



METAFRAX TRADING INTERNATIONAL

Metafrax Trading International SA

Via Serafino Balestra, 3/5
6900 Lugano, Switzerland
T. +41 91 911 53 70
F. +41 91 911 53 79
ch@metafraxtrading.com

Technical pentaerythritol

Technical Data Sheet

11.12.2019

Composition:	Technical 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) - Grade B (nitration)
Synonyms:	Tetrahydroxypentane, tetramethylmethane, 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

Name of parameter	Parameter for grade		
	A		B
	High grade	First grade	
Appearance	White crystalline powder		
Mass fraction of monopentaerythritol , %, min	98,0	95,0	98,7
Melting temperature, °C, min	258	245	259
Mass fraction of water and volatile products, % max	0,1	0,2	0,1
Mass fraction of ash , %, max	0,0015	0,01	0,0015
Chromaticity of fusion cake by Pt-Co scale, max	100	200	100
Mass fraction of hydroxyl groups, %	49,7-50,0	49,4-50,0	49,8-50,0
pH of water solution with mass fraction 5%	5,0-7,0		
Mass fraction of product passing through sieve 01K, %, max	13	not defined	9



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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;
 - Density at 20 °C - 1,38–1,4 g/cm³;
 - Solubility in water at 20 °C – 55,6 g/l
- Combustible material .The dust sediment is fire-hazardous.
Ignition temperature – 270 °C,
Self-ignition temperature – 435 °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.