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## ABOUT US

umc is the regional marketer and distributor of Uralchem fertilizers  URALCHEM for Southeast Asia and the Middle East and is headquartered in the Dubai Multi Commodity Centre (DMCC)

Our Business Locations UMC is a global distributor focusing on Southeast Asia and the Middle East, where it operates an extensive network. We also have representatives in various countries to provide our customers with faster access and high shipping efficiency.

## MINERAL FERTILIZERS FOR AGRICULTURE



### Mineral fertilisers:

● nitrogen	9
● phosphate	12
● granular complex NPK/NPKS	15
● water-soluble	21

## PRODUCTS FOR INDUSTRIAL CHEMISTRY

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P/NP

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NPK/NPKS

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(CN  
with  
Mg)  
17N+32CaO+1MgO

23

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AQUADROP NPK	
NPK 13:40:13, NPK 18:18:18, NPK 20:20:20, NPK 5:15:45	







N/NS/NP

Nitrogen  
fertilisers

Packaging and storage:

CALCIUM  
AMMONIUM  
NITRATE  
(CAN)

 big bags

 in bulk

Store in a dry insulated place, away from moisture and direct sunlight.

Calcium ammonium nitrate (CAN)  
27N+12CaO

**Physiologically neutral nitrogen fertiliser.**  
**A safety benchmark for nitrogen-rich fertilisers.**

Contains equal amounts of ammonium and nitrate forms of nitrogen for extended plant nutrition. The presence of calcium carbonate prevents soil acidification. Calcium contributes to the development of the root system and increases disease and pest resistance.

Excellent physical and chemical characteristics to facilitate storage and application.

Recommended for all types of soils at pH less than 6.5.

Used for all crops, especially for roots and tubers, fruits and berries.



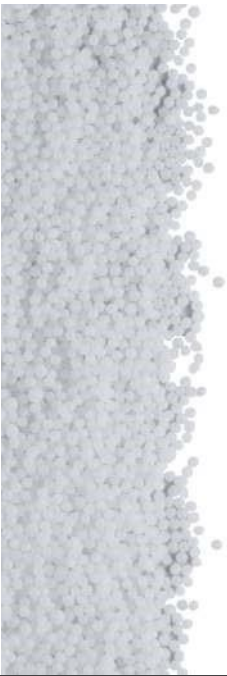
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Appearance	white-grey granules
Mass fraction of total nitrogen (N), %	27
including mass fraction of:	
– ammonium nitrogen	13.5
– nitrate nitrogen	13.5
– calcium in terms of CaO, %	12
– calcium nitrate, %, max	1
Particle size distribution, %	
Mass fraction of granules with size, mm	
– sized under 1 mm, max	3
– sized 1-5 mm, min	90
– sized over 6.3 mm	0
Friability, %	100



Appearance	white granules
Mass fraction of total nitrogen (N), %	46.2
Mass fraction of biuret, %, max	1.4*
Particle size distribution, % Mass fraction of granules:	
– sized under 1 mm, max	5(3)*
– sized 1-4 mm, min	94
– sized over 6 mm	0



Friability, %

100

\* varies for different production facilities



## MINERAL FERTILISERS FOR AGRICULTURE

N/NS/NP

Nitrogen

### Urea prilled

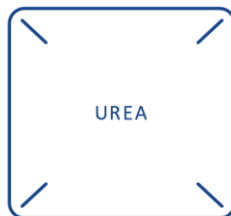
N 46.2

**The most concentrated nitrogen fertiliser. Extended nitrogen nutrition for the plant.**


Requires embedding into the soil immediately after application.

Fully water-soluble. Suitable for irrigation systems and foliar application.

#### Packaging and storage:



 bags

 big bags

 in bulk



Upon request, urea can be treated with an anticaking agent

Store in a dry insulated place, away from moisture and direct sunlight.









P/NP

Phosphate  
fertilisers




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Packaging and storage:

MONOAMMONIUM  
PHOSPHATE  
(MAP)

 big bags

 in bulk

Store in a dry insulated place, away from moisture  
and direct sunlight.

Monoammonium phosphate (MAP)

NP 12:52

Versatile granular highly concentrated nitrate-free nitrogen-phosphorus fertiliser.

Contains phosphates in readily available form.

Suitable for direct application to the soil and in fertiliser blends on all soils and crops. Especially for cereals, root crops, rapeseed, sugarcane, and as top-dressing for fruit and berry crops.

Recommended for at-planting application. Also effective as basic fertiliser on soils with low levels of available phosphorus.

Especially effective on cereals, root crops, rapeseed, sugarcane, and as a top-dressing for fruit and berry crops.

Excellent physical and chemical characteristics to facilitate storage and application.



	12:52
Appearance	
Mass fraction of total nitrogen (N), %, including mass fraction of:	12
- ammonium nitrogen, %	12
- total phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	52
- digestible phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	50
Particle size distribution, %	
Mass fraction of granules, mm	
- sized under 1 mm, max	3
- sized 1-6 mm, min	-
- sized 2-5 mm, min	90
- sized over 6 mm	0
Friability, %	100

storage and application.

