

# Haber Process - Advanced, WIN CD

*Simplify the concepts of the Haber Process and the production of ammonia with this interactive simulation.*

## *Product Features*

Cyclic Nature of the Haber Process	Equilibrium Reaction in Ammonia Production
Effect of Pressure and Temperature on Equilibrium	Effect of Different Catalysts on Reaction Rate
Effect of Different Catalysts Production Economics	Full Network Printing Support for Graphs, Data, and Screens

## *Grade Level*

**High School • College • University**

## *Detailed Product Information:*

This simulation involves your student in the Ammonia production process by allowing them to control the major parameters of the Haber Process. Students can investigate the ammonia equilibrium reactions in either a closed or an extraction loop system, enabling a detailed study equilibrium in the process.

Using the Model Screen the students can clearly observe the cyclic nature of the Haber Process and the effects of changing temperature, pressure, gas concentration, and catalysts.

A Reactor Screen is also available in which they can observe in detail the molecular reactions and processes occurring in the reaction vessel. Your students are able to step through the various molecular interactions involved to gain a better understanding.

A graphs Screen provides an excellent way of examining the equilibrium based process. These graphs can also be printed for student reports.

A Data Screen enables students to view, print, and save data to a text file which can be loaded into any spreadsheet program for later analysis.

A Units Screen not only allows you to select the units you require but also enables you to change the relative cost structures involved in the production of ammonia. This enables your students to examine the economic factors involved in production, if required.

### **Recommended experiments on CD include:**

- The Effect of Temperature on Ammonia Equilibrium.
- The Effect of Pressure on Ammonia Equilibrium.
- Catalysts and the Haber Cycle.
- The Economics of the Haber Cycle.

## **Tangent Scientific**

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*System Requirements:*

**Windows:**

Windows 95, 98 ME, NT, 2000 & XP  
16MB RAM.

*List Price:*

Haber Process - Advanced, WIN CD, Single User  
Item: 99123501      Price: \$79.00

Haber Process - Advanced, WIN CD, 5 User  
Item: 99123505      Price: \$159.00

Haber Process - Advanced, WIN CD, 10 User  
Item: 99123510      Price: \$259.00

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