

## HAZARD COMMUNICATION (HAZ-COM) at HOME “What’s Under Your Sink?” (Part 3)

There is a lot of talk, training, safety bulletins, and articles about Hazard Communication and chemical safety at work. But “What about Haz-Com. At Home?”

Many of the same chemicals that we use at work, can also be found under your kitchen sink, or bathroom medicine cabinet.

Do any of these look and sound similar?

- Sodium Hydroxide – in Clorox Bleach
- Potassium Hydroxide – in Drain Cleaner
- Caustic Soda – in Oven Cleaner
- Sulfuric Acid – in Comet Cleanser
- Quaternary Ammonia – in Lysol
- Sodium Hypochlorite – in Toilet bowl Cleaner
- MEA-Dodecylbenzenesulfonate – Tide Pods
- Propane & Butane – in Shaving Cream
- Sodium Fluoride – in Tooth Paste



### SDSs

In our workplace, we would expect to find an SDS for most all of these chemicals? Per the OSHA 1910.1200, employers are required to maintain SDSs for all hazardous chemicals.

*1910.1200(g)(8)*

*The employer shall maintain in the workplace copies of the required safety data sheets for each hazardous chemical, and shall ensure that they are readily accessible during each work shift to employees when they are in their work area(s).*

*1910.1200(h)(1) Employers shall provide employees with effective information and training on hazardous chemicals in their work area*

This is Not to say that all the household products and chemicals that I’ve listed are highly hazardous or are sold to consumers in fully concentrate industrial strength. However, the misuse, improper handling and storage of these household chemicals can result in serious injury and/or death. There are several documented cases of death or injury related to mixing of incompatible chemicals. For instance; the chemical reaction that takes place when an Ammonia cleaner is mixed with Bleach. The reaction creates highly toxic Chloramine gas. When inhaled, Chloramine gas can cause chemical burns to your airways and lungs. Inflammation and blistering esophagus and lungs limit and damage lung function, and in some cases has resulted in death due to suffocation.

What training and warnings have you communicated to your family and friends?

Have you looked up SDSs for common household products stored under your sink?

In case of an accidental ingestion, of a household product, Is the Poison Control Center phone number programed into your phone along with other emergency contacts?

You can call the PCC at 1-800-222-1222,

Or go online <https://triage.webpoisoncontrol.org/>.

Both options are free and confidential. While you are plugging in the number for the Poison Control Center, go ahead and save the numbers to your family physician. You can also designate Emergency Contacts like family, friends, or neighbors that can easily be contacted in the event of an emergence.

Back in my day, we had a sticker, of emergency phone numbers, pasted on the side of our rotary dial phone, now we need to save them in our smart phones; no more thumbing through a Rolodex for the names and numbers.

During my career in safety, I have responded to several workplace incidents. I can say from experience, having immediate access to critical phone numbers is key to a successful outcome.

<b>Health Hazard</b>  <ul style="list-style-type: none"><li>• Carcinogen</li><li>• Mutagenicity</li><li>• Reproductive Toxicity</li><li>• Respiratory Sensitizer</li><li>• Target Organ Toxicity</li><li>• Aspiration Toxicity</li></ul>	<b>Flame</b>  <ul style="list-style-type: none"><li>• Flammables</li><li>• Pyrophorics</li><li>• Self-Heating</li><li>• Emits Flammable Gas</li><li>• Self-Reactives</li><li>• Organic Peroxides</li></ul>	<b>Exclamation Mark</b>  <ul style="list-style-type: none"><li>• Irritant (skin and eye)</li><li>• Skin Sensitizer</li><li>• Acute Toxicity (Harmful)</li><li>• Narcotic Effects</li><li>• Respiratory Tract Irritant</li><li>• Hazardous to Ozone Layer (Non-Mandatory)</li></ul>
<b>Gas Cylinder</b>  <ul style="list-style-type: none"><li>• Gases Under Pressure</li></ul>	<b>Corrosive</b>  <ul style="list-style-type: none"><li>• Skin Corrosion/Burns</li><li>• Eye Damage</li><li>• Corrosive to Metals</li></ul>	<b>Exploding Bomb</b>  <ul style="list-style-type: none"><li>• Explosives</li><li>• Self-Reactives</li><li>• Organic Peroxides</li></ul>
<b>Flame Over Circle</b>  <ul style="list-style-type: none"><li>• Oxidizers</li></ul>	<b>Environment (Non-Mandatory)</b>  <ul style="list-style-type: none"><li>• Aquatic Toxicity</li></ul>	<b>Skull and Crossbones</b>  <ul style="list-style-type: none"><li>• Acute Toxicity (Fatal or Toxic)</li></ul>

