



## Product Data Sheet

### Diphenyl Isodecyl Phosphite (DPIDP)

#### Description

Diphenyl isodecyl phosphite (DPIDP) is a liquid **aryl-alkyl phosphite** widely used as a **secondary antioxidant** and **processing stabilizer** in polymers. It is a clear to pale yellow liquid with good solubility in organic media. DPIDP plays a vital role in protecting plastics and resins from oxidative degradation during high-temperature processing, extrusion, and long-term use.

#### Typical Properties

| Parameter                 | Specification  |
|---------------------------|--|
| Chemical Formula          | C <sub>22</sub> H <sub>29</sub> O <sub>3</sub> P (approx.) |
| Molecular Weight          | ~372 g/mol   |
| Appearance                | Clear to pale yellow liquid                                |
| Specific gravity at 25 °C | 1.02 – 1.06  |
| Acid Value mg KOH/g       | 0.3 Max  |
| Refractive Index at 25 °C | 1.516 – 1.528  |
| Phosphorous Content %     | 8.1 – 8.3  |
| CAS Number                | 25550-97-4 (common reference)                              |
| EC Number                 | 247-080-5  |

#### Applications

- **Polymer Stabilizer:** Secondary antioxidant in PVC, PE, PP, ABS, and Styrene's.
- **PVC Industry:** Improves initial color, clarity, and long-term heat stability in rigid and flexible PVC (pipes, cables, profiles, films, sheets).
- **Polyolefins & Engineering Plastics:** Enhances melt flow stability and prevents gel formation during processing.
- **Coatings, Adhesives & Sealants:** Provides oxidative stability, gloss retention, and yellowing resistance.
- **Lubricants & Greases:** Used as an antioxidant to prevent oil oxidation and sludge formation.
- **Synergistic Role:** Works with hindered phenolic antioxidants and metal stabilizers to extend thermal and color stability.

#### Safety & Handling

- May hydrolyze to form phenol, which is toxic and corrosive.
- Handle with gloves, goggles, and protective clothing.
- Store in tightly closed containers, away from heat, moisture, and direct sunlight.
- Use in well-ventilated areas; avoid inhalation of vapors.
- Refer to the Safety Data Sheet (SDS) for detailed handling and emergency information.

The information given in this document is only a recommendation, believed to be reliable, and is given in good faith but without warranty. Our advice does not release users from the obligation of checking its validity. The user should test the product to ascertain the suitability for the intended use. Specified properties mentioned in this document are based on our historical production performance and these properties or the whole document is subject to change without any prior notice, at our sole discretion. We are under no obligation to recall earlier issued documents.