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Volume VII, Issue IV

Compliance Headliner

Brake Cleaners May Cause Used Oil to Become Hazardous Waste

Many automotive service shops use aerosol, pressurized, or bath brake cleaners that may contain compounds that could cause the waste residue to be a hazardous waste. For example, **CRC – Brakleen®** contains more than 90% *tetrachloroethylene* (TCE) and **Gunk® Brake Cleaner** contains more than 90% *perchloroethylene*. These are two examples of chlorinated brake cleaners, however, the "Non-Chlorinated" brake cleaners may present problems as well. The residues produced by "Non-Chlorinated" brake cleaners may be considered a characteristic hazardous waste because they exhibit one or more of the characteristics listed below. Furthermore, they may be considered a hazardous waste because the ingredients contain one or more listed wastes described below.

There are two types of hazardous waste that companies can generate:
1. **Characteristic** Hazardous Waste
2. **Listed** Hazardous Waste

A waste is classified as a ***characteristic*** hazardous waste if it has one of the following four characteristics:

Ignitability: It is easily ignited and has a flash point of less than 140 F. Examples of ignitable wastes include gasoline, some cleaning solvents, lacquer thinner, and acetone. Ignitable wastes have an EPA Hazardous Waste Number of **D001**.

Corrosivity: It dissolves metals and other materials, burns the skin, and has a pH of 2 or less or 12.5 or greater. Examples include battery acid, and some corrosive cleaners. Corrosive wastes have an EPA Hazardous Waste Number of **D002**.

Reactivity: It is unstable or undergoes a rapid and\or violent change with water or other materials. Reactive wastes have an EPA Hazardous Waste Number of **D003**.

Toxicity: It is toxic as determined by laboratory testing, commonly known as Toxicity Characteristic Leaching Procedure (TCLP). The EPA Hazardous Waste Numbers for these materials are **D004 - D043.** The list of toxic contaminants contains eight metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver), four pesticides, two herbicides, and twenty-five organic chemicals such as Methyl Ethyl Ketone [MEK], Toluene and Xylene.

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Brake Cleaners May Cause Used Oil to Become Hazardous Waste (CONT.)

Your waste is automatically classified as a ***listed*** hazardous waste if it is one of over 400 hazardous wastes identified on any one of the four lists of hazardous wastes found in the hazardous waste regulations. Some common cleaning compounds that are listed wastes are: xylene, acetone, methyl isobutyl ketone, methanol, toluene, n-butyl alcohol, tetrachloroethylene, trichloroethylene, methylene chloride, and 1,1,1-trichloroethane.

Another concern regarding brake cleaners and solvents are chlorinated solvents. TCE and "perc", along with other chlorinated solvents, such as *methylene chloride*, have extremely sensitive environmental properties and occupational exposure limits. One environmental ramification of using chlorinated solvents in an automotive shop is that they may contaminate non-hazardous waste streams, such as used oil and parts washer solvent vats. While TCE and perchloroethylene are extremely volatile, meaning they turn to vapor fairly quickly at room temperature in unconfined air, their residues may accumulate if they are drained into other containers during brake/parts cleaning. Consequently, the chlorinated compound will remain in its liquid form and could potentially contaminate the contents of used oil transfer containers, solvent vats and bulk used oil storage tanks. Due to the Environmental Protection Agency's "mixture rule", if a listed hazardous waste such as tetrachloroethylene, perchloroethylene or methylene chloride is mixed with a non-hazardous waste such as used oil or combustible solvent, **the entire waste mixture becomes hazardous and must be treated as hazardous waste!**

Please note that it may take some time for chlorinated solvents to accumulate in the bottom sludge of tanks, vats and oil transfer containers. This may be because of their weight – chlorinated solvents are twice as heavy as petroleum-based waste streams. Therefore, it may go undetected for an extended period of time. Once the equipment and tanks are contaminated, it is extremely difficult to remove the chlorinated compounds and their residue. If chlorinated compounds are detected in a used oil sample collected from your facility, you may be held responsible for the disposal of a large quantity of "hazardous waste".

As a good practice, never mix different wastes together. Mixing wastes can create an unsafe work environment and may lead to complex and expensive cleanups and disposal.

Section 609 Clean Air Act Compliance

- Any facility who acquires freon and refrigerant recovery and recycling equipment must submit to the EPA (Region specific) a form that certifies the equipment meets the standard for such devices.
- Technicians who repair or service freon and refrigerant MVACs must be trained and certified by an EPA-approved organization.
- Service shops must maintain records of the name and address of any facility to which refrigerant is sent. Records demonstrating that all service technicians are properly certified must also be maintained on-site.

