Acid Chlorides from Carboxylic Acids

Reaction:

\[
\text{HOOH} \xrightarrow{\text{SOCl}} \text{HOCl}
\]

Mechanism:

Tetrahedral Intermediate

This reaction is very useful because carboxylic acids are not quite chemically reactive. Acid chlorides are very reactive compounds. You can perform addition or substitution reactions. Another way of synthesizing an acid chloride is using phosphorus pentachloride, PCl₅.

Mechanism:

\[
\text{HOOH} \xrightarrow{\text{PCl}} \text{HOCl}
\]