

Flammable and Combustible Liquids

Safe Storage and Handling

Flammable liquids are commonly used—in offices, on construction sites, and even in households. A few examples of potentially flammable substances include gasoline, alcohol, lighter fluid, propane, nail polish remover, pesticides, disinfectant sprays, drain openers, cooking oil, products in aerosol cans, and paint solvents. Even liquids like dish detergent contain reactive ingredients that can emit toxic gases if they catch fire. Each flammable product could present a serious health and fire danger if improperly used or stored. Careless mistakes with flammable liquids can lead to deadly results.

The vapors produced by flammable liquids often present the most serious hazard – these vapors burn readily and intensely. Flammable liquid vapors can easily ignite or explode under certain conditions. The storage and handling precautions suggested below help to reduce the likelihood of hazard.

Storage Precautions

- Store flammables in safety cans.
- Label liquids with an indication of their flammability and other characteristics.
- Keep five-gallon or smaller cans stored in approved, closed metal cabinets.
- Flammables used in processing can be stored in closed containers outside of storage cabinets or inside storage areas if limited to an amount that does not exceed a one-day supply.
- Flammables used for building maintenance can be stored in closed containers outside of storage cabinets or inside liquid storage areas if limited to an amount that does not exceed a 10-day supply.
- Have Class B fire extinguishers available in storage areas.

Handling Precautions

- Ground and bond all drums when pouring liquids into smaller containers in order to prevent static electricity from igniting vapors.
- Ensure adequate ventilation at the point of vapor escape.
- Enforce a ban on smoking in any area where flammable liquids are used or stored.
- Control any sources of ignition.
- Properly install explosion-proof electrical equipment.

Health Risks

Aside from fire hazards, overexposure to flammable liquids presents other health hazards. The following list details the variety of potential health effects to be aware of:

- *Inhalation:* Can cause irritation to the respiratory passages, nausea, headaches, muscle weakness, drowsiness, loss of coordination, disorientation, confusion, unconsciousness, and death.
- *Skin Contact:* Can result in skin irritation, skin cracking, dry skin, rashes, and dermatitis.
- *Eye Contact:* Can cause burning, irritation, and eye damage.
- *Ingestion:* Can irritate the digestive tract, cause poisoning, and death.

If a spill occurs, clean it up immediately. Use noncombustible absorbents when cleaning up flammable liquids. Training in the proper use of fire extinguishers is recommended for all employees. Pay attention to the proper disposal of rags used in contact with flammable liquids; for example, soiled rags may be placed in a metal container half-filled with water to help prevent fires.

