ROKE
Consulting FZCO

Product catalogue

Rev. 01
February 2024

ROKE Consulting FZCO

Ref. N21-01

PRODUCT SPECIFICATIONS

UREA $(NH_2)_2C0$ - carbon dioxide hydrazine carbamide

Characteristics:

Property	Value
Nitrogen, dry basis, wt %, min	46,2
Biuret, wt %, max	1,0
Water, wt %, max - hygroscopic - total	 0,3 0,6
Particle Size Distribution, wt %: - 1-4 mm, min - less than 1 mm, max - 6 mm sieve residue	 94 5 negative
Static Strength, MPa (kg/cm*), min or per granule, N (kgf), min	1,2 (12) 3 (0,3)
Friability, %, min	100

All- purpose high-analysis water- soluble nitrogen fertilizer. All types of soil and crops; basal dressing, spring or supplementary fertilizing. Top dressing of vegetables and fruits, late fertilizing of wheat for higher protein content. As a feed additive a in cattle production.

Resistant to wash-out which is critical for irrigated cropping areas. Applied to the soil in a solid state or as a solution with other liquid nitrogen fertilizers. Urea derivatives are efficient herbicides.

ROKE Consulting FZCO

Ref. K11-01

PRODUCT SPECIFICATIONS

Pink Granular MOP, Grade "G"

Particle Size Distribution:

mm	Cumulative % by weight
	Guarantee, %
+4 (>4)	no more 5,0
+2 (2-4)	no less 85,0
+1 (1-2)	no more 8,0
-1 (<1)	no more 2,0

Chemical Analysis:

Component	Symbol	Unit	Guarantee
Mass fraction of Potassium chloride in terms of K_2O	K_2O	%	no less 60,0
Mass fraction of Potassium Chloride	KCl	%	no less 95,0
Water mass content	H_2O	%	no more 0,5
Mass fraction of Zinc	Zn	mg/kg(ppm)	no more 23,0
Mass fraction of Mercury	Hg	mg/kg(ppm)	no more 2,1
Mass fraction of Lead	Pb	mg/kg(ppm)	no more 32,0
Mass fraction of Arsenic	As	mg/kg(ppm)	no more 2,0
Mass fraction of Cadmium	Cd	mg/kg(ppm)	no more 0,5

Physical Properties:

	Unit	Range
Bulk density	ton/m^3	0,99 – 1,13
Angle of repose	degrees	29 – 32
Color		sorrel
Dynamic durability	%	no less 85,0
Static capacity	%	no more 21,0

The product is treated with anticaking, antidust and hydrophobisator agents.

ROKE Consulting FZCO

Ref. K11-02

PRODUCT SPECIFICATIONS

Pink Standard MOP (grade "N")

Particle Size Distribution:

mm	Cumulative % by weight
	Guarantee, %
-2 (<2)	no less 90,0

Chemical Analysis:

Component	Symbol	Unit	Guarantee
Mass fraction of Potassium chloride in terms of K_2O	K_2O	%	no less 60,0
Mass fraction of Potassium Chloride	KCl	%	no less 95,0
Water mass content	H_2O	%	no more 0,5
Mass fraction of Zinc	Zn	mg/kg(ppm)	no more 23,0
Mass fraction of Mercury	Hg	mg/kg(ppm)	no more 2,1
Mass fraction of Lead	Pb	mg/kg(ppm)	no more 32,0
Mass fraction of Arsenic	As	mg/kg(ppm)	no more 2,0
Mass fraction of Cadmium	Cd	mg/kg(ppm)	no more 0,5

Physical Properties:

	Unit	Range
Bulk density	ton/m^3	0,90 – 1,14
Angle of repose	degrees	23 – 35
Color		sorrel

The product is treated with antidust and anticaking agents.

