

Each newly registered substance is assigned a unique CAS Registry Number, and each substance has its own hazardous characteristics. If you to prevent incidents when working with chemicals in the laboratory, then you to begin to learn about and understand the hazardous characteristics of the chemicals you will work with. In your introductory and organic chemistry laboratories, you will work with several dozen or more chemicals. How can you be expected to know the hazardous characteristics of so many different chemicals? The answer: classification. The hazardous characteristics of all chemicals can be sorted into just a few classes.

Let's look at four broad subclasses of chemical hazard: **toxicity**, **flammability**, **corrosivity**, and **reactivity**. Some chemicals are hazardous in only one of these ways, and some are hazardous in more than one way. Many chemicals used in chemistry laboratories are

hazardous in at least one of these ways, but the degree of varies – it can be great, small, or in between. For example, compare gasoline and alcohol with respect to the physical hazard. Both are liquids, but gasoline is much more flammable than alcohol, and gasoline is easier to ignite and more likely to burn vigorously or explode than alcohol, but we safely use gasoline every day. From this, you should understand that we can, and do, know how to safely handle even dangerous chemicals.



■ IN YOUR FUTURE: Greater Hazards

It is likely that the chemicals you work with in your first chemistry laboratory courses will have been carefully selected to keep the risk level acceptable for students new to the chemical sciences, faculty have assessed and minimized the risks for these experiments. In upper-level courses, undergraduate research, and advanced chemical studies, the hazards and the risks associated with the chemicals you use will likely be greater. In all cases, one can work safely with any chemical if the hazards are known and the risk is understood and minimized or eliminated.

Exercises

1. Complete the blanks with: hazard – hazardous – intend – flammable – flammability – need
2. The answer to which question is: Classification. Why?
3. Identify comparatives in the first text. Why is this structured used?
4. Identify and analyze connectors in the first text.
5. Identify and classify modal verbs in the first text.
6. Is likely an adverb in the first text?
7. IN YOUR FUTURE: which connector is better for the blank: consequently – however – because
8. What are the condition and the consequence in the last sentence?
9. Analyze sentences in passive voice. Which are the real subjects of them?
10. Has likely got the same meaning and category (noun, adverb, adjective, verb) in the second text?