

# GeCl<sub>4</sub>

**Properties:** Germanium tetrachloride is an inorganic compound, colorless liquid with irritating odor at room temperature. It has high vapor pressure and good solubility, and can be miscible with many organic and inorganic solvents. It is easily hydrolyzed in air to produce germanic acid and hydrogen chloride.

**Uses:** As the dopant of fiber core of optical fiber prefabricated rod, it can improve the refractive index of fiber core, realize the full reflection of optical fiber, no loss and improve the transmission distance, it is the essential material in the manufacture of optical fiber; it is the important raw material for the preparation of germanium monocrystalline, polycrystalline and membrane materials.

## · Identifier

|                  |                   |
|------------------|-------------------|
| Chemical Formula | GeCl <sub>4</sub> |
| CAS No.          | 10038-98-9        |
| EINECS No.       | 233-116-7         |

## · Physical and chemical properties

|                  |                         |               |         |            |                                 |
|------------------|-------------------------|---------------|---------|------------|---------------------------------|
| Molecular weight | 214.45 g/mol            | Flash point   | 83.1°C  | Reactivity | Reacts violently with water     |
| Appearance       | Colorless liquid        | Melting point | -49.5°C | Solubility | Soluble in ethanol and ether    |
| Density          | 1.844 g/cm <sup>3</sup> | Boiling point | 83°C    | Storage    | Shady and cool, well-ventilated |

## · Metal impurities

| Impurities                         | Unit | Specification | Impurities | Unit | Specification |
|------------------------------------|------|---------------|------------|------|---------------|
| Al                                 | ppb  | ≤1.0          | Zn         | ppb  | ≤1.0          |
| Co                                 | ppb  | ≤0.5          | Na         | ppb  | ≤2.0          |
| Cr                                 | ppb  | ≤1.0          | Ca         | ppb  | ≤2.0          |
| Cu                                 | ppb  | ≤1.0          | K          | ppb  | ≤2.0          |
| Fe                                 | ppb  | ≤2.0          | Li         | ppb  | ≤1.0          |
| Mn                                 | ppb  | ≤0.5          | Mg         | ppb  | ≤1.0          |
| Ni                                 | ppb  | ≤1.0          | Sb         | ppb  | ≤1.0          |
| Pb                                 | ppb  | ≤1.0          | Sn         | ppb  | ≤1.0          |
| V                                  | ppb  | ≤1.0          | Ti         | ppb  | ≤1.0          |
| -OH                                | ppm  | ≤2.0          | Mo         | ppb  | ≤1.0          |
| -CH <sub>2</sub> &-CH <sub>3</sub> | ppm  | ≤1.0          | HCl        | ppm  | ≤4.0          |

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