ROKE Consulting FZCO

Ref. K11-03

PRODUCT SPECIFICATIONS

Pink Standard MOP,Grade "O"

Particle Size Distribution:

mm	Cumulative % by weight
	Guarantee, %
-2 (<2)	no less 90,0
-0,1 (<0,1)	no more 3,0

Chemical Analysis:

Component	Symbol	Unit	Guarantee
Mass fraction of Potassium chloride in terms of K_2O	K_2O	%	no less 60,00
Mass fraction of Potassium Chloride	KCl	%	no less 95,0
Water mass content	H_2O	%	no more 0,50
Mass fraction of Zinc	Zn	mg/kg(ppm)	no more 23,0
Mass fraction of Mercury	Hg	mg/kg(ppm)	no more 2,1
Mass fraction of Lead	Pb	mg/kg(ppm)	no more 32,0
Mass fraction of Arsenic	As	mg/kg(ppm)	no more 2,0
Mass fraction of Cadmium	Cd	mg/kg(ppm)	no more 0,5

Physical Properties:

	Unit	Range
Bulk density	ton/m^3	0,9 – 1,14
Angle of repose	degrees	23 – 35
Color		sorrel

The product can be treated with antidust and anticaking agents.

ROKE
Consulting FZCO

Ref. K11-04

PRODUCT SPECIFICATIONS

Pink Granular-Fine MOP (Special)

Particle Size Distribution:

mm	Cumulative % by weight	
	Guarantee %	Typical
+4 (>4)	no more 3,0	
+1 (1-4)	no less 77,0	
-1 (<1)	no more 20,0	

Chemical Analysis:

Component	Symbol	Unit	Guarantee
Mass fraction of Potassium chloride in terms of K_2O	K_2O	%	no less 60,0
Mass fraction of Potassium Chloride	KCl	%	no less 95,0
Water mass content	H_2O	%	no more 0,5
Mass fraction of Zinc	Zn	mg/kg(ppm)	no more 23,0
Mass fraction of Mercury	Hg	mg/kg(ppm)	no more 2,1
Mass fraction of Lead	Pb	mg/kg(ppm)	no more 32,0
Mass fraction of Arsenic	As	mg/kg(ppm)	no more 2,0
Mass fraction of Cadmium	Cd	mg/kg(ppm)	no more 0,5

Physical Properties:

	Unit	Range
Color		sorrel

The product is treated with anticaking and antidust agents, hydrophobisator.

ROKE Consulting FZCO

Ref. K11-05

PRODUCT SPECIFICATIONS

White Granular MOP, Grade "G"

Particle Size Distribution:

mm	Cumulative % by weight
	Guarantee, %
+4 (>4)	no more 5,0
+2 (2-4)	no less 87,0
+1 (1-2)	no more 7,0
-1 (<1)	no more 1,0
-0,5 (<0,5)	no more 0,5

Chemical Analysis:

Component	Symbol	Unit	Guarantee
Mass fraction of Potassium chloride in terms of K_2O	K_2O	%	no less 60,0
Mass fraction of Potassium Chloride	KCl	%	no less 95,0
Water mass content	H_2O	%	no more 0,5
Mass fraction of Zinc	Zn	mg/kg(ppm)	no more 23,0
Mass fraction of Mercury	Hg	mg/kg(ppm)	no more 2,1
Mass fraction of Lead	Pb	mg/kg(ppm)	no more 32,0
Mass fraction of Arsenic	As	mg/kg(ppm)	no more 2,0
Mass fraction of Cadmium	Cd	mg/kg(ppm)	no more 0,5

Physical Properties:

	Unit	Range
Bulk density	ton/m^3	0,96 – 1,00
Bulk density (packed)	ton/m^3	1,02 – 1,06
Angle of repose	degrees	30 – 35
Color		white / grey color tone
Dynamic durability	%	no less 85,0

The product is treated with hydrophobisator agents.

