% 0.09 wt.% 0.04 wt.% 0.03 wt.%
7. Sulphuric acid tint, max	0.1 number of reference scale
8. Total sulphur, max	0.00010 wt.%
9. Reaction of aqueous extract	Neutral

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QUALITY SPECIFICATION
Ethylene, GOST 25070-87
Hs code: 29 01 21 00 00

Parameter	Grade standards
1. Ethylene, min	99.9 vol.%
2. Propylene, max	0.005 vol.%
3. Methane and ethane, max	0.1 vol.%
4. Acetylene, max	0.001 vol.%
5. Diene hydrocarbons (propadiene and butadiene), max	0.0005 vol.%
6. Oxygen (if shipped via pipeline), max	0.0002 vol.%
7. Hydrogen, max	0.001 vol.%
8. Carbon dioxide, max	0.001 vol.%
9. Carbon monoxide, max	0.0005 vol.%
10. Sulphur, max	1 mg/m3,
11. Water, max: if shipped via pipeline if shipped in tankers or cylinders	 0.001 wt.% 0.02 wt.%
12. Ammonia, max:	0.0001 vol.%
13. Methanol, max:	0.001 vol.%

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QUALITY SPECIFICATION
Polyethylene UCC, grade DGDS 6097
TU U 6-05743160.026-97, grade HXF4810 H
HS code: 39 01 20 90 00

Parameter	Grade standards
1. Appearance	White granules identical in shape without tails. Caking is not allowed.
2. Melt flow index (MFI): at 5.0 kgf at 21.6 kgf	 - 7 - 13 g/10min
3. $MFI_{21.6}$ to $MFI_{5.0}$ ratio:	18 - 33
4. Density	0.946 - 0.950 g/cm^3
5. Ash, max	0.1 wt.%
6. Purity, min	90 relative units
7. Color, min	96 relative units
8. Appearance of the film, min	+20 relative units
9. Tensile strength at yield, min	18 MPa
10. Tensile strength at break, min	30 MPa
11. Ultimate elongation	550 %
12. Elasticity (secant modulus)	750 MPa

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QUALITY SPECIFICATION
Polyethylene UCC, grade DMDA 6152
TU U 6-05743160.026-97, grade HXB5210 H
HS code: 39 01 20 90 00

Parameter	Grade standards
1. Appearance	White granules identical in shape without tails. Caking is not allowed.
2. Melt flow index (MFI): at 5.0 kgf at 21.6 kgf	 - 7 - 13 g/10min
3. $MFI_{21.6}$ to $MFI_{5.0}$ ratio:	14 - 40
4. Density	0.950 - 0.954 g/cm^3
5. Ash, max	0.07 wt.%
6. Purity, min	85 relative units
7. Color, min	90 relative units
8. Appearance of the film, min	-
9. Tensile strength at yield, min	20 MPa
10. Tensile strength at break, min	30 MPa
11. Ultimate elongation	700 %
12. Elasticity (secant modulus)	900 MPa
13. Environmental stress-cracking resistance, f_{50}	500 hours

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QUALITY SPECIFICATION
Polyethylene UCC, grade DGDA 6093
TU U 6-05743160.026-97, grade HXF5115 H
HS code: 39 01 20 90 00

Parameter	Grade standards
1. Appearance	White granules identical in shape without tails. Caking is not allowed.
2. Melt flow index (MFI): at 5.0 kgf at 21.6 kgf	 - 13 - 19 g/10min
3. $MFI_{21.6}$ to $MFI_{5.0}$ ratio:	80 - 135
4. Density	0.950 - 0.954 g/cm^3
5. Ash, max	0.05 wt.%
6. Purity, min	85 relative units
7. Color, min	90 relative units
8. Appearance of the film, min	-
9. Tensile strength at yield, min	20 MPa
10. Tensile strength at break, min	25 MPa
11. Ultimate elongation	450 %
12. Elasticity (secant modulus)	820 MPa
13. Environmental stress-cracking resistance, f_{50}	500 hours

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QUALITY SPECIFICATION
Propylene, GOST 25043-87
HS code: 29 01 22 00 00

Parameter	Grade A standards	
	Highest grade	First grade
1. Propylene, min	99.8 vol.%	99.0 vol.%
2. Ethylene, max	0.005 vol.%	0.01 vol.%
3. Acetylene and methylacetylene, max	0.001 vol.%	0.005 vol.%
4. C_4 fraction, max	0.002 vol.%	0.05 vol.%
5. Diene hydrocarbons (propadiene and butadiene), max	0.001 vol.%	0.015 vol.%
6. Sulphur, max	1 mg/m^3	3 mg/m^3
7. Water, max if shipped in tankers or cylinders	0.02 wt.%	not rated
8. Ethane and propane, max	0.2 vol.%	0.7 vol.%
9. Free water	nil	nil

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QUALITY SPECIFICATION
Cracking Liquid Products, C9 Fraction
HS code: 27 10 12 90 00

Parameter	Grade standards
1. Appearance	Transparent liquid without foreign matter
2. Density, at 20 ^{o}C,	0.890 – 0.945 g/cm^3
3. Color, by iodimetric scale, max	15 mg iodine / 100 cm^3
4. Iodine number, min	50 g iodine / 100g of product
5. Distillation characteristics initial boiling point, min 50% fraction distilled at, max 95% fraction distilled at, max final boiling point, max	 110 ^{o}C 175 ^{o}C 210 ^{o}C 225 ^{o}C
6. Water, max	0.3 wt.%

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QUALITY SPECIFICATION
Heavy Cracking Resin
HS code: 27 10 19 99 00

Parameter	Grade standards
1. Density at 15,5 ^{o}C, min	1.08 g/cm^{3}
2. API gravity	(-2) - (+2)
3. Pour point, max	27 ^{o}C
4. Open Cup Flash Point, min	80 ^{o}C
5. Bureau of Mines correlation index (BCMI), min	125
6. Viscosity at 99 ^{o}C, max	80 SUS
7. Coke formation (coke number), max	17 %
8. Sulphur, max	0.4 wt.%
9. Water, max	0.4 wt.%
10. Ash, max	0.03 wt.%
11. Sodium ions, max	0.001 wt.%
12. Potassium ions, max	0.0002 wt.%
13. Insolubles in toluene, max	0.15 wt.%
14. Insolubles in pentane (asphaltenes), max	30 wt.%
15. Asphaltenes (insoluble in heptane), max	20 wt.%