Urban legend fact or fiction—bond and ground your flammable liquids

While it has never been proven (or disproved), that using a cell phone while pumping or attempting to pump gasoline could cause a refueling fire, a spark from static electricity could potentially ignite gasoline vapors.

Some gas station fires, as reported by the Petroleum Equipment Institute, have been the result of situations in which the fueler became statically charged prior to or during the refueling process. This charge is generally the direct result of friction between the person's clothing and the car seat to such a degree that there were electrostatic discharges to the fuel cap, vehicle body, or dispensing nozzle.

In an on-going study spanning the past five years, the Institute has reports of seventy-eight fires which occurred when the fueler returned to the vehicle during the refueling process and then touched the nozzle after leaving the vehicle.

The Petroleum Institute and other advocacy groups recommend never getting back inside one's vehicle while filling up at the gas station. If you must return to your vehicle, be sure to discharge any static that may have built up by touching a metal part of the vehicle before reaching for the nozzle.

One way to stop the flow of static electricity from causing a spark is through bonding and grounding. Bonding and grounding flammable liquids, such as gasoline and waste paint, provides a safe and complete path for static electricity to reach the ground. Without bonding and grounding wire to dissipate the static electricity, the spark could ignite the vapors of the flammable liquid.

As set forth by OSHA in 29 CFR 1910.10 6(f)(3)(vi), "Class I [flammable] liquids shall not be dispensed into containers unless the nozzle and container are electrically interconnected." An electric connection can be provided through a metallic bond wire that is permanently electrically connected to the fill system.

All flammable liquids must be bonded to the receiving container in transfer, and also connected through a ground wire to a grounding source like a steel beam, grounding rod, water line, etc, during transfer and storage. The free end of the wire should have a clamp or the equivalent for convenient attachment to some metallic part of the transfer container, so as to maintain direct metal-to-metal contact. These containers should also remain closed, except when adding or removing liquid.

It is the employer's responsibility to provide bonding and grounding equipment for all flammable liquids that are stored. It is also the responsibility of the employer to ensure that the bonding and grounding wires are kept in place; these measures are for the safety of all who might be adding or removing liquid. You can purchase bonding and grounding equipment or make it yourself from wire and clamps on each end (i.e. jumper cables.)

Largest fine in history handed out by OSHA

The Occupational Safety and Health Administration recently issued its largest fine in history to BP Products North America. Fines were handed out for both safety and health violations. The agreed upon settlement of $21,361,500 is almost double the next largest fine in OSHA history.

An investigation by OSHA was prompted after a March 23 explosion at a Texas plant that left 15 workers dead and more than 170 workers injured. Their Texas refinery is BP's largest, containing thirty processing units covering 1,200 acres and employing 1,600 people. BP Products has agreed to pay the fine as well as take several steps to prevent similar occurrences from happening in the future. Among these steps is a requirement to hire a firm to assess BP Products' safety equipment and procedures. They are also required to hire an expert to assess communication within the organization and its impact on the implementation of safety procedures. BP products must also submit an OSHA 300 log, a record of injuries and illnesses, every six months for three years and to notify OSHA any time a worker sustains an injury causing a loss of work for one day or more.

The bulk of the fines were for Egregious Willful Violations. These violations included having electrical equipment that was intrinsically unsafe ($11,690,000), failure to have written safety procedures for the unit that caused the explosion ($280,000), and failure to correct deficiencies in equipment ($5,320,000). All told, the fines for Egregious Willful Violations totaled $20,720,000.

Willful Violations also included fines for failure to have written safety procedures and failure to communicate with employees about hazards present. BP was fined $70,000 for each of 7 different willful violations. The fines for 20 of 21 serious violations were $7,000 each. Fines for Other-Than-Serious Violations were $1000 each.

OSHA assessed the maximum fine for most of these violations, $7,000 and $70,000 for Serious and Willful violations, respectively. OSHA takes violations and accidents very seriously. They will impose fines on those who have been found to be in violation of regulations, especially if those violations lead to accidents and deaths.

Most Frequently Sited OSHA Standards

1. Scaffolding, general requirements
2. Hazard communication standard
3. Fall protection
4. Respiratory protection
5. Control of hazardous energy (lockout/tagout)
6. Powered industrial trucks
7. Machines, general requirements
8. Electrical, wiring methods, components and equipment
9. Ladders
10. Electrical systems design, general requirements