ROKE Consulting FZCO

Ref. K11-06

PRODUCT SPECIFICATIONS

White Standard MOP, Grade "O"

Particle Size Distribution:

mm	Cumulative % by weight
	Guarantee, %
-2 (<2)	no less 90,0
-0,1 (<0,1)	no more 3,0

Chemical Analysis:

Component	Symbol	Unit	Guarantee
Mass fraction of Potassium chloride in terms of K_2O	K_2O	%	no less 60,00
Mass fraction of Potassium Chloride	KCl	%	no less 95,0
Water mass content	H_2O	%	no more 0,50
Mass fraction of Zinc	Zn	mg/kg(ppm)	no more 23,0
Mass fraction of Mercury	Hg	mg/kg(ppm)	no more 2,1
Mass fraction of Lead	Pb	mg/kg(ppm)	no more 32,0
Mass fraction of Arsenic	As	mg/kg(ppm)	no more 2,0
Mass fraction of Cadmium	Cd	mg/kg(ppm)	no more 0,5

Physical Properties:

	Unit	Range
Bulk density	ton/m^3	1,12 – 1,19
Bulk density (packed)	ton/m^3	1,16 – 1,26
Angle of repose	degrees	23 – 27
Color		white / grey color tone

The product can be treated with antidust and anticaking agents.

ROKE Consulting FZCO

Ref. K11-07

PRODUCT SPECIFICATIONS

White Fine MOP (grade "N")

Particle Size Distribution:

mm	Cumulative % by weight
	Guarantee, %
-2 (<2)	no less 90,0

Chemical Analysis:

Component	Symbol	Unit	Guarantee
Mass fraction of Potassium chloride in terms of K_2O	K_2O	%	no less 60,0
Mass fraction of Potassium Chloride	KCl	%	no less 95,0
Water mass content	H_2O	%	no more 0,5
Mass fraction of Zinc	Zn	mg/kg(ppm)	no more 23,0
Mass fraction of Mercury	Hg	mg/kg(ppm)	no more 2,1
Mass fraction of Lead	Pb	mg/kg(ppm)	no more 32,0
Mass fraction of Arsenic	As	mg/kg(ppm)	no more 2,0
Mass fraction of Cadmium	Cd	mg/kg(ppm)	no more 0,5

Physical Properties:

	Unit	Range
Bulk density	ton/m^3	1,00 – 1,07
Angle of repose	degrees	25 – 34
Color		grayish-white

The product is treated with antidust and anticaking agents.

ROKE Consulting FZCO

Ref. C12-01 - C12-08

PRODUCT SPECIFICATIONS

Nitrogen-Phosphorus-Potassium Fertilizer Mixtures

Nitrogen-phosphorous-potassium fertilizer mixtures (NPK Fertilizer Mixtures) are the effective fertilizers produced by mixing the ready-to-use forms of the granulated nitrogen, phosphorous and potassium mineral fertilizers, and they contain in an absorbed form the main nutrients for plants - nitrogen, phosphorous and potassium. Fertilizer mixtures provide the balanced nutrition for plants. They are designed for primary and pre-sowing applications as well for fertilizing on all the types of soils for the cultivation of various agricultural crops.

Specifications:

Appearance	Grade	Mass portion, %				
		Total nitrogen (N)	Total phosphates (P_2O_5)	Potassium (K_2O)	Sulfates (S), not less	H_2O, not more
Granules	4-5-47,5+1S	4±2	5±2	47,5±2	1	1,8
	4-16-34+2S	4±2	16±2	34±2	2	
	5-20,5-36	5±2	20,5±2	36±2	–	
	6-26-30	6±2	26±2	30±2	–	
	10-10-29,5+6S	10±2	10±2	29,5±2	6	
	17-17-17	17±2	17±2	17±2	–	
	22-5-27	22±2	5±2	27±2	–	
	22-11-22	22±2	11±2	22±2	–	

The product range consists of more than 80 grades with the possibility of expansion.

ROKE
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Ref. C13-01

COMPLEX FERTILIZERS NK GRADE 24-0-3

Complex fertilizers contain in their composition the main elements of nutrition for plants – nitrogen, phosphorus and potassium, and may also contain additives of macro- and microelements. They are intended for application to any types of soils for the purpose of mineral nutrition of agricultural crops in crop production.

