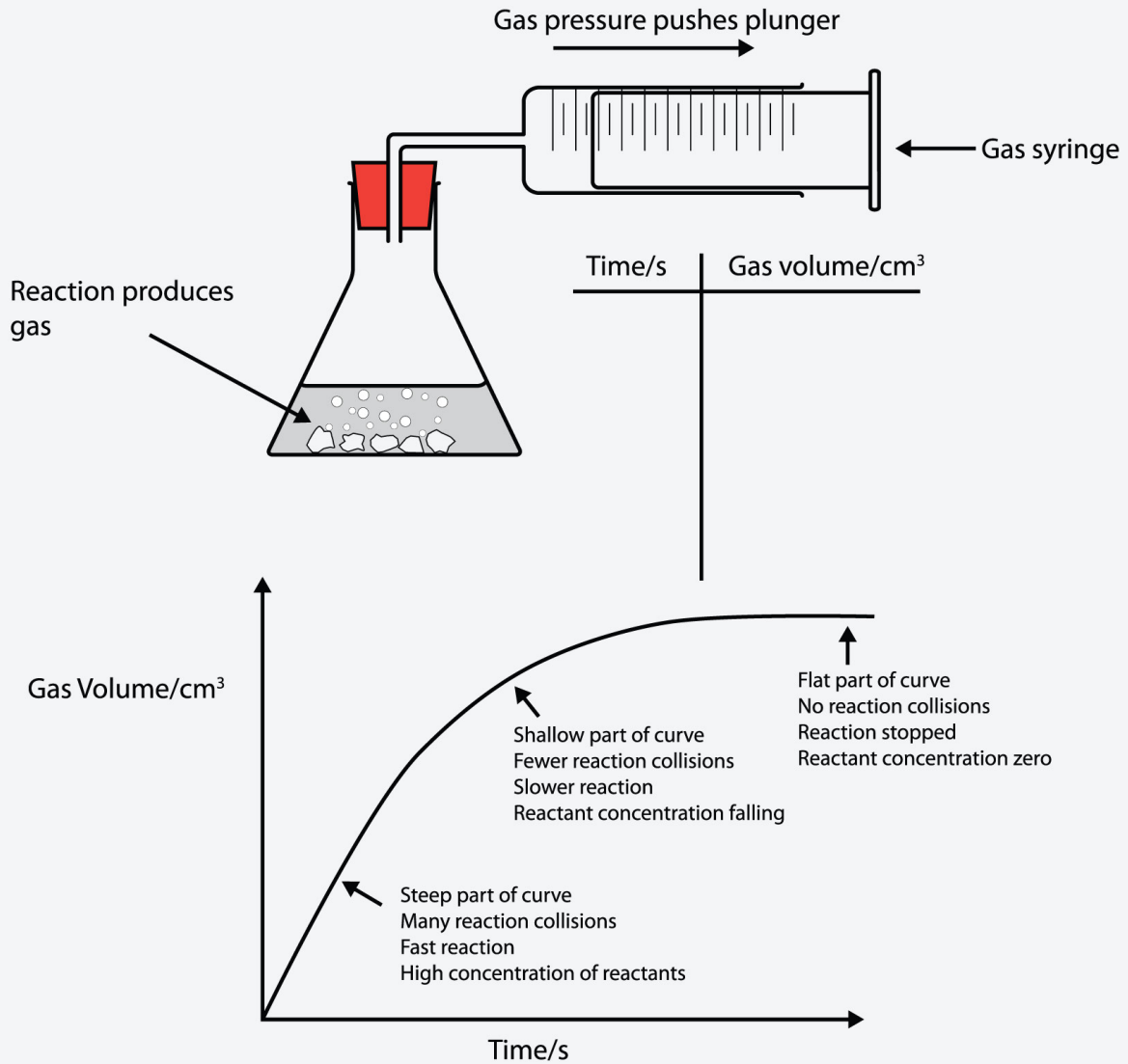


Figure 1: Reactor Types

## Measuring Chemical Reaction Rate



Example Reactions:

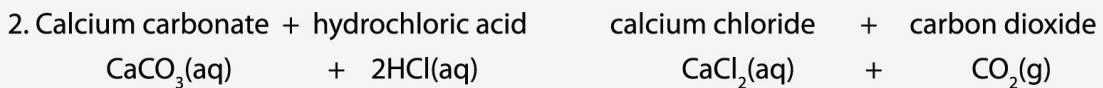
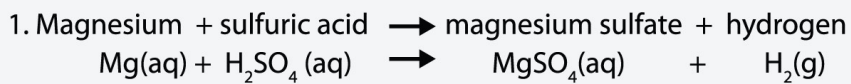


Figure 2: Batch/Plug Flow Reaction Curves

The Art of Scale Up  
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By Dr. Joel Shertok

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Figure 3: Typical Mixer

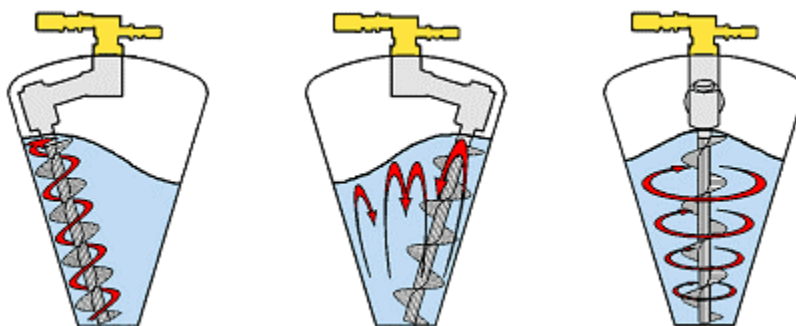


Figure 4: Various Types of Mixing Patterns

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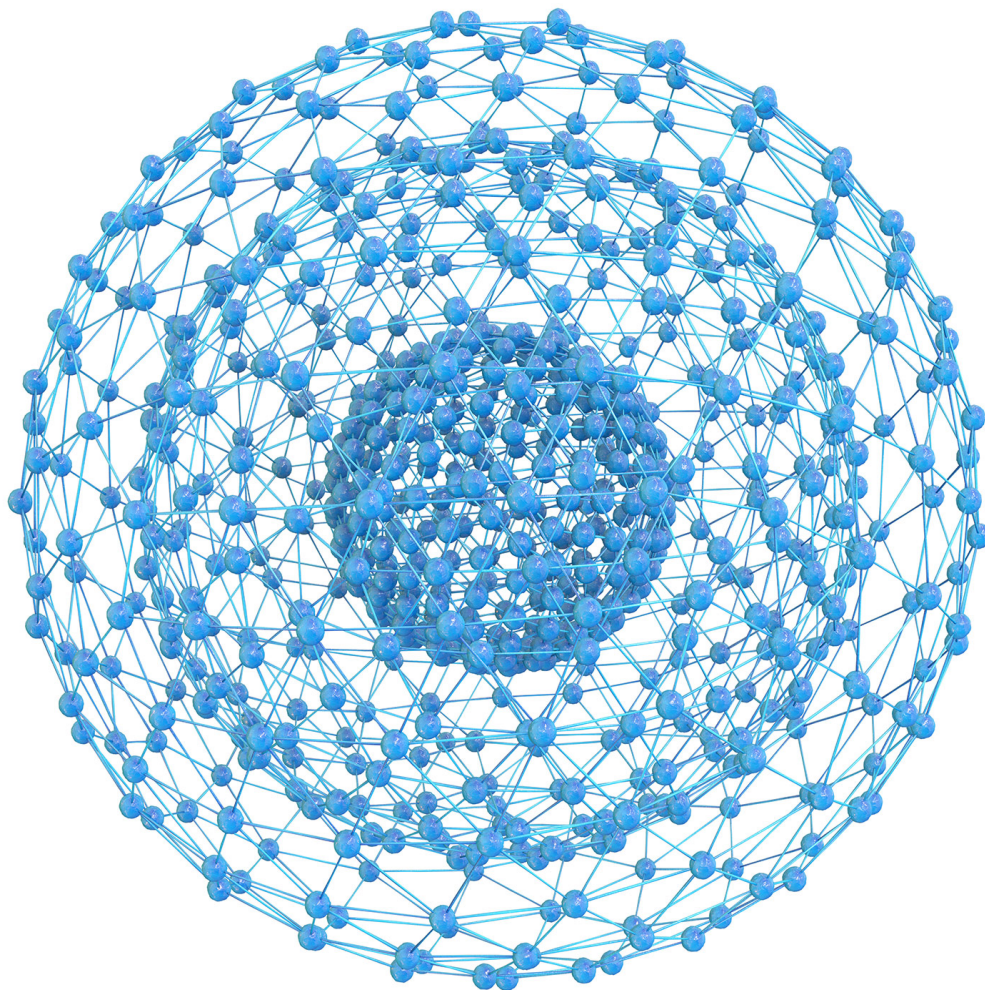


