

Product Application Bulletin

DPC IN THE MANUFACTURE OF TMPO PHOTOINITIATOR

Chemical Name:

Diphenyl Phosphinous Chloride (DPC)

Description:

Light yellow to tan clear liquid with musty odor.

CAS Registry Number:

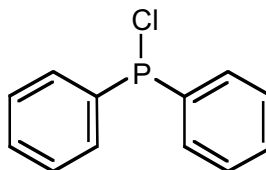
1079-66-9

Empirical Formula:

C₁₂H₁₀PCl

Markets:

Manufacturers of TMPO and other acyl phosphine oxide photoinitiator.

**Application:**

DPC (Diphenyl Phosphinous Chloride) is a highly reactive molecule that is utilized as an intermediate in the manufacture of TMPO (2,4,6-Trimethylbenzoyldiphenylphosphine oxide) photoinitiator. Photoinitiators are molecules that utilize either ultraviolet or visible light energy to induce a chemical reaction. Typical applications for TMPO photoinitiator include radiation curable coatings, printing inks, photopolymeric printing plates, photoresists and other areas.

Features and Benefits

Features

1. Cl atom on DPC
2. Phosphorus atom in DPC molecule
3. Aryl moiety on DPC molecule

Benefits

Readily reacts with alcohol to yield diphenyl alkyl phosphine oxide intermediate

Imparts highly reactive a carbonyl phosphine oxide site to TMPO molecule

Provides site for cleaving of TMPO molecule and generation of highly reactive phosphinoyl radical

Contributes high molecular weight to TMPO product, producing a solid material that exhibits low volatility

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