



# PRODUCT PASSPORT

## AMMONIUM NITRATE



### Normative-technical document

State standard 2-85 (edit.№1,2,3 )

### Chemical name in accordance with IUPAC

Ammonium nitrate

### Chemical formula

$NH_4NO_3$

### CAS number

6484-52-2

### Synonym

Nitric acid ammonium salt, nitram, ammonium salt, norway saltpeter

### Codes

HDCDCS	3102309000
HS code	31023000
Classes of transport rates	433070
UN #	1942

### The certificate of conformity (№, date of issue, expiration date)

Reg. № UZ.SMT.01.230.1156981 from 14.04.2011. Valid until 13.04.2014.

### Наличие сертификата СМК на соответствие требованиям стандарта ISO 9001:2008

Certificate of Compliance DQSGmbHreg. Number 470617 QM08 from 24.06.2013. Valid until 06/23/2016. The national system of certification EN certificate reg. № UZ.SMT.04.008.0040 from 24.06.2013 valid until 06.23.2016

### Information about the availability of the legislation governing the treatment of substance

Resolution of the Cabinet of Ministers of 30.04.2004 № 204 "On additional measures to control production, transportation and sale of ammonium nitrate"

### Область применения

The main consumers of ammonium nitrate are the following industries:

- Agriculture ;
- Manufacture of compound fertilizers ;
- Mining complex ( as a component of explosives ) ;
- The coal industry ;
- Manufacture of explosives;
- The construction industry ;
- Furniture and wood industry;
- Petrochemicals.

Universal highly concentrated nitrogen fertilizer containing ammonium and nitrate forms of nitrogen in equal quantities to supply the plants throughout the growing strength of the period. Can be used on all soils and all crops. Most effective in early spring feeding winter crops as basic fertilizer for spring crops , corn, sunflower , etc. In row application for potatoes, beets , etc. good effect is obtained by simultaneous application of phosphorus and potassium. Use it for fertilizer and fertilizing of winter grain and tilled crops . Fractional make ammonium nitrate to reduce the loss of nitrate nitrogen leaching . On calcareous soils contributes to acidification of the ground. It has excellent physicochemical characteristics , which facilitates storage and application . Fully water-soluble .In addition , ammonium nitrate is widely used for the production of complex fertilizers , as well as various types of fertilizer mixtures

### MAIN CHARACTERISTICS OF THE PRODUCT

#### Appearance

Granulated product

Basic physical and chemical properties	
Molecular weight	80,043
Density, t/m <sup>3</sup> - the true - bulk granular product with a moisture content of 1% with dense packing / for loose packing	1,69 ÷ 1,725 1,164 / 0,826
Temperature of melting, °C	169,6
Heat of fusion, kJ/kg	73,21
The heat of formation (crystalline modification IY) at 25 ° C and 0,101 MPa, kJ / mol	365,6
Value of the angle of repose of granular ammonium nitrate-ry at the size of the pellets I - 3 mm with the addition of 0,33% MgO in product moisture 0,5%,	28

Technical characteristics				
The Name of indicator	Rate for grades			
	А	Б		
		Высший сорт	Первый сорт	Второй сорт
<b>1</b> The total mass of nitrate and ammonium nitrogen based on: - By NH <sub>4</sub> NO <sub>3</sub> in dry matter, %, not less - Nitrogen in dry substance, %, not less	98 Not normalized	Not normalized 34,4	Not normalized 34,4	Not normalized 34,0
<b>2</b> Mass fraction of water, %, not more: - With the addition of nitrates, calcium and magnesium	0,3	0,3	0,3	0,3
<b>3</b> pH of a 10% aqueous solution of not less than	5,0	5,0	5,0	5,0
<b>4</b> Mass fraction of substances not soluble in a 10% solution of nitric acid, %, not more	0,2	Not normalized	Not normalized	Not normalized
<b>5</b> Particle size: - Mass fraction of granules ranging in size from 1 to 3 mm, %, not less - Mass fraction of granules ranging in size from 1 to 4 mm, %, not less including: - Pellet size of 2 to 4 mm, %, not less than,  - Mass fraction of granules smaller than 1 mm, %, not more - Mass fraction of granules larger than 6 mm, %	93 Не нормируется Не нормируется 4 0,0	Не нормируется 95 80 3 0,0	Не нормируется 95 50 3 0,0	Не нормируется 95 Не нормируется 4 0,0
<b>6</b> Static strength of granules, kg / pellet, at				

least:- Supplemented with calcium and magnesium nitrate	0,5	0,8	0,7	0,5
7 Friability, %, not less	100	100	100	100

Note: At the request of consumers, in addition to the requirements of GOST 2-85 set or same-regulated following indicators:

1 pH of a 10% aqueous solution	Не менее 5	5,0÷6,5	5,0÷6,5	5,0÷6,5
2 Mass fraction of additives in terms of dry matter: - Calcium and magnesium nitrate as CaO%	0,2÷0,5	0,2÷0,5	0,2÷0,5	0,2÷0,5
3 Mass fraction of iron doped calcium nitrate%	25÷30	25÷30	25÷30	25÷30

#### Packaging and storage

Ammonium nitrate packed in polypropylene bags with valve and liner made of polyethylene film (type B) TSh 6.1 - 00203849 - 105:2012. Product weight in bags must be no more than 50 kg with a tolerance of  $\pm 1$  kg. Released to consumers in bags and in bulk. Ammonium nitrate packed in polypropylene bags, stored in a covered, dry and clean warehouses, protecting the product from moisture. Ammonium nitrate packed in bulk, stored in warehouses with controlled temperature (less than 30 0 C) and humidity (no more than 50%)

#### Transportation

Transportation nitrate in bags made in covered railway wagons and auto transport. Nitrate can be transported unpackaged in mineral fertilizer or cement hopper and trucks with shelter

#### Product safety information

Ammonium nitrate is a class IV hazard ( low-hazardous substances ) . Maximum permissible concentration of ammonium nitrate in the working area of industrial premises - 10 mg/m<sup>3</sup>. Ammonium nitrate is an oxidizing agent and a fire hazard. At a temperature of 210 0C and interaction with sulfur, pyrite sulfur , acids, superphosphate , bleach powder E - metals (especially zinc ) decomposes releasing toxic oxides of nitrogen and oxygen. The escaping oxygen can cause a fire of combustible materials ( bags ) and , as a consequence , the fire . Ammonium nitrate in terms of explosion relatively insensitive to shock , friction, impact , remains stable in contact with sparks of varying intensity. In the case of ammonium nitrate contamination of organic materials or strong fire decomposition of ammonium nitrate can go into an explosion . Fires arising from open flame or due to detonation , high temperature salt and lack of heat exchange with air ( closed space ) , melts , decomposes explosively .

#### Warranty period of storage

Shelf life - 6 months from date of manufacture