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### Chemically deposited thin film solar cells

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In chemical deposition of semiconductor thin films, uniform coatings of 50-1000 nm in thickness are obtained on metal, glass, ceramic or plastic substrates by placing them in contact with a mixture of dilute chemical solutions. Metal oxide, sulfide and selenide thin films are best known among such coatings. They are easy to do in any laboratory. Thus, solar cells made by stacking two or three layers of semiconductor films by this technique is accessible to any laboratory. This also means that many can contribute towards its research, and innovation. We shall see how some of these solar cells are made using chemically deposited cadmium sulfide, antimony sulfide, lead sulfide and lead selenide thin films. They can convert solar energy to electric energy at an efficiency of 2.5%. To be a commercial success, the efficiency of the solar cells should be 12-18%. They must also remain stable under the sun for 20 years. Meeting these goals require further work by many research groups.

