KNT group

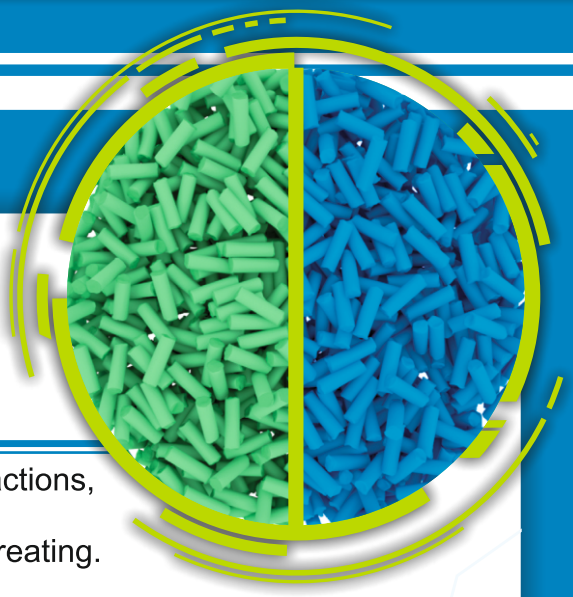
production of sorbents and catalysts

ADVANCED TECHNOLOGIES
ПРОГРЕССИВНЫЕ ТЕХНОЛОГИИ

Catalysts
Катализаторы

KNT group
production of sorbents and catalysts
32, Tekhnycheskaya str., Sterlitamak, 453110, Russia, Phone/Fax +7 (3473) 303-184

Catalyst KNT-720



KNT-222M is used in hydrotreating of middle-distillate fractions, hydrogenation of polynuclear aromatic hydrocarbons, prehydrotreating of reforming feedstock, paraffins hydrotreating.

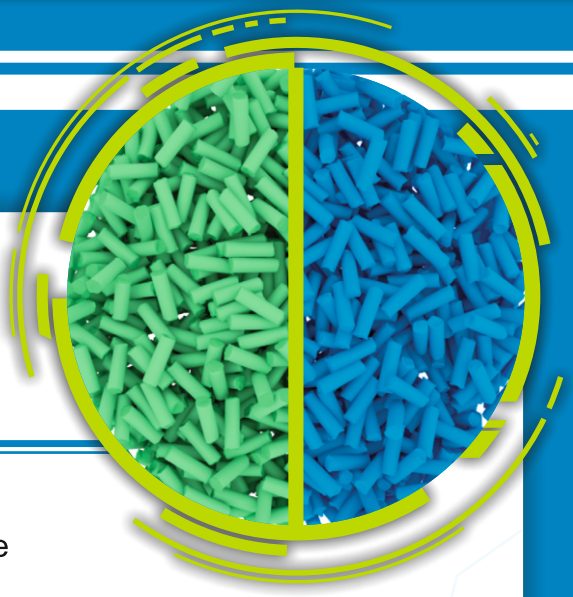
Using in the catalytic system with KNT-702M and KNT-704M is recommended.

Property	Standards
1. Mass content, %:	
- Molybdenum Trioxide MoO_3	12,0-21,0
- Nickel Oxide NiO	4,0-6,0
2. Bulk density, g/cm^3:	0,55-0,80
3. Sodium Oxide, %, not more than	0,08
4. Granules size, mm	1,3-3,0
5. Grit, %, not more than	1,0
6. Ignition loss, at 500°C, %, not more than	18
7. Mechanical crushing strength, kg/mm^2, not less than	1,5

OUR CUSTOMERS

УКРТАТНАФТА · СНГ СУРГУТНЕФТЕГАЗ · БЕЛОРУСНЕФТЬ · UZBEKNEFTEGAZ · SOCAR · ОАО "МОЗЫРСКИЙ НЕФТЕПЕРЕРАБАТЫВАЮЩИЙ ЗАВОД"

KNT group
production of sorbents and catalysts
32, Tekhnycheskaya str., Sterlitamak, 453110, Russia, Phone/Fax +7 (3473) 303-184



Catalyst KNT-702M, KNT-703M

KNT-703M
Hydrodesulfurization, denitrogation and hydrogenation of unsaturated and polynuclear aromatic ydrocarbons of the middle-distillate fractions and gasoline fractions.

KNT-702M
Deep hydrodesulfurization of the middle-distillate fractions, prehydrotreating of the reforming and isomerization feed.

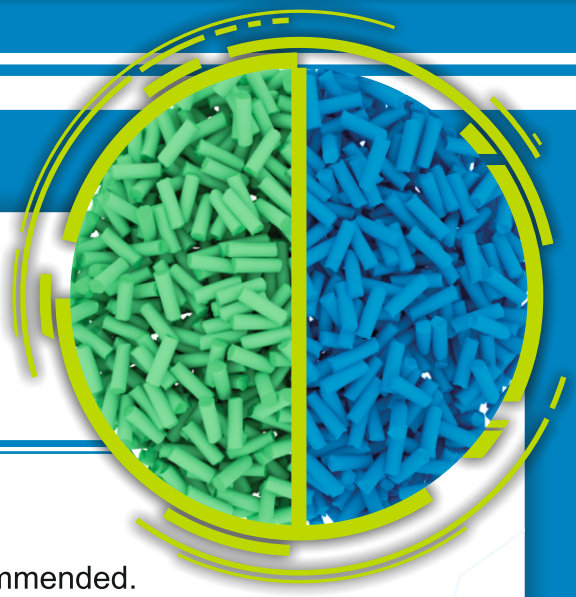
Using in the catalytic system with KNT-703M and KNT-702M is recommended.

Property	Standards	
	KNT-702M	KNT-703M
1. Mass content, %:		
- Molybdenum Trioxide MoO_3	13,0-25,0	13,0-25,0
- Nickel Oxide NiO	-	3,5-6,5
- Cobalt Oxide CoO	3,5-6,5	-
2. Bulk density, g/cm^3:	0,7-0,9	
3. Sodium Oxide, %, not more than	0,08	
4. Granules size, mm	1,4-3,0	
5. Grit, %, not more than	1,0	
6. Ignition loss, at 500°C, %, not more than	25,0	
7. Mechanical crushing strength, kg/mm^2, not less than	1,5	

OUR CUSTOMERS

УКРТАТНАФТА · СНГ СУРГУТНЕФТЕГАЗ · БЕЛОРУСНЕФТЬ · UZBEKNEFTEGAZ · SOCAR · ОАО "МОЗЫРСКИЙ НЕФТЕПЕРЕРАБАТЫВАЮЩИЙ ЗАВОД"

KNT group
production of sorbents and catalysts
32, Tekhnycheskaya str., Sterlitamak, 453110, Russia, Phone/Fax +7 (3473) 303-184



Catalyst KNT-721

KNT-721 is used in hydrotreating of the fractions of secondary origin, residual fractions and hard waxes.

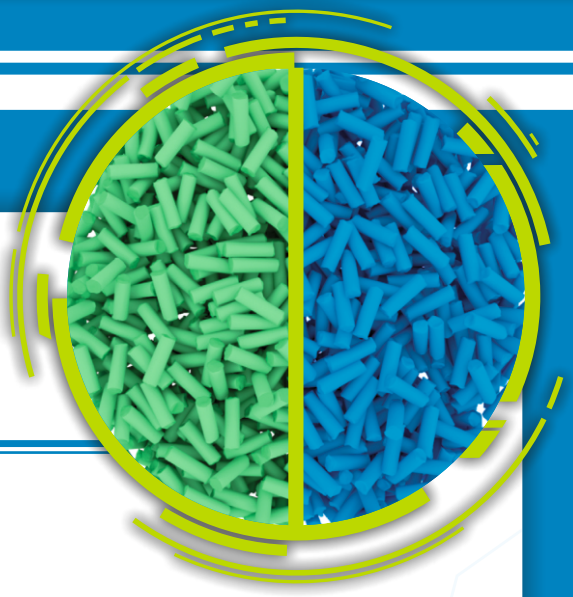
Using in the catalytic system with KNT-catalysts is recommended.

Property	Standards
1. Mass content, %:	
- Molybdenum Trioxide MoO_3	12,0-22,0
- Nickel Oxide NiO (Cobalt Oxide CoO)	4,0-6,0
2. Bulk density, g/cm^3:	0,55-0,80
3. Sodium Oxide, %, not more than	0,08
4. Granules size, mm	1,3-5,0
5. Grit, %, not more than	1,0
6. Ignition loss, at 500°C, %, not more than	18
7. Mechanical crushing strength, kg/mm^2, not less than	1,5

OUR CUSTOMERS

УКРТАТНАФТА · СНГ СУРГУТНЕФТЕГАЗ · БЕЛОРУСНЕФТЬ · UZBEKNEFTEGAZ · SOCAR · ОАО "МОЗЫРСКИЙ НЕФТЕПЕРЕРАБАТЫВАЮЩИЙ ЗАВОД"

KNT group
production of sorbents and catalysts
32, Tekhnycheskaya str., Sterlitamak, 453110, Russia, Phone/Fax +7 (3473) 303-184



Catalyst KNT-704M, KNT-705M

The catalyst is used in hydrotreating of oil fractions.

KNT-704M - hydrocracking of catalytic cracking feed.

KNT-705M - mild hydrocracking (deep hydrotreating) of vacuum gas oil.

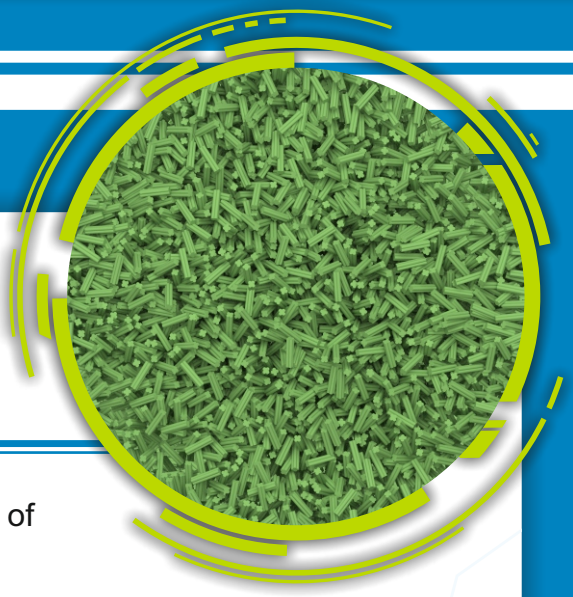
Property	Standards	
	KNT-704M	KNT-705M
1. Mass content of active components, %:		
- Molybdenum Trioxide MoO_3	13,0-25,0	13,0-25,0
- Nickel Oxide NiO	-	2,5-6,5
- Cobalt Oxide CoO	2,5-6,5	-
2. Bulk density, g/cm^3	0,5-0,9	
3. Sodium Oxide, %, not more than	0,08	
4. Granules size, mm	1,4-3,0	
5. Grit, %, not more than	1,0	
6. Ignition loss, at 500°C, %, not more than	25	
7. Mechanical crushing strength, kg/mm^2, not less than	1,5	

OUR CUSTOMERS

УКРТАТНАФТА · СНГ СУРГУТНЕФТЕГАЗ · БЕЛОРУСНЕФТЬ · UZBEKNEFTEGAZ · SOCAR · ОАО "МОЗЫРСКИЙ НЕФТЕПЕРЕРАБАТЫВАЮЩИЙ ЗАВОД"

KNT group
production of sorbents and catalysts
32, Tekhnycheskaya str., Sterlitamak, 453110, Russia, Phone/Fax +7 (3473) 303-184

Hydrocracking catalyst



Principle application:
Hydrocracking catalyst is used in the cracking process of heavy petroleum fractions;

In hydrocracking processes it is recommended to use a catalyst system consisting of catalysts of the protective layer , mild hydrocracking catalysts and prehydrotreating of hydrocracking feed KNT-704 and KNT-705 with maximum activity in the denitrogenation of heavy oil fractions.

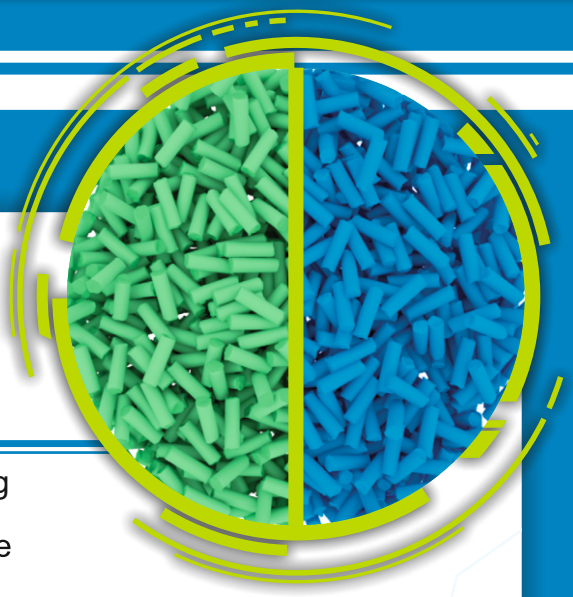
It consists of molybdenum, nickel, tungsten oxides and other active components on the zeolite-containing alumina carrier.

