



United States  
Environmental Protection  
Agency



**GREEN  
CHEMISTRY**  
A U.S. EPA Program



## The 12 Principles of Green Chemistry

- Prevent Waste
- Design Safer Chemicals and Products
- Design Less Hazardous Chemical Syntheses
- Use Safer Solvents/Reaction Conditions
- Increase Energy Efficiency
- Use Renewable Feedstocks
- Design Chemicals and Products that Degrade After Use
- Minimize the Potential for Accidents
- Analyze in Real Time to Prevent Pollution
- Use Catalysts, Not Stoichiometric Reagents
- Maximize Atom Economy
- Avoid Chemical Derivatives



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