

Flammable & Combustible Liquid Storage *Don't Get Burned*

While chemicals, such as cleaning supplies and gasoline, are routinely relied upon to get work done at Northwestern, it is important to make sure they are properly stored in order to prevent fires, explosions, and personal injury. Safe storage procedures should be followed to keep employees and the workplace free of chemical-related accidents.

General storage guidelines for all chemicals include the following:

- Use well-ventilated areas, away from direct sunlight or other heat sources.
- Never store or refrigerate chemicals with food.
- Make sure storage shelving is acid resistant, secured to a permanent structure, and strong enough to support the weight of the containers.
- Have first aid kits and chemical spill materials readily accessible in chemical storage areas.

One of the most important factors in chemical storage is making sure containers are labeled correctly. If you want to learn more about labeling please review this previous Spotlight on Safety on [Hazard Communication](#) and complete online training on the [Globally Harmonized System of Classification and Labeling of Chemicals \(GHS\)](#). Being familiar with the requirements of chemical labels and Safety Data Sheets (SDSs) will enable you to quickly identify how chemicals should be stored. This also allows you to identify chemicals with special storage requirements, such as those that are flammable and combustible.

Tips for Success When Talking to Your Team

- **Preparation is Key:** Keep the topic relevant to your work. With your team, review chemicals in your workplace and make sure they are stored properly.
- **Stay Positive:** Keep the focus on what can be done to create a safe workplace, instead of focusing on what has gone wrong in the past.
- **Share a Story, Ask for a Story:** Storytelling is a powerful method to convey information. Stories from your employees make the topic even more relatable.



Flammable and combustible liquids are classified according to their flash point which is the minimum temperature at which a liquid gives off enough vapor to form an ignitable mixture. In general, the lower the flash point, the greater the hazard.

Flammable liquids have flash points below 100°F and have the potential to ignite at lower temperatures. For example acetone has a flashpoint of 4°F and gasoline has a flash point of -45°F.

Combustible liquids have flash points at or above 100°F. Although combustible liquids have higher flash points than flammable liquids, they can pose serious fire and/or explosion hazards when heated. Combustible liquids include mineral spirits with a flash point of 100.4°F and vacuum pump oil with a flash point of 216-260°F.

Storage Safety Tips – Stay Alert So You Don't Get Hurt

Because of the potential to cause fire, flammable and combustible liquids should always be stored in an approved safety cabinet. Follow these guidelines when storing flammable and combustible liquids in your work area:

- Carefully read the manufacturer's label on the flammable or combustible liquid container and the SDS before storing or using it.
- Only use approved metal safety containers or original manufacturer's containers.
- Make sure incompatible substances are stored apart – Water reactive chemicals should not be next to sinks, flammables next to oxides, or acids next to bases.
- Practice good housekeeping in storage areas and remove ignitable materials.
- Clean up spills immediately, then place cleanup rags in a covered metal container.
- Keep containers closed when not in use and store away from exits or passageways.
- Use flammable liquids only where there is plenty of ventilation.
- Keep flammable liquids away from ignition sources, such as open flames, sparks, smoking, cutting, welding, etc.

Learn more: Complete *Fire and Explosion Hazards* training at learn.northwestern.edu.

Safety at Home – Safety is No Accident

Did you know? There were 2.159 million human poison exposures in the United States in 2016, according to the American Association of Poison Control Centers. Children under 6 experienced 46.4% of these exposures with the most common substances being cosmetics & personal care products, cleaning substances, and pain medications, in ranking order. By following the tips below, you can reduce the chances of poisonings occurring in your home:

- **Keep out of reach of children.** Cleaners and chemicals can be deadly and should be stored on a high shelf or in a locked cabinet where children are not able to access them.
- **Buy only what you need.** Prevent creating storage problems with leftover materials by only purchasing what is needed to complete your current project.
- **Don't store flammable liquids or gases inside the home.** Gas cans, charcoal lighters, and automotive fluids should not be stored in your house. Propane cylinders, like the ones used for grilling, should be stored outside or in sheds that are well ventilated.
- **Keep chemicals in original containers.** Chemicals should be kept in their properly labeled original container unless it is becoming degraded or corroded. Consider discarding, in an appropriate location, chemicals in degraded or corroded containers or transfer to a properly labeled container that is suitable for the substance being stored.

For Additional Information

Please contact [Gwen Butler](#), Director, Environmental Health & Safety, at 847.491.4936 with any questions.

Do you or your team have a safety story you'd like to share? Contact Risk Management Services at gwen.butler@northwestern.edu for details.