# VERSENEX™ 50% Chelating Agent

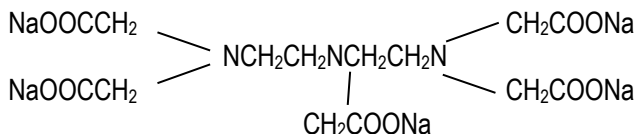| | |
|---|---|
| **Product Availability** | • North America<br>• Latin America |
| **Applications** | • Cleaning products<br>• Photography<br>• Gypsum board<br>• Polymerization<br>• Pulp and paper<br>• Scale removal and prevention |
| **Active Ingredient Name** | Pentasodium diethylenetriaminepentaacetate |
| **CAS Number** | 140-01-2 |
| **Chemical Formula** | $C_{14}H_{18}N_3O_{10}Na_5$ or $(NaOOCCH_2)_2 NCH_2CH_2N(CH_2COONa)CH_2CH_2N (CH_2COONa)_2$ |
| **Chemical Structure** | |
| **Molecular Weight** | 503.1 |
| **Other Names** | $Na_5DTPA$, DTPA |

Chemical Structure:

$NaOOCCH_2$ and $NaOOCCH_2$ — $NCH_2CH_2NCH_2CH_2N$ — $CH_2COONa$ and $CH_2COONa$, with $CH_2COONa$ below.

**Description**  VERSENEX™ 50 Chelating Agent is an aqueous solution of the pentasodium salt of diethylenetriaminepentaacetic acid, $Na_5DTPA$. VERSENEX 50 Chelating Agent should be considered for use when: (1) the chelant will be used in the presence of oxidizers such as peroxide; (2) when metal chelates of greater stability or solubility are sought; or (3) when VERSENE 100 chelating agent has shown limited utility.

## Typical Properties†

| | |
|---|---|
| **Calcium Chelation Value** | 97 mg as $CaCO_3$ per gram of VERSENEX™ 50% |
| **Equivalent Chelation Capacity** | One gram of VERSENEX 50% has the equivalent chelation capacity of 0.97 mmoles of DTPA |

| **Metal Chelation Capacity** | Parts chelant per part metal (w/w) |
|---|---|
| **Ca** | 37.8 |
| **Mg** | 62.3 |
| **Fe** | 27.1 |
| **Cu** | 23.8 |
| **Mn** | 27.6 |

| | |
|---|---|
| **% Assay** | 48.0 wt% as $Na_5DTPA$ |
| **Appearance Light** | Straw-colored liquid |
| **Specific Gravity at 25/25˚C** | 1.38 |
| **pH** | 11.0-12.0 (1 wt% solution) |
| **Color** | 250 maximum (APHA) |

| **Viscosity, Centipoise** | **Temperature** | **Viscosity, Centipoise** |
|---|---|---|
| | 0˚C/32˚F | 1390 |
| | 20˚C/68˚F | 228 |

| | |
|---|---|
| **Water Solubility** | Completely miscible |

† The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications.

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