Appearance	compacted granules of irregular shape from grayish-white to red-brown or yellow
Total Nitrogen (N)	24%
Total Potassium (K2O)	3%
Total moisture, max.	1,8%
Dynamic strength , min.	80%
Granulometric composition (fraction mass ratio)	
-more than 5 mm, max.	10%
-from 2 to 5 mm, min.	80%
-less than 1 mm, max.	5%
Friability	100%

The product corresponds in quality to TU BY 690668188.002-2019, N:K 24-0-3.
Joint storage with acids, alkalis, oxidants, organic and combustible materials is not allowed. Keep away from heat. The field of application is crop production.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Storage is allowed in open areas with a hard surface under a canopy.

ROKE
Consulting FZCO

Ref. C13-02

COMPLEX FERTILIZERS NK GRADE 18-0-18

Complex fertilizers contain in their composition the main elements of nutrition for plants – nitrogen, phosphorus and potassium, and may also contain additives of macro- and microelements. They are intended for application to any types of soils for the purpose of mineral nutrition of agricultural crops in crop production.

Appearance	compacted granules of irregular shape from grayish-white to red-brown or yellow
Total Nitrogen (N)	18%
Total Potassium (K2O)	18%
Total moisture, max.	1,8%
Dynamic strength , min.	80%
Granulometric composition (fraction mass ratio)	
-more than 5 mm, max.	10%
-from 2 to 5 mm, min.	80%
-less than 1 mm, max.	5%
Friability	100%

The product corresponds in quality to TU BY 690668188.002-2019, N:K 18-0-18.
Joint storage with acids, alkalis, oxidants, organic and combustible materials is not allowed. Keep away from heat. The field of application is crop production.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Storage is allowed in open areas with a hard surface under a canopy.

ROKE
Consulting FZCO

Ref. C13-03

COMPLEX FERTILIZERS NPK GRADE 22-5-5

Complex fertilizers contain in their composition the main elements of nutrition for plants – nitrogen, phosphorus and potassium, and may also contain additives of macro- and microelements. They are intended for application to any types of soils for the purpose of mineral nutrition of agricultural crops in crop production.

Appearance	compacted granules of irregular shape from grayish-white to red-brown or yellow
Total Nitrogen (N)	22%
Total Phosphates (P_2O_5)	5%
Total Potassium (K_2O)	5%
Total moisture, max.	1,8%
Dynamic strength , min.	80%
Granulometric composition (fraction mass ratio)	
-more than 5 mm, max.	10%
-from 2 to 5 mm, min.	80%
-less than 1 mm, max.	5%
Friability	100%

The product corresponds in quality to TU BY 690668188.002-2019, N:P:K 22-5-5.
Joint storage with acids, alkalis, oxidants, organic and combustible materials is not allowed. Keep away from heat. The field of application is crop production.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Storage is allowed in open areas with a hard surface under a canopy.

ROKE
Consulting FZCO

Ref. C13-04

COMPLEX FERTILIZERS NPK GRADE 13-13-21

Complex fertilizers contain in their composition the main elements of nutrition for plants – nitrogen, phosphorus and potassium, and may also contain additives of macro- and microelements. They are intended for application to any types of soils for the purpose of mineral nutrition of agricultural crops in crop production.

Appearance	compacted granules of irregular shape from grayish-white to red-brown or yellow
Total Nitrogen (N)	13%
Total Phosphates (P2O5)	13%
Total Potassium (K2O)	21%
Total moisture, max.	1,8%
Dynamic strength , min.	80%
Granulometric composition (fraction mass ratio) -more than 5 mm, max. -from 2 to 5 mm, min. -less than 1 mm, max.	 10% 80% 5%
Friability	100%

The product corresponds in quality to TU BY 690668188.002-2019, N:P:K 13-13-21.
Joint storage with acids, alkalis, oxidants, organic and combustible materials is not allowed. Keep away from heat. The field of application is crop production.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Storage is allowed in open areas with a hard surface under a canopy.

ROKE
Consulting FZCO

Ref. C13-05

COMPLEX FERTILIZERS NPK GRADE 15-15-15

Complex fertilizers contain in their composition the main elements of nutrition for plants – nitrogen, phosphorus and potassium, and may also contain additives of macro- and microelements. They are intended for application to any types of soils for the purpose of mineral nutrition of agricultural crops in crop production.

