# **TRE//** 15-7560: CYTOP® 141



METALS • INORGANICS • ORGANOMETALLICS • CATALYSTS • LIGANDS • NANOMATERIALS • CUSTOM SYNTHESIS • cGMP FACILITIES

Sold in collaboration with Solvay.

# Isobutylphosphine, min. 95%, CYTOP® 141



Product Details		
Purity	min. 95%	
Color and Form	Colorless liquid	
Density	0.77	
CAS No.	4023-52-3	
Molecular Formula	C <sub>4</sub> H <sub>11</sub> P	
Molecular Weight	90.11 g/mol	

**CYTOP® 141** is a clear, colorless, pyrophoric liquid. Mono-iso-butyl phosphine is a primary phosphine that must be handled under an inert atmosphere. The chemistry of Mono-iso-butyl phosphine is typical of most primary alkylphosphines. It can readily be functionalized and incorporated into chiral ligands, phosphonium salts, complex ligands, etc. It is considered to be a ligand building block in many catalytic applications.

## **Technical Notes:**

- 1. CYTOP® 141 is an alkyl phosphine that can be incorporated in polymers via photopolymeriation.<sup>1</sup>
- 2. It has also been derivatized and incorporated in electrolyte additives for batteries or capacitors.<sup>2</sup>
- 3. As a primary phosphine, CYTOP® 141 can also be incorporated into ligands for catalysis. <sup>3,4</sup>
- 4. CYTOP® 141 has also been included in formulations for lubricant additives to improve thermal-oxidation stability and colour stability. <sup>5</sup>
- 5. Furthermore, this primary phosphine can be used as a phosphorus source in CVD applications. <sup>6</sup>

### **References:**

- 1. Angew. Chem. Int. Ed. 2018, 57, 13252-13256.
- 2. European Patent EP 2952519 A1, 2015.
- 3. Eur. J. Inorg. Chem. 2016, 21, 3417-3422.
- 4. Organic Lett. 2006, 8, 103-105.
- 5. World Patent 2016032246, 2016.
- 6. US Patent 20080026577, **2008**.

### **Storage and Handling:**

Keep away from heat, sparks, and flames. Keep from contact with clothing and other combustible materials. Avoid contact with air or other oxidizing agents. Handle in an atmosphere of inert gas such as nitrogen. Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Store in a tightly closed container. Use with adequate ventilation. Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

**CYTOP® 141** is classified as "pyrophoric" and on exposure to air under the right conditions, it can ignite spontaneously. Exposure to air and other oxidizing material must be avoided. This material is a strong reducing agent. Contact with other combustible materials may cause fire. Store and handle under an atmosphere of inert gas such as nitrogen or argon.

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