

## Chemguide – questions

### ACYL CHLORIDES: REACTIONS WITH AMMONIA AND PRIMARY AMINES

1. Draw structures for ethylamine and phenylamine, and explain how these are related to ammonia.

2. The equation for the reaction between ethanoyl chloride and ammonia is



a) Name the organic product and draw its fully displayed structure.

b) When you react ethanoyl chloride with oxygen-containing molecules like water or ethanol, you always get steamy fumes of hydrogen chloride produced. Why aren't they produced in this case?

c) What would you expect to see if you did this reaction?

3. a) Name and draw the structures of the products of the reaction between ethanoyl chloride and ethylamine.

b) Draw the structures of the compounds you would react together to get the molecules:

