Reactive chemicals are extremely unstable, and react vigorously under conditions of shock, increased temperature or pressure, or exposure to water or air.

1. Oxidizers
   - Yield oxygen or promote combustion
   - Avoid contact with combustible materials
   - Ex: hydrogen peroxide, nitrate compounds, potassium dichromate, halogens

2. Pyrophoric Substances
   - Store in dark, cool, dry place away from flammables
   - Prevent contact with air by maintaining air tight seal on containers
   - Often water-reactive as well (ensure Class D Fire Extinguisher is nearby)
   - Corrosion and shatter resistant secondary containers to prevent leaking/breaking
   - Ex: metal hydrides, organometallic reagents, alkali earth elements, finely divided metals, gases

3. Water Reactive
   - Store in cool, dry place away from flammables
   - Keep away from water; do not store under sinks, near water baths, or under sprinkler heads
   - Store in desiccator to maintain low humidity atmosphere
   - Ensure Class D fire Extinguisher is nearby
   - Ex: sodium, potassium, and lithium metal

4. Explosives
   - Chemicals that may become explosive through contamination, or those that degrade over time and become explosive
   - Record opening and discard dates on container
   - Keep separated from all ignition sources (ex: open flames, hot surfaces, direct sunlight, sparks)
   - Consider designating a special area to store and use explosive chemicals (explosive magazine)
   - Ex: picric acid (dry), tri-nitro compounds, heavy metal azides, chlorates, acetylene, perchloric acid

5. Peroxide Formers
   - Explosive or shock-sensitive upon reacting with oxygen
   - Store in airtight containers in cool, dark place with other compatible chemicals (never store in freezers)
   - Ensure compounds are labeled with receiving, opening, and disposal dates
   - Compounds should be tested regularly and all containers checked for signs of peroxide formation (crystals, discoloration)
   - Ex: most ethers, tetrahydrofuran, cyclopentanes, chloroprene, butadiene, vinyl chloride

Safety Precautions
   - Only laboratory personnel trained to use reactive chemicals should handle them.
   - Review the Material Safety Data Sheet (MSDS) before handling the material.
   - Always use appropriate personal protective equipment and follow safe laboratory practices.