

## How Aerosols Work

Aerosols work by mixing the product (paint, for example) with a liquefied gas; usually butane or propane. These two liquids are kept under extreme pressure to keep the liquefied gas as a liquid.

When you shake the can before use, you are ensuring that the gas and the paint are thoroughly combined. When the nozzle is pressed, the rapid reduction in pressure causes the liquefied gas to instantly boil and evaporate.

The rapid evaporation actually increases the pressure in the can, forcing the paint and some of the liquefied gas up and out of the dip tube, and through the nozzle. The liquefied gas then almost instantly evaporates, leaving a fine mist of paint.

### For More Information See:

- **Storage - OSHA**
  - 1910.106 - Hazardous Materials
  - 1910.1200 Appendix B – Toxic & Hazardous Substances
- **Disposal - EPA**
  - 40 CFR 239 - 282



## Aerosol Cans

*Hazardous?  
Flammable?  
A Bomb!?*

### Even Items Deemed as Incidental Must be Stored Appropriately

When you think of hazardous materials, aerosol cans don't immediately come to mind. However, these handy-to-use dispersing agents, regardless of their contents, can pose a threat to employee safety and well-being.

Aerosols can be hazardous in two main ways: the contents inside, or the type of propellant used. For example, starter fluid, used to help start stubborn engines, is a mix of heptane and ether, both of which are extremely explosive and highly flammable. Water-based paint however is not flammable. But, the propellant used in spray paint, and most all aerosol cans is highly flammable. With this in mind, there are rules that you must follow in order to keep your worksite, and employees safe.

**Storage** – OSHA states that all flammable liquids must be stored in accordance with CFR 1910.106(d)(3), meaning inside an approved fire cabinet. It then establishes the quantity allowed per cabinet based on the flammability of the liquid. Aerosols would be considered class 1 due to the propellant, which limits you to no more than 60 gallons. That would be a lot of aerosol cans!

Why, though, is the storage of aerosols important? Fire. Aerosol cans are sealed, airtight containers, already under pressure. When heated, the contents will expand increasing the pressure inside, and eventually, the can will burst. If the contents aren't flammable, we know the propellant most likely is, thus creating a bomb waiting to explode when overheated.

**Disposal** – Not only are aerosols considered a hazardous material but they can also be considered hazardous waste as well unless certain disposal rules are followed.

Prior to the EPA's final ruling on aerosol cans in 2019, aerosols were considered hazardous waste and had to be disposed of appropriately, per state and/or EPA guidelines. Now, however, if you can safely puncture, drain, and collect the contents of the can, the can may be recycled like any other metal. You must, of course, still treat the collected contents as hazardous waste and follow all of the rules and requirements of the Resource Conservation & Recovery Act (RCRA).

Do not throw away aerosol cans until you have checked your company's waste handling procedures.

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