Appearance	compacted granules of irregular shape from grayish-white to red-brown or yellow
Total Nitrogen (N)	15%
Total Phosphates (P_2O_5)	15%
Total Potassium (K_2O)	15%
Total moisture, max.	1,8%
Dynamic strength , min.	80%
Granulometric composition (fraction mass ratio) -more than 5 mm, max. -from 2 to 5 mm, min. -less than 1 mm, max.	 10% 80% 5%
Friability	100%

The product corresponds in quality to TU BY 690668188.002-2019, N:P:K 15-15-15.
Joint storage with acids, alkalis, oxidants, organic and combustible materials is not allowed. Keep away from heat. The field of application is crop production.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Storage is allowed in open areas with a hard surface under a canopy.

ROKE
Consulting FZCO

Ref. C13-06

COMPLEX FERTILIZERS NPK GRADE 13-8-24

Complex fertilizers contain in their composition the main elements of nutrition for plants – nitrogen, phosphorus and potassium, and may also contain additives of macro- and microelements. They are intended for application to any types of soils for the purpose of mineral nutrition of agricultural crops in crop production.

Appearance	compacted granules of irregular shape from grayish-white to red-brown or yellow
Total Nitrogen (N)	13%
Total Phosphates (P2O5)	8%
Total Potassium (K2O)	24%
Total moisture, max.	1,8%
Dynamic strength , min.	80%
Granulometric composition (fraction mass ratio) -more than 5 mm, max. -from 2 to 5 mm, min. -less than 1 mm, max.	 10% 80% 5%
Friability	100%

The product corresponds in quality to TU BY 690668188.002-2019, N:P:K 13-8-24.
Joint storage with acids, alkalis, oxidants, organic and combustible materials is not allowed. Keep away from heat. The field of application is crop production.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Storage is allowed in open areas with a hard surface under a canopy.

ROKE
Consulting FZCO

Ref. C13-07

COMPLEX FERTILIZERS NPK GRADE 15-11-18

Complex fertilizers contain in their composition the main elements of nutrition for plants – nitrogen, phosphorus and potassium, and may also contain additives of macro- and microelements. They are intended for application to any types of soils for the purpose of mineral nutrition of agricultural crops in crop production.

Appearance	compacted granules of irregular shape from grayish-white to red-brown or yellow
Total Nitrogen (N)	15%
Total Phosphates (P_2O_5)	11%
Total Potassium (K_2O)	18%
Total moisture, max.	1,8%
Dynamic strength , min.	80%
Granulometric composition (fraction mass ratio)	
-more than 5 mm, max.	10%
-from 2 to 5 mm, min.	80%
-less than 1 mm, max.	5%
Friability	100%

The product corresponds in quality to TU BY 690668188.002-2019, N:P:K 15-11-18.
Joint storage with acids, alkalis, oxidants, organic and combustible materials is not allowed. Keep away from heat. The field of application is crop production.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Storage is allowed in open areas with a hard surface under a canopy.

ROKE
Consulting FZCO

Ref. K13-01

POTASSIUM NITRATE GRADE A

Highly effective nitrogen-potassium water-soluble fertilizer with a high potassium content. It is ideal for use in protected soil, fertigation systems, for foliar fertilizing of cereals, technical, fruit and ornamental crops.Potassium has a positive effect on the intensity of photosynthesis, participates in carbohydrate metabolism. Application of Potassium Nitrate helps to increase the resistance of plants to adverse environmental conditions: sudden changes in water and temperature regimes. It improves the quality of fruits, has a positive effect on the accumulation of starch in potato tubers, sugar in sugar beet and other root crops, and also helps to increase the strength of the stems, preventing the lodging of cereals.

Appearance	white crystals with yellowish-grey shade
Total potassium (K2O), min.	46,0%
Total nitrogen (N), min.	13,5%
Total chloride ion (C1-), max.	0,1%
Total insoluble in water, max.	0,03%
Total moisture, max.	0,5%
Friability	100%

The product corresponds in quality to TU BY 690668188.001-2018, Grade A.
When loading, storing, do not allow clogging or mixing with sawdust, straw, coal and other organic stuff, in order to avoid spontaneous combustion, fire.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Store in closed warehouses of the consignor (consignee) in the manufacturer's packaging.

