




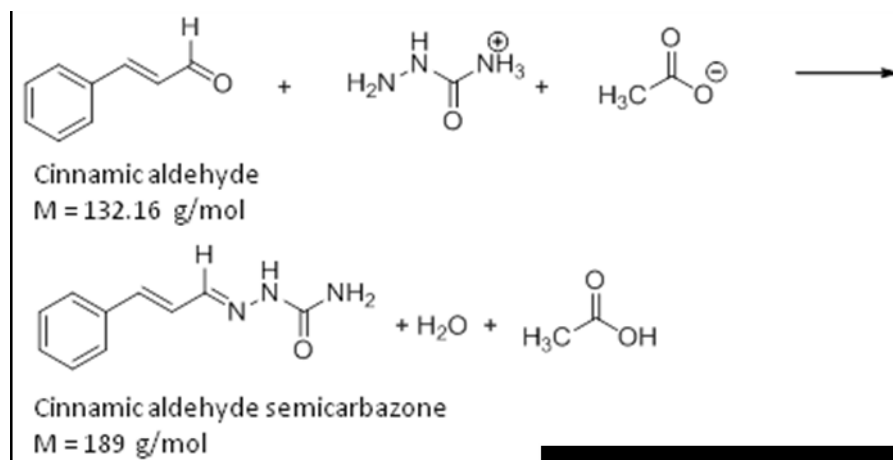
## Cinnamic aldehyde semicarbazone

<u>Chemicals</u>	<u>Materials</u>
<ul style="list-style-type: none"><li>• Semicarbazide-hydrochloride</li><li>• Sodium acetate-trihydrate</li><li>• Cinnamic aldehyde</li><li>• Ethyl alcohol</li></ul>	<ul style="list-style-type: none"><li>• 500 mL-multiple neck flask</li><li>• Stirring motor</li><li>• Stirrer with locking</li><li>• Reflux condenser with water tubes</li><li>• Thermometer with ground glass joint</li><li>• Beaker glasses</li><li>• Dropping funnel</li><li>• Cooling bath</li><li>• Heating device</li><li>• Measuring cylinder</li><li>• Funnel with folded filter</li><li>• Powder funnel</li><li>• Nutsch filter with rubber collar</li><li>• Evacuation bottle</li><li>• Evacuation device</li><li>• Spatula</li><li>• pH-paper</li><li>• Porcelain stamp and bowl</li><li>• Drying oven</li><li>• Precision balance</li></ul>

### Safety instructions

<p><u>Semicarbazide-hydrochloride</u></p> <ul style="list-style-type: none"><li>• H301 H319 H315</li><li>• P280 P302+P352 P305+P351+P338 P309+P311</li><li>• HAZARD!!</li></ul> 	<p><u>Cinnamic aldehyde</u></p> <ul style="list-style-type: none"><li>• H315 H317</li><li>• P280 P302+P352 P262</li><li>• ATTENTION!!</li></ul> 
<p><u>Ethyl alcohol:</u></p> <ul style="list-style-type: none"><li>• H225</li><li>• P210 P243 P280</li><li>• HAZARD!!</li></ul> 	

## Reaction equation



## Experimental procedure

- Put 35 mL water and 100 mL ethyl alcohol in a 500 mL-multiple neck stirring apparatus
- Whilst stirring add 7 g semicarbazide-hydrochloride and 13 g sodium acetate-trihydrate
- Heat the mixture up to the boiling point and hold for 15 min. During that add drop wise a solution of 6 g cinnamic aldehyde and 35 mL ethyl alcohol
- Stir for another 30 min
- After that add drop wise 160 mL water within 15 min
- Switch off the heating device and cool the mixture down to 20°C, and then stir for another 5 min
- Suck off the precipitation sharply, wash the residue two times with 30 mL of a mixture of water and ethyl alcohol (1:1), squeeze off firmly and dry to mass consistency at 105°C in the drying oven

## Waste disposal:

- Dispose of the filtered mixture (ethyl alcohol, water) in the container for non-halogenic solutions

## Analysis:

- Calculation of the yield of product regarding cinnamic aldehyde in grams and percentage of theory

## Preparationlist

### Chemicals:

- Semicarbazide-hydrochloride 7 g
- Sodium acetate-trihydrate 13 g
- Cinnamic aldehyde 6 g
- Ethyl alcohol approx. 200 mL

### Tools:

- 500 mL-multiple neck flask
- Stirring motor
- Stirrer with locking
- Reflux condenser with water tubes
- Thermometer with ground glass joint
- Beaker glasses
- Dropping funnel
- Cooling bath
- Heating device
- Measuring cylinder
- Funnel with folded filter
- Powder funnel
- Nutsch filter with rubber collar
- Evacuation bottle
- Evacuation device
- Spatula
- pH-paper
- Porcelain stamp and bowl
- Drying oven
- Precision balance

