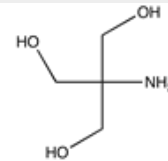


**Tris-(hydroxymethyl)-aminomethane, buffer substance, for analysis,  
ExpertQ®, ACS, Reag. Ph Eur**
**Identification**

$C_4H_{11}NO_3$   
 M = 121,14 g/mol  
 CAS [77-86-1]  
 EC number: 201-064-4  
 Taric code: 2922 19 85


**Synonyms**

2-Amino-2-(hydroxymethyl)-1,3-propanediol, Tromethamine, THAM, TRIS buffer

**Applications**

analytical chemistry, in buffer solutions, in biochemistry, laboratory reagent, in the pharmaceuticals industry, emulsifier (cosmetics), for the synthesis of: tensoactives.

**Specifications**

assay (acidimetric, on dried sample).....	99,8 - 100,1 %	iron (Fe).....	max. 5 ppm
assay (acidimetric, referred to dried sample).....	99,0 - 100,5 %	lead (Pb).....	max. 0,1 ppm
identification.....	passes test	magnesium (Mg).....	max. 0,3 ppm
appearance of solution.....	clear	potassium (K).....	max. 0,3 ppm
insoluble in water.....	max. 0,003 %	sodium (Na).....	max. 1 ppm
pH (5 %, H <sub>2</sub> O).....	10,3 - 10,9	zinc (Zn).....	max. 0,1 ppm
chlorides (Cl).....	max. 0,0005 %	related substances (TLC).....	passes test
sulfates (SO <sub>4</sub> ).....	max. 0,0005 %	loss on drying (105 °C).....	max. 0,5 %
arsenic (As).....	max. 0,2 ppm	residue on ignition.....	max. 0,1 %
cadmium (Cd).....	max. 0,1 ppm	water (K.F.).....	max. 0,5 %
calcium (Ca).....	max. 1 ppm		
copper (Cu).....	max. 0,1 ppm	absorbance (40 %, 1 cm, H <sub>2</sub> O): at wavelegth :	
heavy metals (as Pb).....	max. 5 ppm	290 nm.....	max. 0,20 AU

**Physical data**

- Appearance: bright elongate crystals, colourless
- Spec. Density: 1,353 g/cm<sup>3</sup>
- Bulk density: ~ 840 kg/m<sup>3</sup>
- Solub. in water: (20 °C): 800 g/l
- Melting point: 172 - 173 °C
- Boiling point: (13,3 hPa) 219 - 220 °C
- pH(6 g/l H<sub>2</sub>O, 20 °C) 10,2 - 10,6

**Safety - GHS**

Signal Word: Warning

**Hazard Statements:**

- H315: Causes skin irritation.  
 H319: Causes serious eye irritation.


**Precautionary Statements:**

- P280: Wear protective gloves / protective clothing / eye protection / face protection.  
 P264: Wash thoroughly after handling.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P321: Specific treatment (see on this label).  
 P332+P313: If skin irritation occurs: Get medical advice / attention.  
 P337+P313: If eye irritation persists: Get medical advice / attention.

**Transport/storage**

- 10°C - 30°C