ROKE
Consulting FZCO

Ref. K13-02

POTASSIUM NITRATE GRADE B

Highly effective nitrogen-potassium water-soluble fertilizer with a high potassium content. It is ideal for use in protected soil, fertigation systems, for foliar fertilizing of cereals, technical, fruit and ornamental crops.Potassium has a positive effect on the intensity of photosynthesis, participates in carbohydrate metabolism. Application of Potassium Nitrate helps to increase the resistance of plants to adverse environmental conditions: sudden changes in water and temperature regimes. It improves the quality of fruits, has a positive effect on the accumulation of starch in potato tubers, sugar in sugar beet and other root crops, and also helps to increase the strength of the stems, preventing the lodging of cereals.

Appearance	white crystals with yellowish-grey shade
Total potassium (K2O), min.	44,5%
Total nitrogen (N), min.	13,5%
Total chloride ion (C1-), max.	0,1%
Total insoluble in water, max.	0,03%
Total moisture, max.	0,5%
Friability	100%

The product corresponds in quality to TU BY 690668188.001-2018, Grade B.
When loading, storing, do not allow clogging or mixing with sawdust, straw, coal and other organic stuff, in order to avoid spontaneous combustion, fire.
Failure to comply with storage and transportation conditions may lead to environmental pollution.
Store in closed warehouses of the consignor (consignee) in the manufacturer's packaging.

ROKE Consulting FZCO

Ref. K22-01

MOP

Pink Granular 60% K_2O

- direct-application fertilizer
- bulk blends production

Chemical Analysis

Component	Typical, %	Guarantee, %
Potassium chloride (KCl) in terms of K_2O in terms of K	95.8 60.4 50.1	95 min 60 min
Sodium chloride (NaCl) in terms of Na	3.0 1.2	
Magnesium (Mg) Calcium (Ca)	0.01 0.16	
Insolubles in water	0.6	
Moisture	0.04	0.5 max
Anticaking agent	Added	

Available package:

Granulometry

Standard, mm	Cumulative wt%	
	Typical	Range
+4	6.8	10 max
-2	3.0	10 max
-1	0.3	2 max
-0.5	0.1	0.5 max

	Typical
Size Guide Number (SGN)	300
Uniformity Index (UI)	54

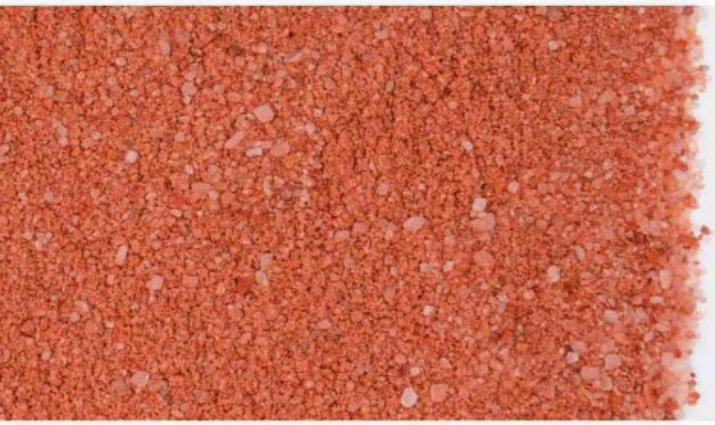
Physical Properties

Bulk density	1000 – 1100 kg/m^3
Angle of repose	26 – 40 degrees

*Product analyses are typical as tested at the mine site.
**Handling and transportation may affect the analysis of the delivered product.