	20:20(14)
Appearance	granules from white to grey in color with various shades
Mass fraction of total nitrogen (N), %, including mass fraction of:	20
– ammonium nitrogen, %	20
– total phosphates in terms of $P_2O_5$ , %	20
– digestible phosphates in terms $P_2O_5$ , %	20
– sulphate Sulphur in terms of S, % min	14
Particle size distribution, %	
Mass fraction of granules, mm	
– sized under 1 mm, max	3
– sized 1-5 mm, min	90
– sized over 6 mm	0
Friability, %	100



MINERAL FERTILISERS FOR AGRICULTURE

Packaging and storage:

NP(S) 20:20(14)

big bags

in bulk

Store in a dry insulated place, away from moisture and direct sunlight.

P/NP/NP(S) Phosphate

NP(S) 20:20(14)

**Versatile granular highly concentrated nitrate-free nitrogen-phosphorus fertiliser with high sulphur content.**

Contains phosphates in readily available form and nitrogen in ammonium form for a long-term effect. The sulphur content in the fertiliser promotes active growth of plants, increases their immunity and viability, and increases the overall product quality through increased protein content. Additionally, sulphur content improves absorption of nitrogen through synergy effects of both elements.

Suitable for direct application to the soil and in fertiliser blends on all types of soils and crops, especially for cereals, root crops, rapeseed, sugarcane, and as a top-dressing for fruit and berry crops. Also recommended for at-planting application. Effective basic fertiliser on soils with low levels of available phosphorus and high fraction

While NP(S) 14:34(8) is recommended for application as main fertiliser on soils with low intensity water flow in autumn, NP(S) 20:20(14) and 16:20(12) is recommended

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potassium.

to be applied on all kinds of soils in spring. Excellent physical and chemical characteristics facilitate



NPK/NPKS



Granular  
complex fertilisers

Packaging and storage:



Granules can be colored in pink and blue.



Various trace elements can be added to all NPK grades.

Store in a dry insulated place, away from moisture and direct sunlight.

NPK 15:15:15, NPKS 15:15:15:11, NPK 16:16:16

**Granular complex fertilisers with balanced composition of key nutrients.**

Granular complex NPK has a balanced nitrogen source, containing both forms of nitrogen (nitrate and ammonium). The nitrate form of nitrogen is a prerequisite to feed fast growing crops and ensure good root development, while the ammonium form is important to keep a sustained delivery of nitrogen.

The 11% sulphur content in NPKS 15:15:15:11 supports the quality of agricultural products (increases the protein content in cereals and oil content in oilseeds).

Suitable for all types of soil. Optimal for pre-sowing or at-sowing application for all types of crops.

With their consistent nutrient composition in each granule these complex NPK fertilisers ensure uniform distribution of all nutrients across the field.



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Appearance	white to various shades of grey or pink granules		
Mass fraction of:			
- total nitrogen (N), %	15	15	16
- ammonium nitrogen, %	8	15	8
- nitrate nitrogen, %	7	-	8
- total phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	15	15	16
- digestible phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %, min	15	15	16
- potassium in terms of K <sub>2</sub> O, %	15	15	16
- sulphate sulphur in terms of S, %, min	-	11	-
Particle size distribution, %			
Mass fraction of granules, mm			
- sized under 1 mm, max	3	3	3
- sized 1-5 mm, min	90	90	90
- sized over 6.3 mm	0	0	0



Friability, %

100

100

100

MINERAL FERTILISERS FOR AGRICULTURE  
High-nitrogen formulations

umc

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COMPANY

Packaging and storage:

NPKS 21:10:10:2  
NPKS 24:6:12:1  
NPKS 27:6:6:2

big bags

in bulk

Store in a dry insulated place, away from moisture and direct sunlight.

NPKS 21:10:10:2, NPKS 24:6:12:1,  
NPKS 27:6:6:2

Granular complex NPKS fertilisers with high nitrogen content.

Fully provides mineral nutrition for the plants due to the balanced composition of essential elements. The presence of ammonium and nitrate forms of nitrogen provides a prolonged effect of the fertiliser. The presence of phosphorus, potassium and sulphur allows for more efficient absorption of nitrogen, reducing its loss from leaching.

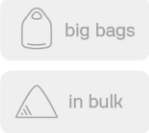
Suitable for all types of soils and all crops, optimally as basic fertiliser on soils with a high content of mobile phosphorus and potassium. Effective for top-dressing of perennial grasses, hayfields and pastures. Suitable for inter-row top-dressing on perennial plantations and fruits.

With their consistent nutrient composition in each granule these complex NPKS fertilisers ensure uniform distribution of all nutrients across the field.



	21:10:10:2	24:6:12:1	27:6:6:2
Appearance	pink, light pink or light brown granules		
Mass fraction of total nitrogen (N), %	21	24	27
including mass fraction of:			
– ammonium nitrogen	11	12	15
– nitrate nitrogen	10	12	12
– total phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	10	6	6
– digestible phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %, min	10	6	6
– potassium in terms of K <sub>2</sub> O, %	10	12	6
– sulphate sulphur in terms of S, %, min	2	1	2
Particle size distribution, %			
Mass fraction of granules, mm			
– sized under 1 mm, max	3	3	3
– sized 2-5 mm, min	90	90	90
– sized over 6.3 mm	0	0	0
Friability, %	100	100	100

Packaging and storage:



Store in a dry insulated place, away from moisture and direct sunlight.

NPKS 10:26:26:2

**Versatile granular complex NPKS fertilisers with high phosphorus and potassium contents.**

Ammonium nitrogen gives a sustained delivery of nitrogen as it becomes slowly available to the plant after conversion to nitrate form.

Suitable for all crops and soils. Especially effective for grain, vegetable, fodder, fruit and berry crops as main and at-planting fertilisers.

Excellent physical and chemical characteristics to facilitate storage and application.

With their consistent nutrient composition in each granule these complex NPKS fertilisers ensure uniform distribution of all nutrients across the field.



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	10:26:26:2
Appearance	white to various shades of grey or pink granules
Mass fraction of total nitrogen (N), % including mass fraction of:	10
– ammonium nitrogen	10
– total phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	26
– digestible phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %, min	25.5
– potassium in terms of K <sub>2</sub> O, %	26
– sulphate sulphur in terms of S, %, min	2
Particle size distribution, %	
Mass fraction of granules, mm	
– sized under 1 mm, max	3
– sized 1-5 mm, min	90
– sized over 6 mm	0
Friability, %	10



Low-nitrogen formulations






MINERAL FERTILISERS FOR AGRICULTURE  
Low-phosphorus formulations (V-grades)

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Packaging and storage:


NPKS 15:9:20:3  
NPK 19:4:19



big bags



in bulk



Various trace elements can be added to all NPK grades.

Store in a dry insulated place, away from moisture and direct sunlight.

NPKS 15:9:20:3, NPK 19:4:19,

Granular complex NPK fertilisers with high nitrogen and potassium content.

Granular complex NPK has a balanced nitrogen source, containing both forms of nitrogen (nitrate and ammonium). The nitrate form of nitrogen is a prerequisite to feed fast growing crops and ensure good root development, while the ammonium form is important to keep a sustained delivery of nitrogen. Optimal for soils with a high phosphorus content.

Recommended for perennial crops, fruit, coffee, cocoa, sugarcane, vegetables. Suitable for top-dressing during inter-row tillage.

With their consistent nutrient composition in each granule these complex NPK fertilisers ensure uniform distribution of all nutrients across the field.



	15:9:20:3	19:4:19
Appearance	pink, light-pink or light-brown granules	
Mass fraction of:		
- total nitrogen (N), %	15	19
- ammonium nitrogen	9	10
- nitrate nitrogen	6	9
- total phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	9	4
- digestible phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %, min	-	4
- potassium in terms of K <sub>2</sub> O, %	20	19
- sulphate sulphur in terms of S, %, min	3	-
- magnesium in term of Mg, %, min	-	-
Moisure, %, max	1	1
Particle size distribution, %		
Mass fraction of granules, mm		
- sized under 1 mm, max	3	3
- sized 1-5 mm, min	90	90
- sized over 6.3 mm	0	0
Granule static strength, MPa, min	3.0	3.0
Friability, %	100	100

MultiS tart

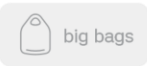
MultiS tart

Biomodified formulations

8:20:30:3+**BIO**

15:15:15:11+**BIO**

Packaging and storage:



Possibility of production different biomodified NPKS grades of complex fertilisers.

Store in a dry insulated place, away from moisture and direct sunlight, at a temperature from -40 °C to +40 °C.

Guaranteed storage life – 1 year.  
Shelf life – 2 years.

MultiStart NPKS 8:20:30:3+**BIO**,  
MultiStart NPKS 15:15:15:11+**BIO**

**Granular complex biomodified fertiliser containing the main nutrients (nitrogen, phosphorus, potassium and sulphur), as well as *Bacillus rhizospheric* bacteria.**

Once in the soil, the bacteria produce auxins, which stimulate development of the root system, increase its absorption capacity and produce organic acids, which increase the content of water-soluble forms of phosphorus in the soil.

The microorganisms in the fertiliser inhibit the activity of pathogens in the rhizosphere and increase the plant's bacterial and fungal resistance.

MultiStart NPKS increases biological activity of the soil, improves yields of crops and quality of agricultural products and supports business profitability.

Used for pre-sowing or at-sowing application for all types of crops.



DISTRIBUTION  
COMPANY  
**umc**

Appearance	white to various shades of grey or pink granules	
Mass fraction of total nitrogen (N), %	8	15
including mass fraction of:		
– ammonium nitrogen	8	15
– total phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	20	15
– digestible phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %, min	19.5	15
– potassium in terms of K <sub>2</sub> O, %	30	15
– sulphate sulphur in terms of S, %, min	3	11
Viable bacterial cells per 1 gram of fertiliser, CFU/g, min	5x10 <sup>4</sup>	5x10 <sup>4</sup>
Particle size distribution, %		
Mass fraction of granules, mm		
– sized under 1 mm, max	3	3
– sized 1-5 mm, min	90	90
– sized over 6 mm	0	0





Friability, %

100

100



WS

## Water-soluble fertilisers

Packaging and storage:



bags

big bags



Do not mix calcium nitrate with fertilisers containing phosphates and sulphates.

Store in a dry insulated place, away from moisture and direct sunlight.

Calcium nitrate concentrated (CN)

17N+33CaO

**The only water-soluble source of calcium with the maximum content of the active substance (calcium nitrate content – 98% (vs 78% content in similar products)).**

The product is in anhydrous form and has a low content of ammonium nitrogen. Calcium nitrate increases plant's resistance to environmental factors, improves quality of fruits and increases their shelf life. The presence of accessible calcium is necessary throughout the growing season, since calcium is not redistributed within the plant.

