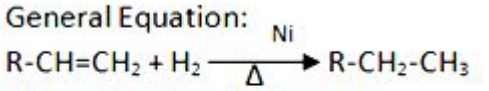
General Equation:

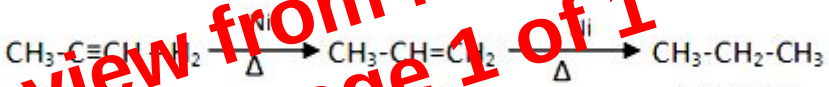


$R\text{-}CH{=}CH_2 + H_2 \xrightarrow[\Delta]{Ni} R\text{-}CH_2\text{-}CH_3$

Where R is H or Alkyl group

Eg. $CH_2{=}CH_2 + H_2 \xrightarrow[\Delta]{Ni} CH_3\text{-}CH_3$

ethene ethane



$CH_3\text{-}C{\equiv}CH + H_2 \xrightarrow[\Delta]{Ni} CH_3\text{-}CH{=}CH_2 \xrightarrow[\Delta]{Ni} CH_3\text{-}CH_2\text{-}CH_3$

propyne propene propane