While researching SDSs for this article, I was surprised to find, many of these chemicals, have the same Pictograms, Warning Statements, Signal Words and Precautionary Statements, that I would expect to find in your SDS Binders at work.

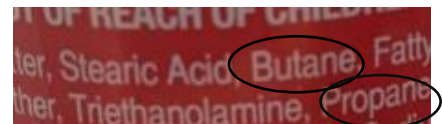
### Labels

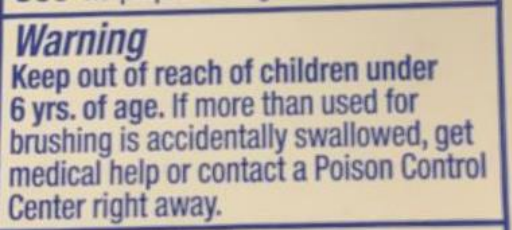
Chemicals play an important part in our homes and likewise are a necessary part of living in a clean and health environment. Few homes exist where there is not some potentially hazardous chemicals. When is the last time you read some common household product labels?

Here are a couple product label examples:

Would you expect to find **Butane** and **Propane** as an ingredient listed on your can of Shaving Cream?

Here is the **Warning** on the side of my Tooth Paste.





**Oh My Gosh** – “*Keep out of the reach of children under 6 years old. ... If accidentally swallowed, get medical help or call the Poison Control Center right away.*”

The intent of this article is not to frighten or alarm anyone. My intent is to drive home “pun intended” the need to take the same care and provide the same level of education about the chemicals we use at home.

### **What about the Medicine Cabinet? What should you do with Expired or no-longer needed Medications?**

I’m going to get on my Environmental soap box here for a minute, to talk about the disposal of expired medications. **PLEASE DO NOT FLUSH** expired medications down the toilet. The reason is that medications are water soluble, they dissolve in water and are discharged into the sewer. Sewer water is filtered to remove suspended particulate, treated to remove solids. Bacteria in wastewater breaks the sewage down and consumes many contaminants. Many medications are not broken down during the sewage treatment process, and some medications can disrupt bacterial decompensation.

After the Waste Water Treatment Plant, get finished processing wastewater, it is release back into creeks, rivers and lakes. Your drinking water is pumped out of these rivers and lakes into a Fresh Water Treatment Plants and is filtered and chlorinated turning it back into drinking water. Medications that were flushed, are now in your drinking water.

In a Scientific American article by Brian Bienkowski, Environmental Health News on November 22, 2013

“Only about half of the prescription drugs and other newly emerging contaminants in sewage are removed by treatment plants.

That’s the finding of a new report by the International Joint Commission, a consortium of officials from the United States and Canada who study the Great Lakes.

The impact of most of these “chemicals of emerging concern” on the health of people and aquatic life remains unclear. Nevertheless, the commission report concludes that better water treatment is needed.

“The compounds show up in low levels – parts per billion or parts per trillion – but aquatic life and humans aren’t exposed to just one at a time, but a whole mix,” said Antonette Arvai, physical scientist at the International Joint Commission and the lead author of the study. “We need to find which of these chemicals might hurt us.”

More than 1,400 wastewater treatment plants in the United States and Canada discharge 4.8 billion gallons of treated effluent into the Great Lakes basin every day, according to the study.”

## How should dispose of expired medications?

The U.S. Drug Enforcement Administration (DEA) sponsors [National Prescription Drug Take Back Day](#) in communities nationwide. Many communities also have their own drug take back programs. Check with your local law enforcement officials to find a location near you or with the DEA to find a [DEA-authorized collector in your community](#). You can also check with your pharmacist. Some pharmacies offer on-site medicine drop-off boxes, mail-back programs, and other ways to help you safely dispose your unused medicines.