Used in greenhouse vegetable growing, in drip irrigation systems. An excellent solution for top-dressing fruit and berry crops, roots and tubers crops.



DISTRIBUTION  
COMPANY  
**umc**

Appearance	white or grey-yellow granules
Mass fraction of total nitrogen (N), %	17
including mass fraction of:	
– nitrate nitrogen	16.7
– ammonium nitrogen	0.3
– calcium in terms of CaO, %, min	33
Particle size distribution, %	
Mass fraction of granules, mm	
– sized under 1 mm, max	5
– sized 1-4 mm, min	90
– sized over 6.3 mm	0
pH (1% aqueous solution)	5.5 – 6.5
Water solubility at 20 °C, g/100 cm <sup>3</sup>	120
Friability, %	100



**with boron (CN with B)****17N+32C aO+1B****Granular fertiliser containing fully water-soluble****nitrate nitrogen.**

High calcium content increases storability and quality of agricultural products. Calcium nitrate increases plant's resistance to environmental factors, improves quality of fruits and increases their shelf life.

The addition of boron stimulates the setting and preservation of crop ovaries. Ideal for light soils (sandy, sandy-loam and light loam soils).



## Packaging and storage:

CALCIUM NITRATE  
CONCENTRATED  
WITH BORON  
(CN WITH B)



bags



big bags



Do not mix calcium nitrate with  
fertilisers containing phosphates  
and sulphates.

Store in a dry insulated place, away from moisture  
and direct sunlight.

## Calcium nitrate concentrated

calcium and boron in combination with fast acting



Appearance	white or grey-yellow granules
------------	-------------------------------

Mass fraction of total nitrogen (N), %	17
--	----

including mass fraction of:

- nitrate nitrogen	16.7
--------------------	------

- ammonium nitrogen	0.3
---------------------	-----

- calcium in terms of CaO, %, min	32
-----------------------------------	----

- boron in terms of B, %, max	1
-------------------------------	---

Particle size distribution, %

Mass fraction of granules, mm

- sized under 1 mm, max	5
-------------------------	---

- sized 1-4 mm, min	90
---------------------	----

- sized over 6.3 mm	0
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pH (1% aqueous solution)	5.5 – 6.5
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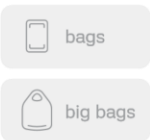
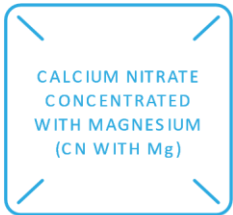
Water solubility at 20 °C, g/100 cm <sup>3</sup>	120
--	-----

Friability, %

Recommended for use in fertigation systems for all crops. Suitable

for top-dressing sugar beet, vegetable, roots and tubers crops,  
fruit and berry crops, cotton.

Packaging and storage:



Do not mix calcium nitrate with fertilisers containing phosphates and sulphates.

Store in a dry insulated place, away from moisture and direct sunlight.

Calcium nitrate concentrated with magnesium (CN with Mg)



**Granular fertiliser containing fully water-soluble calcium and magnesium in combination with fast acting nitrate nitrogen.**

High calcium content increases storability and quality of agricultural products. Calcium nitrate increases plant's resistance to environmental factors, improves quality of fruits and increases their shelf life.

Magnesium improves absorption of phosphorus, supports activation of enzymes and accelerates formation of carbohydrates. Ideal for light soils (sandy, sandy-loam and light loam soils).

Recommended for use in fertigation systems on all crops.

Effective on vegetable, fruit and berry crops.



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Appearance	white or grey-yellow granules
Mass fraction of total nitrogen (N), %	17
including mass fraction of:	
– nitrate nitrogen	16.7
– ammonium nitrogen	0.3
– calcium in terms of CaO, %, min	32
– magnesium in terms of MgO, %, max	1
Particle size distribution, %	
Mass fraction of granules, mm	
– sized under 1 mm, max	5
– sized 1-4 mm, min	90
– sized over 6.3 mm	0
pH (1% aqueous solution)	5.5 – 6.5
Water solubility at 20 °C, g/100 cm <sup>3</sup>	120
Friability, %	100







umc


DISTRIBUTION  
COMPANY




Packaging and storage:

POTASSIUM  
NITRATE  
(NOP)

 bags

 big bags

Store in a dry insulated place, away from moisture and direct sunlight.

	Appearance	white crystalline product
	Mass fraction of total nitrogen (N), %	13.7
	Including mass fraction of:	
	– nitrate nitrogen	13.7
	– potassium in terms of K <sub>2</sub> O, %, min	46.2
	– insoluble residue, %, max	0.01
	pH (1% aqueous solution)	5.4
	Water solubility at 20 °C, g/100 cm <sup>3</sup>	31
	Friability, %	

Highly effective water-soluble nitrogen-potassium fertiliser with high potassium content. **SOLAR potassium nitrate** is a chemical purity benchmark for similar products.

Potassium supports the intensity of photosynthesis and oxidation, is involved in carbohydrate metabolism, and helps the plant retain water by strengthening cell walls. Potassium nitrate increases the plant's resistance to adverse environmental factors like rapid changes in water and temperature conditions.

Ideal for use in greenhouse farming, fertigation systems, for foliar feeding of grain, technical, fruit, berry and ornamental crops.

## Packaging and storage:

 bags big bags

Store in a dry insulated place, away from moisture and direct sunlight.

