

PURPOSE

To synthesize aspirin from salicylic acid and acetic acid.

EQUIPMENT	100ml Erlenmeyer flask	stirring rod	Buchner funnel	filter paper	water-bath
MATERIALS	salicylic acid	acetic acid	concentrated H ₂ SO ₄	ice-water	

PROCEDURE

1. Put 3g of salicylic acid into a 100ml Erlenmeyer flask.
2. Carefully add, stirring constantly, 6ml of acetic acid, followed by 10 drops of concentrated sulfuric acid.
3. Swirl the contents of the flask.
4. Heat the flask in a boiling-water bath for 15 minutes.
5. Remove the flask from the bath.
6. While the contents are still hot, cautiously add 5ml of ice-water at once.
7. After the reaction subsides, add 35 ml of water and chill the contents of the flask in an ice bath.
8. Use a stirring rod to break up any lumps of solid that may form.
9. Collect the product by vacuum filtration using a small Buchner funnel.
10. In the funnel, rinse the product of 15ml of ice water.
11. Transfer the solid to a sheet of dry filter paper and allow it to dry thoroughly.

QUESTIONS

1. What impurity is most likely to be present in the sample of aspirin prepared?
2. What is the purpose of the sulfuric acid used in the acetylating reaction?