Property	KNT-820	KNT-821
1. Appearance	extrudate, tri-lobe, quadri-lobe	
2. Bulk density, g/cm^3	0,7-0,9	
3. Granules size, mm	1,4-3,0	
4. Active components mass fraction: - Molibdenum Trioxide MoO_3 - Nickel Oxide NiO - Tungsten Trioxide WO_3	 13,0-18,0 4,0-6,0 -	 - 4,0-6,0 13,0-24,0
5. Ignition loss, at temperature 550±10°C,%, not more than	5,0	
6. Grit, %, not more than	1,0	
7. Mechanical crushing strength, kg/mm^2, not less than	1,5	

OUR CUSTOMERS

УКРТАТНАФТА · СНГ Сургутнефтегаз · Беларуснефть · Uzbekneftegaz · SOCAR · ОАО "Мозырский нефтеперерабатывающий завод"

KNT group
production of sorbents and catalysts
32, Tekhnycheskaya str., Sterlitamak, 453110, Russia, Phone/Fax +7 (3473) 303-184



Catalyst KNT-910, KNT-911, KNT-912

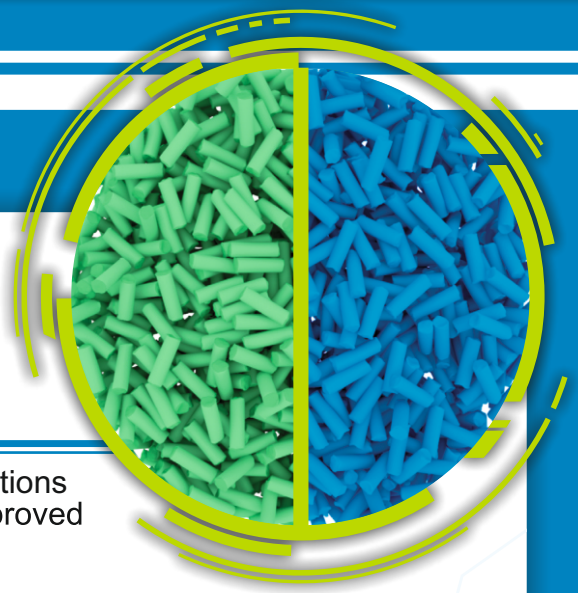
KNT-910, KNT-911 and KNT-912 is used in hydrotreating of middle-distillate fractions and refined oil.
In hydrotreating of the middle-distillate fractions using the catalytic system with catalysts KNT-702M, KNT-721. is recommended. The catalyst is a mix of Nickel Oxide and Molybdenum Oxide, or Nickel Oxide and Tungsten Oxide or Nickel Oxide, Molibdenum Oxide, Tungsten Oxide and activated Alumina.

Property	Standards		
	KNT-910	KNT-911	KNT-912
1. Mass content, %:			
- Nickel Oxide NiO	7,0-9,0	6,0-8,0	7,0-9,0
- Molybdenum Trioxide MoO_3	16,0-19,0	-	8,0-9,0
- Tungsten Trioxide WO_3	-	12,0-20,0	8,0-10,0
2. Bulk density, g/cm^3	0,8		
3. Sodium Oxide, % not more than	0,1		
4. Granules size, mm	1,6-3,0		
5. Grit, %, not more than	1,0		
6. Ignition loss, at 500°C, %, not more than	5,0		
7. Mechanical crushing strength, kg/mm^2, not less than	1,8		

OUR CUSTOMERS

УКРТАТНАФТА · СНГ СУРГУТНЕФТЕГАЗ · БЕЛОРУСНЕФТЬ · UZBEKNEFTEGAZ · SOCAR · ОАО "МОЗЫРСКИЙ НЕФТЕПЕРЕРАБАТЫВАЮЩИЙ ЗАВОД"

KNT group
production of sorbents and catalysts
32, Tekhnycheskaya str., Sterlitamak, 453110, Russia, Phone/Fax +7 (3473) 303-184



Catalyst KNT-930

KNT-930 is used in hydrotreating of middle-distillate fractions to get the components of diesel fuel and jet fuel with improved low-temperature properties.