## NPK 13:2:44, NPK 13:3:43 NPKS 13:0:44:1+1MgO

**Potassium nitrate based NPK fertiliser with a high potassium content, highly soluble in water, suitable for all crops. A perfect alternative to the common potassium nitrate popular on the market of water soluble fertilisers.**

The optimal combination of nutrients to apply at the stage of growth and ripening of fruits, as well as top dressing during the growing season.

Product formulation enhances photosynthesis, helps the plant to cope with abiotic stress factors and increases quality and storability of agricultural products.



DISTRIBUTION  
COMPANY  
**umc**

13:2:44

13:3:43

13:0:44:1+1MgO



Appearance	white crystalline product		
Mass fraction of:			
– total nitrogen (N), %, min	13	13	13
– nitric N (N-NO <sub>3</sub> ), %, min	12.6	12.5	13
– ammoniacal N (N-NH <sub>4</sub> ), %, min	0.4	0.5	-
– total phosphates (P <sub>2</sub> O <sub>5</sub> ), %	2	3	-
– water-soluble P <sub>2</sub> O <sub>5</sub> , %, min	2	3	-
– water-soluble potassium K <sub>2</sub> O, %, min	44	43	44
– water-soluble magnesium oxide (MgO), %, min	-	-	1
Moisture, %, max	0.5	0.5	0.5
Particle size distribution, %			
Mass fraction of granules, mm			
– sized under 1 mm, max	5	5	5
– sized over 0.1 mm, min	90	90	90
Friability, %	100	100	100

NP 12:61

Due to its 100% water solubility SOLAR MAP is an excellent source of nitrogen and phosphorus in an easily available form.

Monoammonium phosphate is effective during early stages of plant development, especially during the formation of the root system. Ideal for use in fertigation systems and in fertilizer blends.

Monoammonium phosphate (MAP)

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Na+

Cl-

HM

Packaging and storage:

MONOAMMONIUM  
PHOSPHATE  
(MAP)

bags

big bags

Do not mix MAP with fertilisers containing calcium and magnesium.

Store in a dry insulated place, away from moisture and direct sunlight.

	Appearance	white crystals
	Mass fraction of total nitrogen (N), %	12
	including mass fraction of:	
	- ammonium nitrogen	12
	- water-soluble phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	61
	- insoluble residue, %, max	0.1
	pH (1% aqueous solution)	4.5
	Water solubility at 20 °C, g/100 cm <sup>3</sup>	37.1
	Friability, %	

MAP contains the highest phosphorus content in comparison to

other fertiliser products in a highly available orthophosphate form.

Packaging and storage:



bags

Store in a dry insulated place, away from moisture and direct sunlight.

SOLAR NPK micro Starter

NPK 15:30:15+2MgO+TE, NPK 11:40:11+2MgO+TE, NPK 13:40:13+TE

Water-soluble phosphorus-rich NPK fertilisers.

At the early growth stages the special formula of the fertiliser stimulates development of the root system, increases absorption of nutrients, improves metabolism, division and reproduction processes in plant cells. At the stage of budding and flowering the products accelerate formation of reproductive organs and improve quality of agricultural products.

A balanced ratio of nutrients makes these fertilisers suitable for all crops. Ideal for foliar application to field crops.

Contains trace elements, including in a highly effective chelated form (EDTA).



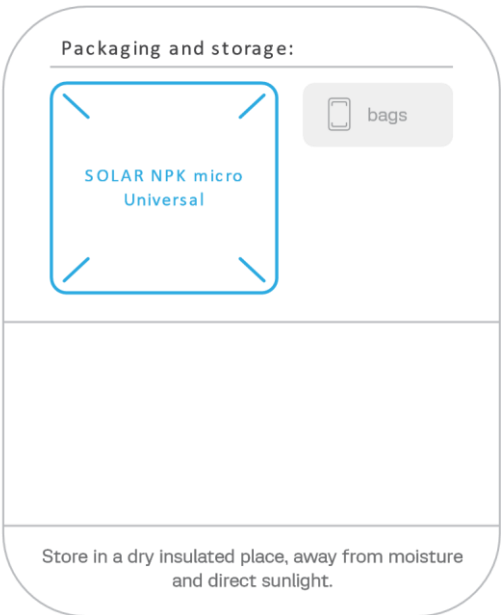
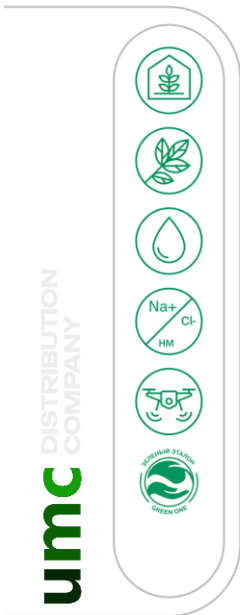
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	15:30:15 +2MgO+TE	11:40:11 +2MgO+TE	13:40:13 +TE
Appearance	yellow crystals		
Mass fraction of:			
– total nitrogen (N), %	15	11	13
– nitrate nitrogen	4.4	3	4.5
– ammonium nitrogen	6	8	8.5
– amide nitrogen	4.6	-	-
– water-soluble phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	30	40	40
– potassium in terms of K <sub>2</sub> O, %	15	11	13
– sulphates in terms of S, %	2	2	-
– magnesium in terms of MgO, %	2	2	-
– insoluble residue, %, max	0.1	0.1	0.1
Mass fraction of trace elements (* – in chelated EDTA form), %, min			
– boron (B)	0.02	0.02	0.02
– copper (Cu)*	0.01	0.01	0.01
– iron (Fe)*	0.1	0.1	0.1
– manganese (Mn)*	0.05	0.05	0.05
– molybdenum (Mo)	0.01	0.01	0.01
– zinc (Zn)*	0.01	0.01	0.01
Friability, %	100	100	100









## SOLAR NPK micro Universal

**NPK 18:18:18+3MgO+TE, NPK 19:19:19+TE, NPK 20:20:20+TE**

The equal-ratio water-soluble grade fertilizers are designed for comprehensive plant nutrition at all phases of growth and support correct development of the plant throughout the growing season.

