TRISODIUM PHOSPHATE WASTE AND LOCAL ASH

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Abstract. *In the article* with ammonia liquefaction of saltpeter with TNFCh and local ash minerals Nitrogen-phosphorus-potassium formed as a result of mixing of liquids rheological properties were studied. The methods and additions of nitrogen-phosphorus-potassium fertilizers are discussed based on local ash mineral and industrial waste.

Keywords. nitrogen-phosphorus-potassium fertilizer, viscosity, density, "Sunflower","Gho'zapoya", "Gong" are local ash minerals.

Ammoniacal liquefaction of saltpeter with trisodium phosphate waste and local ash minerals Nitrogen-phosphorus-potassium formed as a result of mixing of liquids It is difficult to know the rheological properties (density and viscosity) of fertilizerliquids easy transportation and granulation in this apparatus and equipment enable gives That's it according to 165-180 °Ctemperature in between initial of substances studied all weight proportionsaccording to received nitrogen-phosphorus-potassium of liquids density pycnometer and viscosity VPJ-2 viscometer using was determined.

The experiments were conducted as follows. To liquefy ammonium nitrate by adding crushed trisodium phosphate waste and ash mineral flour with nitrogen-phosphorus-potassium liquids prepared. That's it method prepared received liquids initially room up to temperature cooled, then well done crushed.

Measured known in quantity nitrogen-phosphorus-potassium samples in advance put into a specially prepared pycnometer and viscometer and these devices e sa gli ts are placed in a thermostat filled with erin. The temperature in the thermostat

when it rises to the specified values (in the temperature range of 165-180 ° C). pycnometer and in the viscometer powder in case nitrogen-phosphorus-potassium mixture began to liquefy. Liquids for 3-5 minutes determined at temperatures holding got up Tests in the process 3 times repeat measurements The average values of the determined numbers after the transfer of liquid density and viscosity about information note by doing will go

Implemented s inovs results in Table 1 below given.

Table 1

Density of nitrogen-phosphorus-potassium fertilizers based on TNFCh and local ash and q frictions

AS: TNFCh weight ratio	In the mix Amount of KM , %	165-180 at °C temperatures liquid - lanyards density (g/cm ^{3})				165-180 at °C temperatures liquid - lanyards viscosity (Pa·c)			
		165	170	175	180	165	170	175	180
"Sunflower" ash mineral									
100 : 3	3	1.7 12	1.7 03	1, 682	1, 6 31	8.02	7.99	7 , 7 9	7 , 6 4
100 : 3	5	1, 783	1.7 1 4	1, 69 4	1, 66 5	9.56	9.44	9 , 3 2	8 , 8 9
100 : 3	7	1, 796	1, 77 5	1.7 4 5	1.7 0 4	1 0 , 1 2	9,9 1	9, 65	9, 2 4
100 : 3	10	1.8 0 3	1, 78 6	1, 75 6	1.7 1 3	1 1 , 1 4	1 0 , 8 5	10.27	9.89
100 : 5	3	1, 7 64	1, 7 48	1, 7 37	1, 7 12	11.18	1 0 .8 8	10, 4 5	10.24
100 : 5	5	1, 775	1, 7 6 7	1, 7 58	1, 7 35	11.72	11.26	11.0 1	10, 5 0
100 : 5	7	1, 8 07	1, 7 91	1, 7 79	1, 7 54	1 2 ,26	11.72	11.40	10.95
100 : 5	10	1, 8 28	1, 8 12	1, 8 0 1	1, 7 7 5	12,80	1 2 , 17	11, 8 8	11, 4 2
100 : 10	3	1, 8 49	1, 8 33	1, 8 21	1, 7 93	1 2 , 8 5	1 2 ,63	12.15	11.6 4
100 : 10	5	1, 8 71	1, 8 54	1, 8 42	1, 8 16	1 2 ,89	1 2 , 6 8	12, 2 3	12.0 1
100 : 10	7	1, 8 92	1, 8 75	1, 8 63	1, 8 38	1 3 , 2 3	1 2 .54	12, 4 1	12, 1 6
100 : 10	10	1 , 9 13	1, 8 97	1, 8 84	1, 8 51	13.97	1 2 .99	1 2 , 6 8	12, 23
100 : 20	3	2.0 0 5	1 , 9 18	1 , 9 0 0	1, 8 7 8	14.51	1 3 , 0 5	1 2 , 79	1 2 , 3 6
100 : 20	5	2.0 1 6	2.0 2 9	2.02 1	1.99 3	1 4 , 7 5	1 3 , 3 0	1 3 , 2 4	13, 0 1
100 : 20	7	2.0 3 7	2.0 3 1	2.0 2 7	2,012	1 4 , 7 9	14,36	1 3,41	13, 1 6
100 : 20	10	2.0 4 8	2.0 3 2	2.0 2 8	2.0 1 3	15,13	14.81	13.79	13 , 62
100 : 25	3	2.1 01	2, 09 3	2.08 1	2.0 4 1	15.67	14,27	14,16	1 3 , 7 7

100 : 25	5	2.1 1 1	2.1 0 4	2, 09 1	2.0 6 5	16 , 21	15.72	14.54	1 4 , 0 2
100 : 25	7	2.1 2 2	2.1 1 6	2.1 0 1	2,092	16,76	15 , 83	14.92	14,17
100 : 25	10	2.1 4 4	2.1 1 7	2.1 0 5	2, 081	16 , 8 0	15 , 94	15,29	14.52

From him it seems that with ammonia increase of trisodium phosphate waste and local ash mineral content in saltpeter liquefaction with nitrogen-phosphorus-potassium of fluids too density and viscosities increases significantly. In this case, AS : TNFCh = 100 : 3 to 100 : 2 5 in proportions and 3, 5, 7 and 3, 5, 7 of the total mass of liquid trisodium phosphate waste 10% in the amount "Sunflower" ash adding received nitrogen-phosphorus-potassium saltpeter 165°C of liquefaction samples density and viscosities at temperature are suitable increasing from 1,712 to 2,144 g / ^{cm3} and from 8,02 to 16,80 Pa · c was determined. Your temperature rise with eh this values 1.712 - 1.631 to 2.144-2.081 g /cm ^{3} and 8.02-7.64 to 16.80-14.52 Pa·c decreased to go was determined.

Thus, in the temperature range of 165-18 0 °C and all studied trisodium phosphate waste with ammonium nitrate liquid in proportions and local ash mineral four-component fertilizer liquids obtained as a result of interaction easy by sprinkling (prillirovaniya) or rapid mixing (okatka) methods granulation possible

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