## What Chemicals are lurking around in your Garage or Workshop?

If you are like me, you probably have several different chemicals in your garage, workshop or storage shed out back. A typical garage will have a gas can or two; one for the lawnmower gas and maybe another for mixed gas for the weed-eater. Let's talk about Gasoline for minute.

Gasoline is a petroleum distillate with specific physical and chemical properties. When we take a look at an SDS for gasoline we find the following information;

SDS information provided by Valero. One Valero Way San Antonio, TX

### **Hazard(s) identification**

*Physical hazards Flammable liquids Category 1*

*Health hazards Skin corrosion/irritation Category 2*

*Germ cell mutagenicity Category 1B*

*Carcinogenicity Category 1B*

*Reproductive toxicity Category 2*

*Aspiration hazard Category 1*

*Hazardous to the aquatic environment, Category 2 long-term hazard*

**Signal word** *Danger Hazard statement Extremely flammable liquid and vapor.*

**Precautionary statement** *Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe gas/mist/vapors/spray.*

**Composition/information on ingredients Mixtures** *may some or all of the contain: Gasoline, Toluene, Hexane, Xylene, Octane, Ethanol, Trimethylbenzene, Heptane, Pentane, Cumene, Ethylbenzene, Benzene, 9 n-Hexane, Cyclohexane.*

### **SDS Section #9. Physical and chemical properties**

Flash point -40.0 °F

Upper/lower flammability range or LEL – lower 1.3 % upper Flammability limit - upper 7.1 %

Vapor density 3 - 4 (Air=1) –

Flash point is the temperature where liquid gasoline will start to flash to vapor. Gasoline starts to vaporize a -40°F. The gasoline in your gas-can or lawnmower, is most likely vaporizing, and the hotter the outside temperature get, the faster it will turn to vapor  
Vapor Density is the density or weight of the vapor. Air = 1, any vapor density above 1 (or is heavier than air) sinks in the air column, vapors less than 1 tend to rise. Gasoline vapors are heavier than air and tend to accumulate along lower levels and the floor.

I mentioned a Gas-can. The typical gas container you buy at your local retailers is probably made of plastic. "And we know what plastic does in a fire; It melts".

Industrial fuel containers, like the kind you should be using at work, are not made of plastic, they are made of metal. Industrial fuel containers have two other safety factors build into their construction.

#1. The lid has a spring closure made into it. This spring closure serves 2 purposes. One is to ensure the lid closes and snaps back closed when your finish dispensing are/or refilling the it. The other purpose is that the lid & spring acts a relief valve, to prevent pressure from building up and potentially rupturing the container.

#2. There is a filter looking insert in the neck of the container. Truly this is not a filter, it is a Flame Arrestor. Flame will not pass through the flame arrestor, therefore preventing flames from entering the container and causing an explosion.

Don't get me started on WD-40; spray paints or weed & bug killers. If you haven't already, please go to each manufacture's website and download SDSs.



One of the primary reasons I wanted to share this series of articles was to both inform and make people think about the chemicals we use practically every day. OSHA developed the Hazard Communication and adapted GHS to better inform workers about the chemicals they are exposed to. I wanted to bring a different angle to Haz-Com and GHS. I wanted to bring into where we work and live. Please share the information you have learned, with your family, friends and co-workers.

The author,

Joseph Baldwin - President and Senior Safety Consultant  
Baldwin Safety Solutions,

E:mail [Joe.Baldwin16@yahoo.com](mailto:Joe.Baldwin16@yahoo.com)

Web: <https://www.baldwinsafetysolutions.com>

#### References:

**Scientific American** article by Brian Bienkowski, Environmental Health News on November 22, 2013

**Valero**

**The labels on the side of my Toothpaste and Shaving Cream**

**Occupational Safety & Health Administration – OSHA – <https://www.osha.gov>**

[Or contact your Safety Manager and/or Safety Consultant.](#)