

## Amides

### Naming

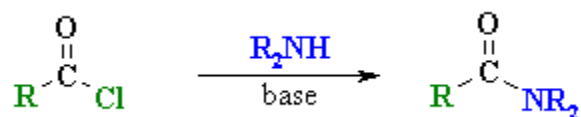
Naming primary amides is pretty simple, simply write the name of the acid, omitting the -oic from the name and adding amide. Propanoic acid would give propanamide and so on.

Naming secondary and tertiary amides becomes a little bit more complex. This is due to the fact that the group attached to the Nitrogen has to be added in front, with the prefix N-.

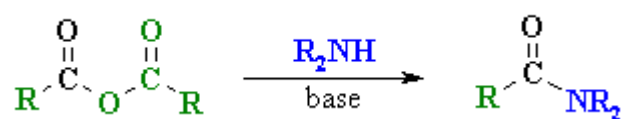
	IUPAC name
$\begin{array}{c} \text{O} \\    \\ \text{H}-\text{C}-\text{NH}_2 \end{array}$	Methan amide
$\begin{array}{c} \text{O} \\    \\ \text{CH}_3-\text{C}-\text{N}(\text{CH}_3)_2 \end{array}$	N,N-dimethyl acetamide
$\begin{array}{c} \text{CH}_3-\text{CONH} \\   \\ \text{CH}_3 \end{array}$	N methyl ethanamide

### Preparation

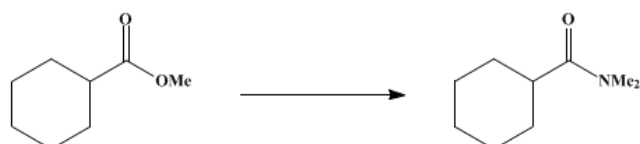
#### Acid Chlorides



#### Acid anhydrides

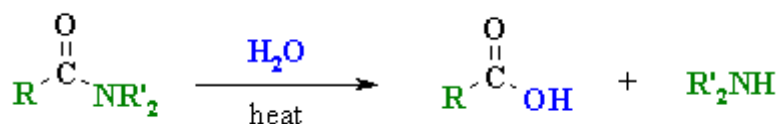


#### Esters



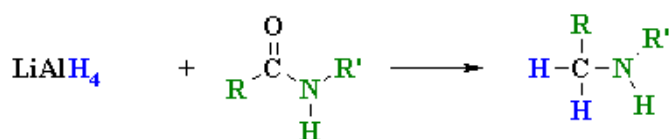
### Reactions

#### Hydrolysis



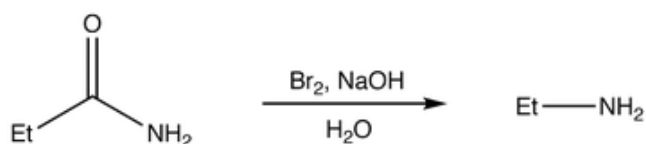
Acid amides have similar reactivities to the carboxylic acids and therefore the hydrolysis reaction is not as easy and straightforward as the other derivatives. This reaction would have to be heated in order for the reaction to proceed.

### Reduction



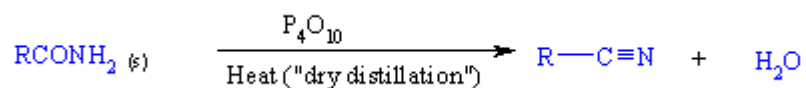
Reduction of the amides gives the amines.

### Hoffmann reduction



The Hoffmann reduction is an easy way how to lose a Carbon atom while still having a functional group attached to our chain, therefore more reaction can be obtained

### Dehydration



Dehydration of the amide produces the nitrile.