



## Product Data Sheet

### Diisodecyl Phenyl Phosphite (DIDP-PP)

#### Description

Diisodecyl phenyl phosphite (DIDP-PP) is a liquid organophosphite compound widely used as a **secondary antioxidant** and **processing stabilizer**. It is a clear to pale yellow liquid with a mild characteristic odor, soluble in most organic solvents. DIDP-PP is primarily applied in **polymer stabilization**, especially in PVC, polyolefins, and engineering plastics.

#### Typical Properties

Parameter	Specification
Chemical Formula	$C_{30}H_{51}O_3P$ (approx.)
Molecular Weight	490 – 510 g/mol (approx.)
Appearance	Clear to pale yellow liquid
Specific Gravity @ 25°C	0.93 – 0.97 g/cm <sup>3</sup>
Refractive Index @ 25 °C	1.478 – 1.489
Acid Value mg KOH/g	< 0.5
Phosphorous Content %	6.85 – 7.10
CAS Number	25550-98-5
EC Number	247-081-0

#### Applications

- Secondary antioxidant and processing stabilizer in **PVC, polyethylene, polypropylene, ABS, and styrenics**.
- Improves **color stability, clarity, and mechanical properties** of plastics.
- Widely used in **rigid and flexible PVC** for pipes, cables, films, and profiles.
- Enhances **melt flow stability** in polyolefins, preventing gel formation during processing.
- Stabilizer in **coatings, adhesives, and sealants**, improving oxidative stability and gloss retention.
- Additive in **specialty lubricants** to prevent oxidation and sludge formation.
- Often used **synergistically** with hindered phenolic antioxidants and metal stabilizers.

#### Safety & Handling

- Diisodecyl phenyl phosphite may slowly hydrolyze to release **phenol**, which is toxic.
- Handle with appropriate **PPE** (gloves, goggles, protective clothing).
- Store in **tightly sealed containers**, in a dry and well-ventilated area, away from heat and moisture.
- Refer to the **Safety Data Sheet (SDS)** for detailed handling, storage, and first-aid measures.

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