Abstract
This is a process for the catalytic production of 750,000 mt/a of Monoethylene Glycol (MEG). The process was developed in order to achieve a conversion efficiency of 99% towards MEG as opposed to 90% for traditional processes.

Uses
- Antifreeze
- Deicing Agents
- Polyethylene Terephthalate Resins

Reactions
- Ethylene Oxide Reaction
  \[ C_2H_4 + \frac{1}{2} O_2 \rightleftharpoons C_2H_4O \]
  \[ C_2H_4 + 3O_2 \rightleftharpoons 2CO_2 + 2H_2O \]
- Carbonation Reaction
  \[ C_2H_4O + CO_2 \rightleftharpoons C_3H_4O_3 \]
- Hydrolysis Reaction
  \[ C_3H_4O_3 + H_2O \rightleftharpoons CO_2 + C_2H_6O_2 \]

Catalysts Used
- Ethylene Oxide Reaction
  Supported Silver
- Carbonation/Hydrolysis
  Halogenated Organic Phosphonium Salt