

Specification Comparison

Trizma® Base (Tris Base)

| Sigma-Aldrich Trizma Base Physical Properties | | | | | | | | |
|---|--|---------------------------|--|------------------------|---------|-------------------------|------------------------------------|---|
| Synonyms | 2-Amino-2-(hydroxymethyl)-1,3-propanediol | | | | | | | |
| | THAM | | | | | | | |
| | Tris base | | | | | | | |
| | Tris(hydroxymethyl)aminomethane Trometamol | | | | | | | |
| Molecular Formula | NH ₂ C(CH ₂ OH) ₃ | Beilstein Registry | 741883 | Useful pH range | 7.0-9.0 | | | |
| Molecular Weight | 121.14 | MDL Number | MFCD00004679 | pKa (at 20) | 8.20 | | | |
| CAS Number | 77-86-1 | EG/EC Number | 201-064-4 | pKa (at 25) | 8.06 | | | |
| Melting point | 168-172 °C | Boiling point | 219-220 °C/10 mmHg | pKa (at 37) | 7.72 | | | |
| Sigma-Aldrich Trizma Base Specifications Comparison | | | | | | | | |
| | T1378 | 252859 | T1503 | T6687 | T6791 | 93350 | T6066 | 93362 |
| Grade | Crystalline | ACS-reagent | Primary Standard and Buffer, Crystalline | Meets USP testing | BioXtra | Analytical, Puriss P.A. | BPC, Cell Culture, EP, USP, USP/NF | BioChemika, BioUltra, Molecular Biology |
| Purity | ≥99% | ≥99.8% | ≥99.9% | ≥99.0% | ≥99.9% | ≥99.7% | ≥99.9% | ≥99.8% |
| Reagent Testing | | | | | | | | |
| | T1378 | 252859 | T1503 | T6687 | T6791 | 93350 | T6066 | 93362 |
| Enhanced Quality Profile Buffers | | | X | | X | | X | |
| 230nm | | | | | | ≤0.6 | | |
| 260nm | | | | | ≤ 0.025 | ≤0.05 | ≤0.06 | ≤0.10 |
| 280nm | | | | | ≤ 0.020 | ≤0.04 | ≤ 0.06 | ≤0.08 |
| 290nm | ≤0.4 | ≤0.2 | ≤0.05 | | | | ≤ 0.05 | |
| 430nm | | | | | | ≤0.01 | | |
| IR | | X | | | | | | |
| Identity | | | | X | | | | |
| Identity A | | | | | | | X | |
| Identity B | | | | | | | X | |
| Identity C | | | | | | | X | |
| Identity EP | | | | | | | X | |
| Identity USP | | | | | | | X | |
| Karl Fischer | ≤0.5% | ≤2% | ≤0.2% | | | | ≤0.2% | |
| LOD | | | | ≤1.0% | ≤0.5% | | ≤0.5% | ≤0.5% |
| Insoluble Matter | | ≤0.005% | | | ≤0.005% | | | Filter test |
| Residue on Ignition | | | | ≤0.1% | ≤0.01% | ≤0.01% | ≤0.1% | ≤0.01% |

| Life Science Testing | | | | | | | | |
|--------------------------------|----------|----------|----------|---------|-----------|----------|------------|-----------|
| | T1378 | 252859 | T1503 | T6687 | T6791 | 93350 | T6066 | 93362 |
| Endotoxin | | | | | | | ≤1 eu/mg | |
| SPC | | | | | | | ≤100 cfu/g | |
| Cell test | | | | | | | x | |
| RNAse | | | | | | | x | x |
| DNase | | | | | | | x | x |
| Nickase | | | | | | | x | |
| Protease | | | | | | | x | x |
| Phosphatase | | | | | | | | x |
| Suitability Electrophoresis | | | | | | | x | |
| Trace Elemental Analysis | | | | | | | | |
| | T1378 | 252859 | T1503 | T6687 | T6791 | 93350 | T6066 | 93362 |
| Sodium(Na) | | | | | ≤0.0050% | ≤0.0050% | | ≤0.0050% |
| Chloride(Cl) | | | | | ≤0.0050% | ≤0.0005% | | ≤0.0020% |
| Sulfate(SO ₄) | | | | | ≤0.0050% | ≤0.0005% | | ≤0.0005% |
| Aluminum(Al) | | | | | ≤0.0005% | | | ≤0.0005% |
| Arsenic(As) | | | | | ≤0.00001% | | | ≤0.00001% |
| Barium(Ba) | | | | | ≤0.0005% | | | ≤0.0005% |
| Bismuth(Bi) | | | | | ≤0.0005% | | | ≤0.0005% |
| Calcium(Ca) | | | | | ≤0.0010% | ≤0.0010% | | ≤0.0010% |
| Cadmium(Cd) | | | | | ≤0.0005% | ≤0.0005% | | ≤0.0005% |
| Cobalt(Co) | | | | | ≤0.0005% | ≤0.0005% | | ≤0.0005% |
| Chromium(Cr) | | | | | ≤0.0005% | ≤0.0005% | | ≤0.0005% |
| Copper(Cu) | | | | | ≤0.0005% | ≤0.0005% | | ≤0.0005% |
| Iron(Fe) | | ≤0.0005% | | | ≤0.0005% | ≤0.0005% | ≤0.0001% | ≤0.0005% |
| Potassium(K) | | | | | ≤0.0050% | ≤0.0050% | | ≤0.0050% |
| Lithium(Li) | | | | | ≤0.0005% | | | ≤0.0005% |
| Magnesium (Mg) | | | | | ≤0.0005% | ≤0.0005% | | ≤0.0005% |
| Manganese (Mn) | | | | | ≤0.0005% | ≤0.0005% | | ≤0.0005% |
| Molybdenum (Mo) | | | | | ≤0.0005% | | | ≤0.0005% |
| Nickel(Ni) | | | | | ≤0.0005% | ≤0.0005% | | ≤0.0005% |
| Lead(Pb) | ≤0.0005% | ≤0.0005% | ≤0.0002% | | ≤0.0005% | ≤0.0005% | ≤0.0002% | ≤0.0005% |
| Strontium(Sr) | | | | | ≤0.0005% | | | ≤0.0005% |
| Zinc(Zn) | | | | | ≤0.00005% | ≤0.0005% | | ≤0.0005% |
| Related substances | | | | | | | x | |
| Heavy Metals | | | | ≤0.001% | | | | |
| Chlorides | | | | | | | ≤0.0100% | |

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