

## PETN

1. Chemical formula:  $C_5H_8O_{12}N_4$   
Synonyms: Pentrite, Pentaerythrite tetranitrate
2. Technical characteristics:

Characteristics	Admissibility condition	
	Type A	Type B
Appearance	White crystallized powder. Non-metallic visible particles are admitted, yet their count should not exceed 3 particles in the elementary sample.	
Melting point, °C	139	
Humidity and volatile substances, %, max.	0.1	
Impurities insoluble in acetone, %, max.	0.08	
Ash, %, max.	0.02	
Silicate dioxide, %, max.	0.01	
Acidity, %	None	
pH test stability after heating at 110 °C for 8 hours, pH min.	5.5	
Friability (flowing time for 120 g of pentrite through a funnel with 5 mm inner section)	-	60
Granulation, rest on sieve: - #08, according to STAS 1077-67, %, max. - #0315, according to STAS 1077-67, %, min.	5 -	2 80
Nitrogen content, %, min.	17.5	
Insoluble particles retained on US standard sieve #40, particle count/sieve	None	
Stability in vacuum at 120 °C, as gaseous volume in 20 hours of test, $cm^3$ , max.	5	
Brisance (Hess method), mm	23 – 25	
Working capacity (Trauzl method), $cm^3$	450 – 480	
Detonation velocity at 1,62 $g/cm^3$ , m/s	7760 - 8060	

3. Packing:  
PETN is packed wetted with 15% water in polyethylene bags then in fiberboard boxes according to RID 1993, E 6, 4 G.  
Gross weight (product + water): 25 kg
4. Transport and storage:
  - 4.1. UN hazard Class/Division and Compatibility Group for PETN is 1.1D.  
UN Serial No. for PETN is 0150.
  - 4.2. The product shall be stored in protected rooms within the temperature range of  $-5^{\circ}C$  to  $+25^{\circ}C$ .
5. Guarantee: 1 year from the date of manufacturing under the condition that the storage conditions are strictly observed.  
Lifetime: 10 years from the date of manufacturing.

## RECRYSTALLIZED PETN WITH CONTROLLED GRANULATION

1. Chemical formula:  $C_5H_8O_{12}N_4$   
Synonyms: PETN, Pentrite, Pentaerythrite tetranitrate
2. Technical characteristics:

Characteristics	Admissibility condition
Appearance and color	White crystals without traces of humidity, with round shape. Very small impurities are admitted, if within the limits of item #5
Melting point, °C	139
Humidity and volatile substances, %, max.	0.1
Acidity, %	None
Acetone-insoluble particles, %, max.	0.08
pH test stability after heating at 110 °C for 8 hours, pH min.	5.5
Ash, %, max.	0.02
SiO <sub>2</sub> content, %, max.	0.01
Density, g/cm <sup>3</sup>	0.700 – 0.800
Friability (flowing time for 120 g of pentrite through a funnel with 5 mm inner section)	60
Granulation:	
- under 0.75 mm, %	100
- 0.75 to 0.5 mm, %	25
- 0.5 to 0.3 mm, %	45
- 0.3 to 0.1 mm, %	25
- under 0.1 mm, %	5

3. Packing:  
PETN is packed wetted with 15% water in polyethylene bags then in fiberboard boxes according to RID 1993, E 6, 4 G.  
Gross weight (product + water): 25 kg
4. Transport and storage
  - 4.1. UN hazard Class/Division and Compatibility Group for PETN is 1.1D.  
UN Serial No. for PETN is 0150.
  - 4.2. The product shall be stored in protected rooms within the temperature range of -5°C to +25°C.
5. Guarantee: 1 year from the date of manufacturing under the condition that the storage conditions are strictly observed.  
Lifetime: 10 years from the date of manufacturing.