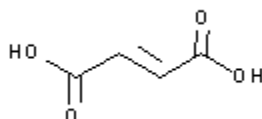


**PRODUCT CODE: 142344**

**Fumaric Acid (USP-NF) pure, pharma grade**

C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>

HOOCCH=CHCOOH



M.= 116,07

CAS [110-17-8]

EINECS 203-743-0

TARIC 2917 19 80 90

**SYNONYMS:** Butenedioic Acid, trans-1,2-Ethenedicarboxylic Acid

**PHYSICAL DATA:** Small crystals, White, Soluble in water 6,3 g/l at 20 °C M.P.: 300 °C • pH(5 g/l)2,1 • Ign. T.:630 °C

**BIBLIOGRAPHY:** Merck Index **12**, 4.309 **13**, 4.803 Sax **FOU500** • Safety **2** , **1749 A** • Römp **8** , **414** • Ullmann **(5.)8** , **534** • Beilstein **2** , **737 I** , **299 II** , **631 III** ,**1890 IV** , **2202** • BRN 605762 • Fieser 5319 • USP **-NF 38** • F.C.C **12 13** • BOE **243(8-10-2009)** • Regulation (EU) n° 231/2012 •

**HAZARDOUS:** C.E: 607-146-00-X • RTECS: LS 9625000 • LD L0 oral rbt 5.000 mg/kg • LD50 oral rat 9.300 mg/kg • LD L0 ipr rat 587 mg/kg



H: H319 •

P: P264 • P280 • P305+P351+P338 • P337+P313 •

**SPECIFICATIONS:**

Assay (Acidim.) calc. a.d.s.

99,5-100,5%

Identity :

Identity according to Pharmacopoeias:

passes test

**Maximum limit of impurities**

Insoluble matter in H <sub>2</sub> O	0,05 %
Residue on ignition (as SO <sub>4</sub> )	0,1 %
Chloride (Cl)	0,005%
Sulfate (SO <sub>4</sub> )	0,01%
Residual solvents (Ph.Eur/USP)	passes test
Maleic Acid (HPLC.)	0,1%
Water (H <sub>2</sub> O)	0,5 %

Fe 0,001 %

**Elemental impurities (ICH Q3D):****Class 1**

Cd	0,5 ppm
Pb	0,5 ppm
As	1 ppm
Hg	1,5 ppm

**Class 2A**

Co	5 ppm
V	10 ppm
Ni	10 ppm

**Class 2B**

Tl	5 ppm
Au	10 ppm
Pd	10 ppm
Ir	10 ppm
Os	10 ppm
Rh	10 ppm
Ru	10 ppm
Se	15 ppm
Ag	15 ppm
Pt	10 ppm

**Class 3**

Li	55 ppm
Sb	120 ppm
Ba	140 ppm
Mo	25 ppm
Cu	10 ppm
Sn	600 ppm
Cr	25 ppm

**Complies USP 2020 specifications**