The synthetic utility of triphosgene or bis(trichloromethyl)carbonate has been extensively investigated in the last decade. It has now become a versatile synthetic tool in the preparation of many classes of organic compounds. It is a white crystalline solid (mp = 80 °C), soluble in common organic solvents like CH₂Cl₂, THF, ether, chloroform. Being a solid, it is easier and safer to handle than its gaseous cogener, phosgene. Reactions with triphosgene can be carried out under mild conditions to get excellent yields of products.

**Preparation** Triphosgene (I) is prepared by photoclorination of dimethyl carbonate.²

\[ \text{H}_2\text{CO} + 6\text{Cl}_2 \xrightarrow{\text{hv}} \text{Cl}_2\text{COOC} \text{Cl}_2 + 6\text{HCl} \]

**Abstracts**

1. It is a convenient reagent for preparing acid chlorides and anhydrides from carboxylic acids.

2. Chlorination of primary and secondary alcohols to alkyl chlorides can be carried out using triphosgene and triphenylphosphine. The reaction can be performed at an ambient temperature to get excellent yields of alkyl chlorides.⁴

3. Triphosgene is used for protecting diols, aminols, thiols, etc.⁵

4. Triphosgene acts as an efficient acid activator for β-lactam synthesis via ketene-imine cyclisation reaction (Staudinger Reaction).⁶

**References and Notes**


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