PREVENTING THE BIG BANG
Reducing Explosion Hazards

Boom!

It's one of the most dramatic accidents that can happen at a worksite—an explosion. Almost any workplace has the potential for it. If your work area contains explosive devices, reactive chemicals or pressure vessels, the risk of explosion exists. Prevention begins with understanding what materials in the workplace can explode and the factors that can trigger an explosion.

What Causes Explosions?

An explosion is a rapid expansion of gases. Many explosions occur when gases are exposed to a source of heat—such as fire, sparks, even static electricity—or an increase in pressure. Explosions can also be caused by chemical reactions. For instance, when two or more incompatible substances are combined, they may explode. Some chemicals can even explode if exposed to air or water.

Know Your Materials

Learn about the materials used in your work area. Find out which ones can explode and under what circumstances. Read labels—flammable liquids and explosives are usually identified. If you're not sure whether a substance might explode, assume that it can. Treat it as a possible explosive.

Read your material safety data sheets (MSDS). They'll tell you if a substance can explode and what to do if something goes wrong. The key words—FLASH POINT and FLAMMABILITY LIMITS—tell you each chemical's safe levels. Be alert to any changes in temperature or pressure that could mean a change in explosion risk.

HERE ARE SOME WAYS YOU CAN REDUCE THE RISK OF AN EXPLOSION AT YOUR WORKSITE:

▲ Keep possible explosives away from heat sources.

▲ Use only approved storage and transfer containers for flammables.

▲ Make sure containers are properly grounded and bonded before transferring flammable liquids.

▲ Report equipment malfunctions immediately.

▲ Make sure ventilation equipment is working properly. Monitor the air when using explosive materials in confined spaces, which pose the highest explosion risk.

▲ Clean up spills quickly and get rid of oily rags daily.

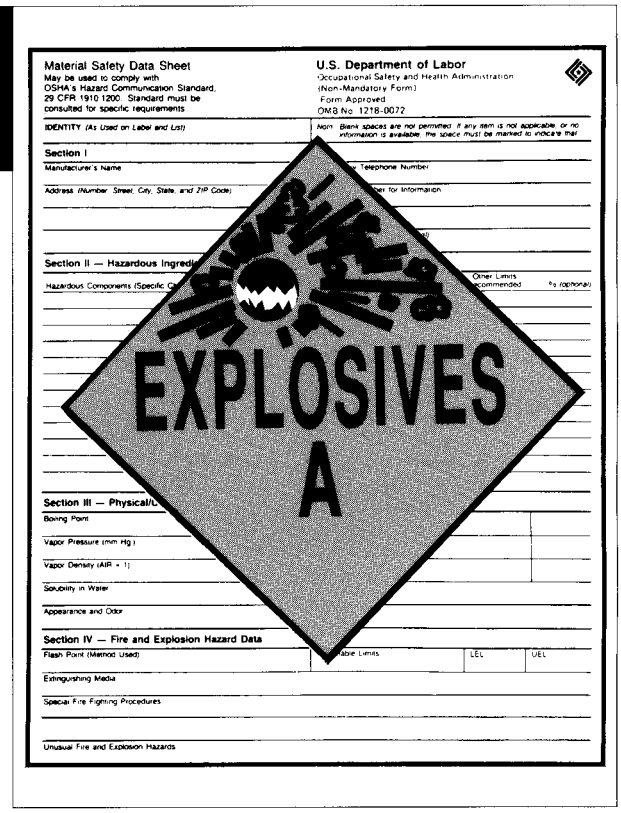
▲ Keep your work area clean. Dust can trigger an explosion.

▲ Stay alert for leaks and other danger signals.

▲ Observe "No Smoking" signs.

▲ Keep aisles clear so that emergency equipment can be moved in quickly.

▲ Know where fire-fighting equipment is stored and how to use it.



Read warning labels and the MSDS to learn if the materials you use can explode and under what conditions.

If the Big Bang Happens

If there is an explosion, here's what you can do:

- Follow your company's emergency plan.
- Report the explosion. Leave the area immediately, closing windows and doors behind you to contain the problem.
- Notify everyone in the area and keep upwind from the explosion. If you have to fight the fire, wear a respirator and protective clothing.