Figure 5: Catalyst Particles Showing Diffusion

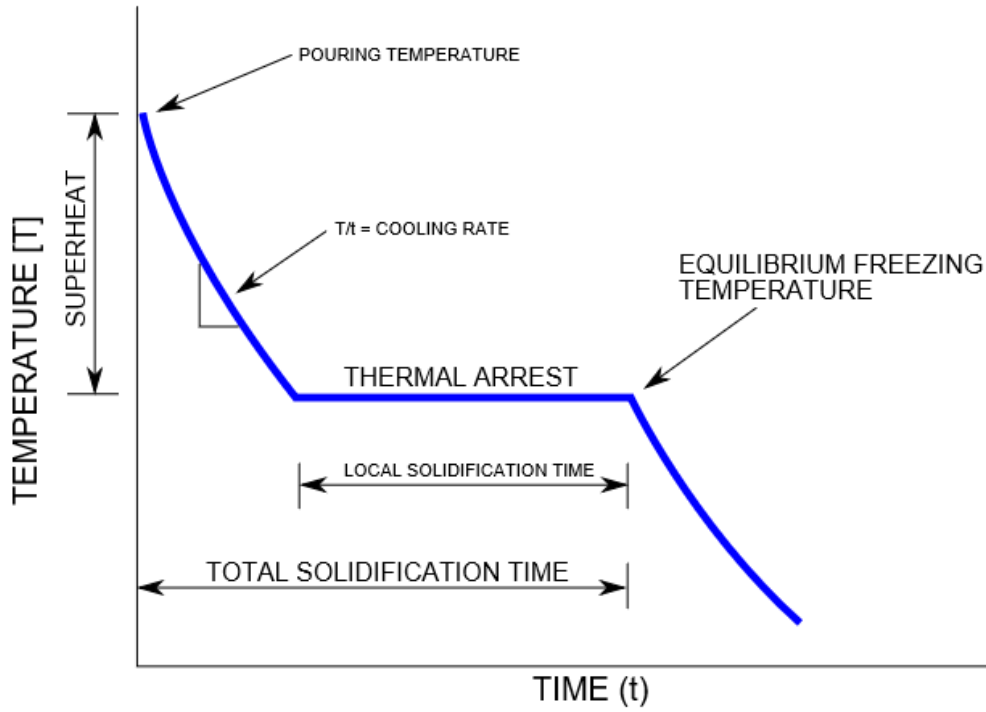


Figure 6: Cooling Crystallization Curve

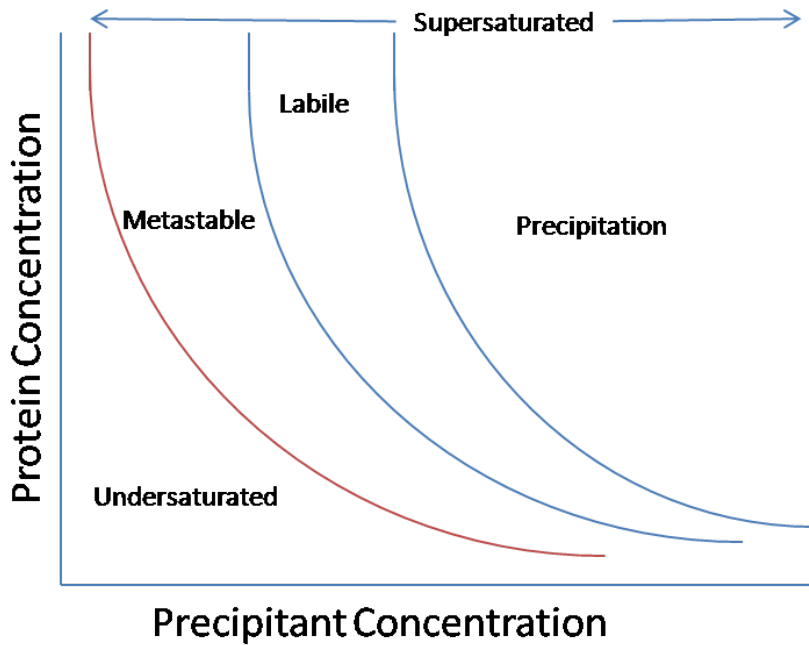


Figure 7: Phase Changes during Crystallization



## Anion Exchanger      Cation Exchanger

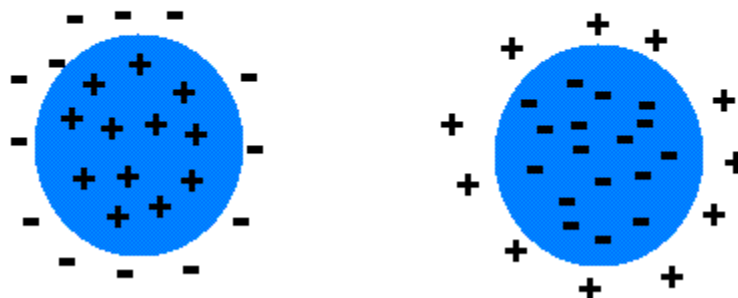