The products are effective during stress periods like drought, waterlogging, diseases, pests, etc.

A balanced ratio of nutrients makes these fertilizers suitable for all crops. Ideal for foliar application to field crops.

Appearance

18:18:18 +3MgO+TE	19:19:19 +TE	20:20:20 +TE
green crystals		

Mass fraction of:

- total nitrogen (N), %
- nitrate nitrogen
- ammonium nitrogen
- amide nitrogen
- water-soluble phosphates in terms of  $P_2O_5$ , %
- potassium in terms of  $K_2O$ , %
- sulphates in terms of S, %
- magnesium in terms of MgO, %
- insoluble residue, max, %

18	19	20
5.4	10.5	6
3.6	8.5	4
9	-	10
18	19	20
18	19	20
2.5	-	-
3	-	-
0.1	0.1	0.1

Mass fraction of trace elements (\* – in chelated EDTA form), %, min

- boron (B)
- copper (Cu)\*
- iron (Fe)\*
- manganese (Mn)\*
- molybdenum (Mo)

0.02	0.02	0.02
0.01	0.01	0.01
0.1	0.1	0.1
0.05	0.05	0.05
0.01	0.01	0.01

– zinc (Zn)\*

0.01	0.01	0.01
------	------	------

Contains trace elements, including in a highly effective chelated form (EDTA).

Friability, %

100	100	100
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## Packaging and storage:



Store in a dry insulated place, away from moisture and direct sunlight.

## SOLAR NPK micro Finisher

NPK 15:7:30+3MgO+TE, NPK 12:6:36+2,5MgO+TE, NPK 3:11:38+TE, NPK 3:11:38+4MgO+TE

### Water-soluble potassium-rich NPK fertilisers.

At the final stages of vegetation the products promote even ripening and intensive fruiting, improve taste, appearance and storability of agricultural products, increase sugar content in sugar beet roots and stimulate the plant's resistance to drought conditions.

A balanced ratio of nutrients makes these fertilisers suitable for all crops. Ideal for foliar application to field crops.

Contains trace elements, including in a highly effective chelated form (EDTA).



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	15:7:30 +3MgO+TE	12:6:36 +2.5MgO+TE	3:11:38 +TE	3:11:38 +4MgO+TE
Appearance	pink crystals			
Mass fraction of:				
– total nitrogen (N), %	15	12	3	3
– nitrate nitrogen	8.7	10.6	0.2	3
– ammonium nitrogen	1.4	1.4	2.8	-
– amide nitrogen	4.9	-	-	-
– water-soluble phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	7	6	11	11
– potassium in terms of K <sub>2</sub> O, %	30	36	38	38
– sulphate sulphur in terms of S, %, min	2.5	2	-	-
– magnesium in terms of MgO, %, min	3	2.5	-	4
– insoluble residue, %, max	0.1	0.1	0.1	0.1
Mass fraction of trace elements (* – in chelated EDTA form), %, min:				
– boron (B)	0.02	0.02	0.02	0.02
– copper (Cu)*	0.01	0.01	0.01	0.01
– iron (Fe)*	0.1	0.1	0.1	0.1
– manganese (Mn)*	0.05	0.05	0.05	0.05
– molybdenum (Mo)	0.01	0.01	0.01	0.01
– zinc (Zn)*	0.01	0.01	0.01	0.01
Friability, %	100	100	100	100



SOLAR NPK micro+S tim

Starter 13:40:13+TE+Stim Universal 20:20:20+TE+Stim Finisher  
12:6:36+2,5MgO+TE+S tim



Appearance

Mass fraction of:

- total nitrogen (N), %
- nitrate nitrogen
- ammonium nitrogen
- amide nitrogen
- water-soluble phosphates in terms of  $P_2O_5$ , %
- potassium in terms of  $K_2O$ , %

- sulphate sulphur in terms of S, %, min
- magnesium in terms of  $MgO$ , %, min
- insoluble residue, %, max
- Growth stimulant, %, min

Mass fraction of trace elements (\* – in chelated form), %, min:

- boron (B)
- copper (Cu)\*
- iron (Fe)\*

- manganese (Mn)\*
- molybdenum (Mo)
- zinc (Zn)\*
- Friability, %

S tarter 13:40:13+TE +S tim	Universal 20:20:20+TE +S tim	Finisher 12:6:36+2.5MgO+TE +S tim
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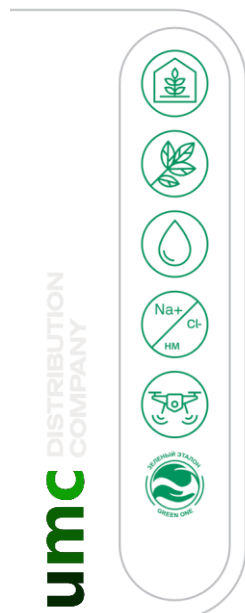
various colors crystals

13	20	12
4.5	6	10.6
8.5	4	1.4
-	10	-
40	20	6
13	20	36
-	-	2

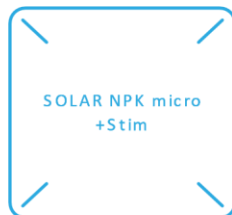
-	-	2.5
0.1	0.1	0.1
1	1	1

0.02	0.02	0.02
0.01	0.01	0.01
0.1	0.1	0.1
0.05	0.05	0.05

0.01	0.01	0.01
0.01	0.01	0.01
100	100	100



## Packaging and storage:



bags

Store in a dry insulated place, away from moisture and direct sunlight.

**Complex water-soluble fertilizers with trace elements and an effective plant growth stimulant (PGS).**

Growth stimulant is a participant of citric acid cycle (Krebs cycle). It effectively promotes development of root system and vegetative organs, improves metabolism of proteins, vitamins and chlorophyll in the plant and increases the overall yield of crops.

Contains trace elements, including in a highly effective chelated form (EDTA).



Appearance	white crystals			
Mass fraction of:				
– total nitrogen (N), %	13	18	20	5
– ammonium nitrogen	7.5	10.8	4	3
– nitrate nitrogen	-	7.2	-	-
– amide nitrogen	5.5	-	16	2
– water-soluble phosphates in terms of P <sub>2</sub> O <sub>5</sub> , %	40	18	20	15
– potassium in terms of K <sub>2</sub> O, %	13	18	20	45
– insoluble residue, %, max	0.1	0.1	0.1	0.1
– chlorides in terms of Cl, %	10	14	15	34

Packaging and storage:



 bags



AQUADROP fertilizers are not recommended for use in soilless greenhouses due to their chloride content. Can be used in soil-based farm greenhouses.

Store in a dry insulated place, away from moisture and direct sunlight.

AQUADROP NPK

NPK 13:40:13, NPK 18:18:18, NPK 20:20:20, NPK 5:15:45

AQUADROP is a line of water-soluble complex fertilizers specially designed for fertigation of fruit and vegetable crops.

The line boasts a wide range of brands with optimal nutrient ratios to provide complete mineral nutrition throughout the growing season.

All AQUADROP products are suitable for drip irrigation systems.



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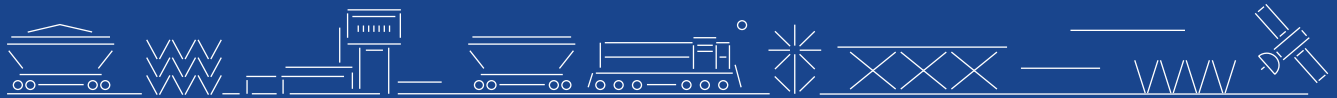
13:40:13

18:18:18

20:20:20

5:15:45

# PRODUCTS FOR INDUSTRIAL CHEMISTRY



PRODUCTS FOR INDUSTRIAL CHEMISTRY

I

for industrial chemistry

Anhydrous calcium nitrate	34
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prilled and microprilled Technical urea	39

LEGEND



Construction



Chemical industry



Mining



Fire-extinguishing equipment



Glass-making



Petroleum production



Diesel exhaust treatment



Metalworking



Woodworking



Packaging, transportation and storage:



bags



big bags

Transportation by rail, road and water transport in accordance with applicable regulations.  
Store in a dry insulated place.

Anhydrous calcium nitrate



Anhydrous calcium nitrate is widely used in various industries.

The product is often used in the oil and gas sector. During well work-overs, killing fluids are used, which create back pressure inside the well and plug it. Calcium nitrate allows killing fluids to be made with different density levels and therefore be used for a wide range of formation pressure values. An important advantage of calcium nitrate is that it does not cause clogging of the bottomhole area in a productive formation, which prevents adverse impacts on the well flow rate.

As an element of multi-purpose additives, calcium nitrate is used in concrete production: it reduces the

freezing point, accelerates strength development of cold and hot concrete, increases water resistance, reduces efflorescence and ensures flat surface finishes.



Mass fraction of:

- calcium, %, min
- water, %, max
  - ammonium nitrogen, %, max
  - water-insoluble residue, %, max
- Static strength of granules, MPa (kgf/cm<sup>2</sup>), min

96

3

0.3\*

0.1

2.0 (20)

- Particle size distribution, %
- Mass fraction of granules, mm
  - sized under 1 mm, %, max
  - sized 1-4 mm, %, min
  - sized under 6 mm, %

10

90

100

Calcium nitrate can also be used in external finishing works, in the creation of foundations, construction of transport infrastructure and production of de-icing agents for airports.

Friability, %

100

\* Under an agreement with customers, mass fraction of ammonium nitrogen in terms of nitrogen can be limited to 0.1%

## Packaging, transportation and storage:



bags

big bags

Transportation by rail, road and water transport  
in accordance with applicable regulations.

Store in a dry insulated place.

## Technical potassium nitrate

$\text{KNO}_3$

Technical potassium nitrate is widely used in glass-making due to its high chemical purity and very low content of chlorides, sulphates and insoluble impurities.

Nitrate of potassium is used in the processes of producing colored explosives.