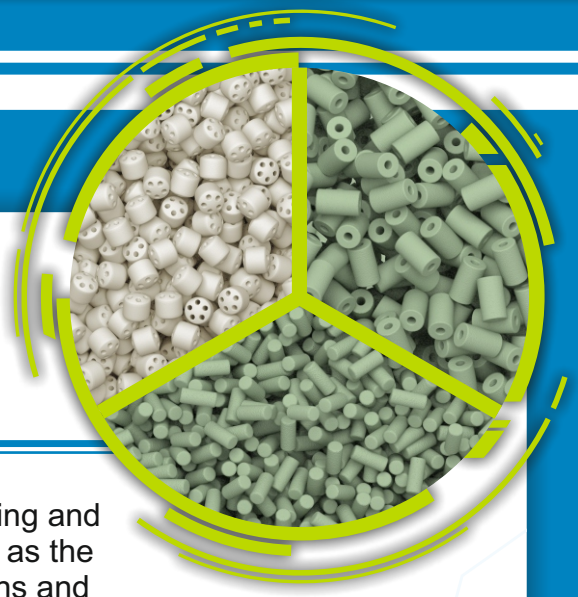
To get low-cold test components of diesel fuel with ultralow content of Sulfur (350, 50 or 10 ppmw) is recommended to use with catalyst KNT-702M, KNT-703M.

Property	Standards
1. Mass content, %	
- Molybdenum Trioxide MoO_3	-
- Nickel Oxide NiO	0,5-5,0
2. Bulk density, g/cm^3	0,6-0,8
3. Sodium Oxide, % not more than	0,08
4. Granules size, mm	1,3-3,0
5. Grit, %, not more than	3,0
6. Ignition loss, at 500°C, %, not more	5,0
7. Mechanical crushing strength, kg/mm^2, not less than	1,8

OUR CUSTOMERS

УКРТАТНАФТА · СНГ Сургутнефтегаз · Беларуснефть · Uzbekneftegaz · SOCAR · ОАО "Мозырский нефтеперерабатывающий завод"

KNT group
production of sorbents and catalysts
32, Tekhnycheskaya str., Sterlitamak, 453110, Russia, Phone/Fax +7 (3473) 303-184



Catalysts of protective layer

Principle application:
Catalysts of protective layer are designed for hydrocracking and hydrotreating processes of heavy oil and middle distillates as the contact layer and the protective layer in different installations and petrochemical refining processes.

The protective gradient catalytic system allows significantly reduce impact of sediments on pressure drop in the reactor, significantly improve the distribution of the gas-feed stream in the reactor, removes impurities, unsaturated compounds and catalytic poisons contained in the raw material before the feed gas mixture enters on the base layer catalyst, which improves the duration of single-pass lifespan and the overall service life of the catalytic system.

Property	KNT-300	KNT-310	KNT-326	KNT-330	KNT-351
Appearance	Cylinder	Cylinder with channels	Disk with channels	Ring	Extrudate
Bulk density, g/cm³, not more than	1,5	1,1	0,5-1,2	0,5-0,95	0,5-0,8
Granules size, mm - outer diameter - height - inner channels' diameter	 16-20 13-17 -	 16-20 13-17 2,0-3,0	 42-50 15-22 -	 2,5-7,0 - -	 1,4-5,0 - -
Active components mass fraction, %: - Molibdenum Trioxide MoO_3 - Nickel Oxide NiO	 - -	 - -	 - -	 8,0-12,0 0,5-4,0	 11,0-13,0 3,0-4,0
Ignition loss at temperature (550±10)°C,%, not more than	3	3	3	3	3
Grit, %, not more than	0,5	0,5	0,5	1,0	1,0

OUR CUSTOMERS

УКРТАТНАФТА · СНГ Сургутнефтегаз · Белоруснефть · Uzbekneftegaz · SOCAR · ОАО "Мозырский нефтеперерабатывающий завод"

32, Tekhnycheskaya str.,
Sterlitamak,
Bashkortostan, 453110
Russia
Tel. +7 (3473) 303-184
Fax +7 (3473) 303-184
E-mail: info@kntgroup.ru
www.kntgroup.ru

453110, Россия,
Республика Башкортостан,
г. Стерлитамак,
ул. Техническая, 32
тел.: +7 (3473) 303-184
факс: +7 (3473) 303-184
E-mail: info@kntgroup.ru
www.kntgroup.ru