ROKE Consulting FZCO

Ref. K22-02



MOP

Pink Standard 60% K_2O

- direct-application fertilizer
- production of complex fertilizers
- metallurgy

Chemical Analysis

Component	Typical, %	Guarantee, %
Potassium chloride (KCl)	95.8	95 min
in terms of K_2O	60.4	60 min
in terms of K	50.1	
Sodium chloride (NaCl)	2.9	
in terms of Na	1.1	
Magnesium (Mg)	0.01	
Calcium (Ca)	0.16	
Insolubles in water	0.6	
Moisture	0.1	0.5 max
Anticaking agent	Added	

Available package:

Granulometry***

Standard, mm	Cumulative wt%
	Range
+1.7	0 – 2.1
+1.0	3 – 24
+0.63	24 – 48
+0.4	48 – 69
+0.25	65 – 85
+0.2	73 – 92
+0.1	87 – 99

	Typical	Range
Size guide number (SGN)	48	36 – 71

Physical Properties***

Bulk density	1010 – 1190 kg/m³
Angle of repose	29 – 39 degrees

*Product analyses are typical as tested at the mine site.
**Handling and transportation may affect the analysis of the delivered product.
***Summarized data for products of different mines.

ROKE Consulting FZCO

Ref. K22-03

MOP

White Standard 60% K_2O

- production of complex fertilizers
- metallurgy

Chemical Analysis

Component	Typical, %	Guarantee, %
Potassium chloride (KCl)	97.4	95 min
in terms of K_2O	61.4	60 min
in terms of K	51.0	
Sodium chloride (NaCl)	2.4	
in terms of Na	1.0	
Magnesium (Mg)	0.01	
Calcium (Ca)	0.01	
Insolubles in water	0.01	
Moisture	0.05	0.5 max
Anticaking agent	Added	

Available package:

Granulometry

Standard, mm	Cumulative wt%	
	Typical	Range
+1.7	0.4	0 – 2.1
+1	9.1	2 – 18
+0.63	36	17 – 54
+0.4	73	58 – 89
+0.2	95	91 – 99
+0.1	99.3	99 – 100

	Typical
Size guide number (SGN)	55

Physical Properties

Bulk density	1080 – 1180 kg/m^3
Angle of repose	25 – 29 degrees

*Product analyses are typical as tested at the mine site.
**Handling and transportation may affect the analysis of the delivered product.

ROKE
Consulting FZCO

Ref. K22-04

MOP

White Standard 62% K_2O

- production of complex fertilizers
- production of potassium nitrate (NOP)
- water-soluble/liquid fertilizer
- metallurgy
- metal galvanization
- water softener

Chemical Analysis

Component	Typical, %	Guarantee, %
Potassium chloride (KCl)	98.4	98.2 min
in terms of K_2O	62.1	62 min
in terms of K	51.5	
Sodium chloride (NaCl)	1.5	
in terms of Na	0.6	
Magnesium (Mg)	0.01	
Calcium (Ca)	0.01	
Bromide (Br^-)	0.08	
Insolubles in water	0.01	
Moisture	0.05	0.5 max
Anticaking agent	Added	

Available package:

Granulometry

Standard, mm	Cumulative wt%	
	Typical	Range
+1.7	0.1	0 – 0.2
+1	4.0	2 – 7
+0.63	29	23 – 40
+0.4	70	64 – 81
+0.2	97	95 – 99
+0.1	99.6	99 – 100

	Typical
Size guide number (SGN)	52

Physical Properties

Bulk density	1090 – 1160 kg/m³
Angle of repose	24 – 35 degrees

*Product analyses are typical as tested at the mine site.
**Handling and transportation may affect the analysis of the delivered product.

ROKE Consulting FZCO

Ref. K22-05

MOP

White Fine 60% K_2O

- production of complex fertilizers

Chemical Analysis

Component	Typical, %	Guarantee, %
Potassium chloride (KCl)	97.3	95 min
in terms of K_2O	61.4	60 min
in terms of K	50.9	
Sodium chloride (NaCl)	2.5	
in terms of Na	1.0	
Magnesium (Mg)	0.01	
Calcium (Ca)	0.01	
Insolubles in water	0.03	
Moisture	0.03	1.0 max
Anticaking agent	Added	

Available package:

Granulometry

Standard, mm	Cumulative wt%	
	Typical	Range
+1	0.1	0 – 0.2
+0.63	0.3	0.1 – 0.5
+0.4	3.8	2 – 6
+0.2	58	26 – 50
+0.1	83	71 – 93
+0.063	98	89 – 98

	Typical
Size guide number (SGN)	18

Physical Properties

Bulk density	990 – 1120 kg/m³
Angle of repose	28 – 30 degrees

*Product analyses are typical as tested at the mine site.
**Handling and transportation may affect the analysis of the delivered product.

