

Materials List for:

# Ammonia Synthesis at Low Pressure

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## Materials

| Name                          | Company               | Catalog Number | Comments               |
|-------------------------------|-----------------------|----------------|------------------------|
| <b>Experimental Apparatus</b> |                       |                |                        |
| Magnesium Chloride            | Sigma Aldrich         | 7786-30-3      | St. Louis, MO          |
| Calcium Chloride              | Sigma Aldrich         | 10043-52-4     | St. Louis, MO          |
| Ultra Pure Hydrogen           | Matheson              | SG PHYF30050   | New Brighton, MN       |
| Ultra Pure Nitrogen           | Matheson              | SG G1881112    | New Brighton, MN       |
| Iron Based Catalyst           | Clariant/Sud Chemie   | -              | Charlotte, NC          |
| Variable Piston Pump          | PumpWorks Inc.        | PW2070N        | Minneapolis, MN        |
| Omega Ceramic Heater          | Omega                 | CRFC-36/115-A  | Stamford, CT           |
| PID Controller                | Omega                 | CN96211TR      | Stamford, CT           |
| Signal Conditioner            | Omega                 | DRG-SC-TC      | Stamford, CT           |
| Pressure Transducer           | WIKA                  | 50426877       | Lawrenceville, Georgia |
| Mass Flow Controller          | Brooks Instruments    | SLA5850        | Hatefield, PA          |
| <b>Name</b>                   |                       |                |                        |
| <b>Company</b>                |                       |                |                        |
| <b>Catalog Number</b>         |                       |                |                        |
| <b>Comments</b>               |                       |                |                        |
| <b>Pilot Plant</b>            |                       |                |                        |
| Electrolyzer                  | Proton OnSite         | H6 Series      | Wallingford, CT        |
| Gas Booster                   | PDC Machine           | 3 2500         | Warminster, PA         |
| Wind Turbine                  | Vestas                | V82            | Portland, OR           |
| Chiller                       | Thermal Care          | SQ Series      | Niles, IL              |
| Water Purifier                | Elga Pure Lab         | S-15           |                        |
| Nitrogen Generator            | Innovative Gas System | NS-10          | Huoston, TX            |
| Air Compressor                | Hydrovane             | HV05           |                        |