Figure 8: Typical Ion Exchange Resins



Figure 9: Ion Exchange Resins

[Ion Exchange Resin Beads 2](#) by [Tomásdearg92](#) under [\(CC BY-SA 3.0\)](#)

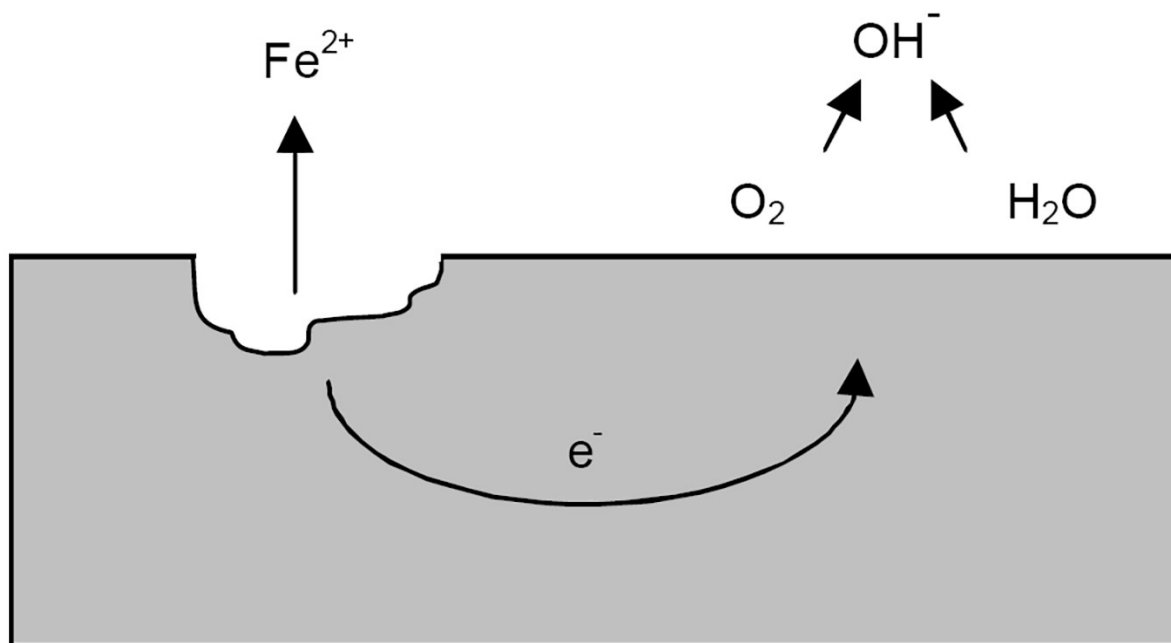


Figure 10: Chemistry of Corrosion