

**Manufacturer:**

PJSC «Metafrax Chemicals»  
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## Pentaerythritol

Technical Data Sheet

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**Composition:**

Pentaerythritol consists of monopentaerythritol with minor organic impurities. Pentaerythritol is produced by condensation of acetaldehyde and formaldehyde in alkaline conditions.

**Available grades:**

- Grade A, high grade (mono)
- Grade A, first grade (tech)

**Synonyms:**

Tetrahydroxyneopentane, tetramethylolmethane, tetraoxymethylmethane

**CAS no:**

115-77-5

**EC no:**

204-104-9

**REACH registration number:**

01-2119473985-20-0003

**Chemical formula:**

$C_5H_{12}O_4$

**Production:**

Production started in 1982 and is currently operated by PJSC "Metafrax".

## PHYSICAL AND CHEMICAL PROPERTIES

Parameter	A (mono)	A (tech)
	High grade	First grade
Appearance	White crystalline powder	White crystalline powder
Mass fraction of monopentaerythritol , %, min	98,0	95,0
Melting temperature, °C, min	258	245
Mass fraction of water and volatile products, %, max	0,1	0,2
Mass fraction of ash, %, max	0,0015	0,01
Chromaticity of fusion cake by Pt-Co scale, max	100	200
Mass fraction of hydroxyl groups, %	49,7-50,0	49,4-50,0
pH of water solution with mass fraction 5%	5,0-7,0	5,0-7,0
Mass fraction of residue after sieving with the screen size 0,04 mm., %, max	13	Not defined

### Applications

- **Alkyd resins**
- **Lacquers**
- **Polygraphic paints**
- **Radcure coatings**
- **Polyurethanes**
- **Rosin esters**
- **Cosmetic emollients**
- **Lubricating oils**
- **Nitration processes**

### Data on Product

- Reference values:
  - Boiling temperature – 410 °C subliming
  - Density at 20 °C – 1,38-1,4 g/cm<sup>3</sup>
  - Solubility in water at 20 °C – 55,6 g/l
- Combustible material .The dust sediment is fire-hazardous.
  - Ignition temperature – 270 °C,
- Product is moderately hazardous by the level of exposure on human organism

### Package

- Polypropylene bags with polyethylene inner liner (25 kg)
  - Multilayer moisture proof paper bags (25 kg)
  - Big bags (500-1000 kg FIBC)
- All above mentioned packaging can be fitted on CP-2 pallets (1000\*1200 mm, 1 ton per pallet, 20 pallets per 20' container).

**Applied means of transport**

Pentaerythritol is transported by all means of roofed transport (20' and 40' containers, tented trucks and covered railcars).

**Classification of hazardous cargo:  
(acc. to UN recommendations for  
hazardous cargo transportation)**

Pentaerythritol is a non-hazardous cargo and it is not classified by UN recommendations.

**Conditions and duration of safe  
storage**

Pentaerythritol is stored in closed warehouse with good ventilation protecting the material against atmospheric precipitation. Product should be stored on pallets positioned above the floor not less than 5 cm and from heaters not less than 1 m. Storage period shall not exceed 2 years from the date of manufacturing.