Phosphorus Chlorides

- **PCl₃** – Phosphorus Trichloride
- **POCl₃** – Phosphorus Oxychloride
- **PCl₅** – Phosphorus Pentachloride
PCI₃ – Phosphorus Trichloride

- PCI₃ is an important industrial chemical, used to manufacture organophosphorus compounds for a wide variety of applications, including herbicides, insecticides, plasticizers, oil additives, and flame retardants.

- Also used directly as a reagent in organic synthesis. It is used to convert primary and secondary alcohols into alkyl chlorides, or carboxylic acids into acyl chlorides.
The most important use for phosphoryl chloride is in the manufacture of triarylphosphate esters such as triphenyl phosphate and tricresyl phosphate.

These esters have been used for many years as flame retardants and plasticizers for PVC.

In agroscience it is used in the manufacture of pesticides.
**PCl₅ – Phosphorus Pentachloride**

- PCl₅ is used as a chlorinating reagent in the manufacturing of antibiotics.
- Also for the manufacturing of electrolytes for lithium ion batteries.
Phosphorus chlorides are subject to the legislation of non-proliferation of chemical weapons and can be exported only under strict control.

Export toward several countries is subject to prior obtaining an export license or may be restricted by authorities.