ROKE
Consulting FZCO

Ref. K22-06

MOP

White Fine 62% K_2O (Grade A)

- production of potassium sulphate (SOP)
- water-soluble/liquid fertilizer

Chemical Analysis

Component	Typical, %	Guarantee, %
Potassium chloride (KCl)	98.8	98.2 min
in terms of K_2O	62.3	62 min
in terms of K	51.7	
Sodium chloride (NaCl)	1.1	1.3 max
in terms of Na	0.4	
Magnesium (Mg)	0.01	
Calcium (Ca)	0.01	
Sulfate (SO_4^{2-})	0.01	
Bromide (Br^-)	0.09	
Insolubles in water	0.04	
Moisture	0.02	0.5 max
Anticaking agent	Added	

Available package:

Bags Big-bags Bulk

Granulometry

Standard, mm	Cumulative wt%	
	Typical	Range
+1	0.1	0 – 0.3
+0.63	0.2	0 – 0.5
+0.4	3.3	1 – 5
+0.2	41	31 – 53
+0.1	86	78 – 94
+0.063	96	92 – 98
	Typical	
Size guide number (SGN)	18	

Physical Properties

Bulk density	1020 – 1110 kg/m³
Angle of repose	29 – 31 degreese

*Product analyses are typical as tested at the mine site.
**Handling and transportation may affect the analysis of the delivered product.

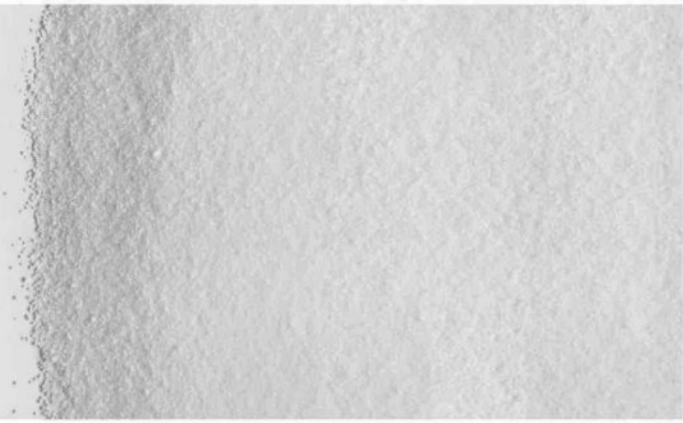
ROKE
Consulting FZCO

Ref. K22-07

MOP

White Fine 62% K_2O (Grade B)

- production of potassium sulphate (SOP)
- water-soluble/liquid fertilizer



Chemical Analysis

Component	Typical, %	Guarantee, %
Potassium chloride (KCl)	98.6	98.2 min
in terms of K_2O	62.2	62 min
in terms of K	51.6	
Sodium chloride (NaCl)	1.2	1.6 max
in terms of Na	0.5	
Magnesium (Mg)	0.01	
Calcium (Ca)	0.01	
Sulfate (SO_4^{2-})	0.01	
Bromide (Br^-)	0.08	
Insolubles in water	0.03	
Moisture	0.02	0.5 max
Anticaking agent	Added	

Available package:

Granulometry

Standard, mm	Cumulative wt%	
	Typical	Range
+1	0.1	0 – 0.2
+0.63	0.2	0 – 0.5
+0.4	3.6	2 – 5
+0.2	41	33– 51
+0.1	86	77 – 92
+0.063	96	92 – 99
	Typical	
Size guide number (SGN)	18	

Physical Properties

Bulk density	1010 – 1140 kg/m^3
Angle of repose	27 – 30 degreese

*Product analyses are typical as tested at the mine site.
**Handling and transportation may affect the analysis of the delivered product.