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## Grade B

## Mass fraction of:

- potassium nitrate, %, min	99.85
- water, %, max	0.2
- chloride salts in terms of NaCl, %, max	0.03
- water-insoluble residue in dry matter, %, max	0.03
- substances oxidised by potassium permanganate in terms of $\text{KNO}_2$ in dry matter, %, max	0.01
- calcium and magnesium salts in terms of Ca, %, max	0.02
- iron, %, max	not regulated



## Technical water-soluble MAP

### $\text{NH}_4\text{H}_2\text{PO}_4$

Technical water-soluble monoammonium phosphate is a versatile flame retardant.

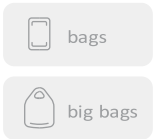
In particular, it is used as a water-soluble agent for fireproofing of wood, wooden boards, plywood, and fabric. MAP can be successfully used in extinguishing fires of classes A, B, C and E. It is also used in the production of matches as a flame retardant agent.

As MAP does not contain any insoluble impurities, it dissolves completely and is better absorbed by target materials like fabric, plywood or wood.

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Transportation by rail, road and water transport  
in accordance with applicable regulations.  
Store in a dry insulated place.



Mass fraction of:	
– monoammonium phosphate, %, min	99
– water, %, max	0.3
– water-insoluble residue, %, max	

MAP is used as a component in the production of lithium-

iron-phosphate batteries (LiFePO<sub>4</sub>, LFP), including for electric vehicles.

0.1

## Packaging, transportation and storage:



bags

Transportation by rail, road and water transport in accordance with applicable regulations.

Store in a dry insulated place.

## Sodium nitrate



Sodium nitrate is used as a component of complex additives to reduce the freezing point of concrete slurries in construction.

Sodium nitrate also accelerates the strength development of the slurry and improves the quality of precast concrete structures. An important quality of sodium nitrate in the construction applications is its ability to inhibit corrosion of rebars. Sodium nitrate can also be used for external and internal finishing works. In glass-making, sodium nitrate improves optical properties of glass. As a strong oxidising agent, sodium nitrate is widely used as an additional oxidiser in the production of emulsion explosives and pyrotechnic products. In metalworking, sodium nitrate is used in the preparation of fluxes for soldering and welding of metals, and in etching and melting.



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	Grade A	Grade B
Mass fraction of:		
– sodium nitrate in dry matter, %, min	99.8	99.5
– water, %, max	0.5	0.5
– water-insoluble substances, %, max	0.03	0.03
– chloride salts in terms of NaCl, %, max	0.15	0.3
– oxidisable substances in terms of $\text{NaNO}_2$ , %, max	0.01	0.2
– iron in terms of $\text{Fe}_2\text{O}_3$ , %, max	0.001	-
– chromium in terms of $\text{Cr}_2\text{O}_3$ , %, max	0.0001	-



Packaging, transportation and storage:



bags

Transportation by rail, road and water transport  
in accordance with applicable regulations.  
Store in a dry insulated place.

in emulsion explosives, as a component in metalworking,



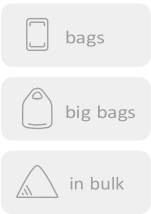
Mass fraction of:	
- sodium nitrite (NaNO <sub>2</sub> ), %, min	98.5
- sodium nitrate (NaNO <sub>3</sub> ), %, max	1.0
- sodium chloride (NaCl) in dry matter, %, max	0.17
- water-insoluble residue, %, max	0.03
- water, %, max	1.4

**NaNO<sub>2</sub>**

Sodium nitrite is used as a gas generating additive

and as an oxidising agent in well yield enhancement processes in the oil and gas sector. In construction, sodium nitrite is used as an anti-freeze additive.

Packaging, transportation and storage:



Transportation by rail, road and water transport in accordance with applicable regulations.  
Store in a dry insulated place.

Technical urea



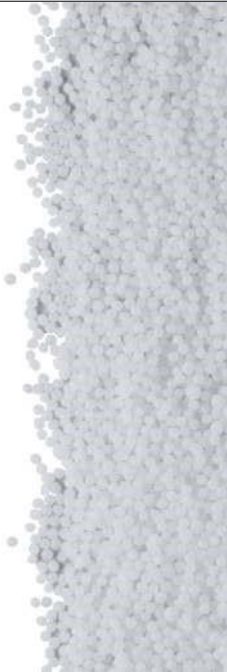
Urea is used in the production of plastics, adhesives, urea formaldehyde resins and the ADBLUE AUS 32 agent for treatment of diesel exhaust of industrial plants, vessels and vehicles. Technical grade is commonly used for glue and resins production and wood processing.

For orders with extra purity requirements, urea can be supplied without anti-caking treatment.




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	Prilled	Microprilled
	Premium grade	
Mass fraction of:		
– nitrogen in dry matter, %, min	46.3	46.2
– biuret, %, min	0.6	0.6
– free ammonia, %, max	0.01	0.01
Mass fraction of water, %, max:		
– hygroscopic	0.3	0.3
– total	0.6	0.5







UMC is the regional marketer and distributor of Uralchem fertilizers  **URALCHEM** for Southeast Asia and the Middle East and is headquartered in the Dubai Multi Commodity Centre (DMCC)

Our Business Locations UMC is a global distributor focusing on Southeast Asia and the Middle East, where it operates an extensive network. We also have representatives in various countries to provide our customers with faster access and high shipping efficiency.

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