

# HOW TO USE THE CATALOG/REFERENCE MANUAL CHEMICALS SECTION

## Product Name, Quality, Concentration, etc.:

The full chemical name is shown. An alternate name is sometimes shown. A chemical formula is provided as well as the formula weight. The purity grade is included.

**Reagent:** Highest purity available. Conforms to specifications established by the chemical industry or American Chemical Society. Each batch undergoes an extensive analysis to determine its purity and level of impurities. Use for AP labs and qualitative and quantitative analysis. Guaranteed to give the best results in your lab.

**Laboratory Grade:** High purity chemicals that meet industry standards. Well suited for most general experiments and demonstrations.

## Hazard Alert:

Hazard data is provided to alert the science teacher to the hazardous character of each chemical.

## Storage Number:

Number refers to the compatible chemical family in which this item should be stored. A detailed table of these families and even their most compatible shelf order will be found on pages 1099–1103. Please refer to those reference pages.

## Disposal Number:

Suggested disposal techniques for small, laboratory quantities of chemicals are provided in the back of this *Flinn Scientific Catalog/Reference Manual*. The number shown in the chemical listing refers you to a specific and suggested disposal method for that particular product.

## Shelf Life:

Through a detailed literature and reference book search, we have attempted to provide a general statement about the anticipated shelf life expectancy of laboratory chemicals in a school setting. Since conditions vary from school building to school building, our shelf life designations are estimates only.

### Definition of terms used to describe shelf life—

**Excellent:** The substance should have a long, useful life under varied storage conditions.

**Good:** If stored under reasonable conditions of temperature and humidity (25 °C at 50% or less relative humidity), the substance should have a long, useful life.

**Fair:** If stored under reasonable conditions, the product's useful life may be three years or less.

**Poor:** Substance does not store well under reasonable conditions.

**Indefinite:** A term used frequently to communicate the fact that the substance has no fixed or definable life expectancy.

**Deliquescent:** Substances that tend to absorb atmospheric water and become liquids.

**Efflorescent:** Combined water molecules lost by hydrates when exposed to air which can possibly result in partial decomposition.

**Hygroscopic:** A substance that absorbs moisture from the air.

## Soluble:

The extent to which a substance would lose its form and become molecularly or ionically dispersed in a solvent to become a solution. Limited space prevents us from listing every possible solvent.

## Hydrochloric Acid

12 Molar			
ACS reagent	<b>H0031</b>	100 mL	<b>\$ 6.91</b>
37 wt %	<b>H0004</b>	500 mL	<b>14.91</b>
(sp. gr. = 1.19 at 20 °C)	<b>H0005</b>	2.5 liters	<b>27.91</b>
HCl	<b>H0006*</b>	2.5 liters	<b>35.71</b>
F.W. 36.46			

(Packaged in PVC-coated bottle)

★ **HAZARD ALERT:** Highly toxic by ingestion or inhalation; severely corrosive to skin and eyes.

**Storage:** Inorganic #9 in a dedicated acid cabinet. If one is not available, store in a Flinn *Saf-Cube*™. See special storage tip under full listing on page 82.

**Cap Safety Color Code:** Blue

**Disposal:** #24b

**Shelf Life:** Good if stored safely.

**Soluble:** Water

**Color and Odor:** Colorless liquid with very strong chlorine odor.

CAS No. 7647-01-0

**Incompatibility:** Avoid storing hydrochloric acid anywhere in the vicinity of formaldehyde. A **potent carcinogen**, chloromethoxychloromethane, is formed when hydrochloric acid and formaldehyde react in air. This serious potential problem further emphasizes the need to store hydrochloric acid in a dedicated acid cabinet.

**Safety Purchase Suggestion:** Buy and store only small package sizes and small quantities. For safety reasons, Flinn offers larger sizes of hydrochloric acid and other hazardous substances in PVC-coated bottles. We have attempted to price the products in these safer containers as low as possible.

\*Hydrochloric acid is exactly as described under Catalog Number H0005 but in a PVC-coated bottle. In the event of breakage, acid and glass shards are safely retained in a PVC outer envelope. The PVC-coated bottle is a safer package for science teachers.

## Color and Odor:

Meaningful terminology is used to characterize color and odor. This information is provided as a chemical identity tool. For a complete chart of chemical color/odor identification and mystery substance identification procedures, please contact us.

## CAS Number:

CAS means Chemical Abstract Service. Think of this number as an identification number—unique to each substance. A more detailed explanation of CAS numbers is found on page 41 of this catalog.

## Safety Purchase Suggestion:

If, in our opinion, you should exercise special caution in acquiring a substance, we alert you to that need.

## Technical Note:

We have used this caption to provide technical information; uses, solution preparation, contents or product descriptions.

## Catalog Number, Unit of Measure and Price:

Each product has been assigned a catalog number. The unit of measure is almost always specified in metric terms. Prices are guaranteed until 1/31/2012.