to research this stuff, but, being an old-school airframer who has used both materials, I suggest they be stored separately. Chemical paint stripper should be on hand only if it's being used and should be returned to the CHRIMP center when finished.

Corrosives, oxidizers and flammables must be stored separately (different shelves or compartments). However, some oxidizers and corrosives can't be stored in the same locker. The HCC found in the "Physical/Chemical Properties" section of an HMIRS MSDS provides this detail, but the manufacturer's MSDS normally does not. If you're not sure whether two chemicals should be stored together, ask the base safety and environmental office, contact NEHC, or refer to the compatibility guides located in Chapter 23, Appendices C23-C and C23-F of OPNAVINST 5100.19D.

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For more info…

Refer to the manufacturer's MSDS and label for hazards of chemical paint stripper. You also can check your industrial-hygiene survey and NA 01-1A-509, Chapter 5 for more details.

The Daily Grind

By AMC(AW) Mike Malley

On survey, I have noticed a developing trend on the care and use of bench or abrasive-wheel grinders. One of the most common pieces of equipment found in an airframes shop, this equipment can injure or kill airframers or their civilian counterparts. This equipment frequently is misused, and OSHA has documented more than 2,700 annual violations on machinery guards and abrasive wheels. Grinders and abrasive wheels are No. 7 on its top-10 safety list. They also are becoming a problem in the Navy.

Incorrectly adjusted tool rests, missing or faulty guards, and clogged grinding wheels are some of the more common discrepancies I find. These problems could lead to a hazardous situation.

Most bench grinders that Sailors and Marines use come with a general-purpose abrasive wheel. This item usually is gray and mad using an adhesive- or resin-bonding process called vitrified bonding. These wheels usually are fine-to-medium grit and are used to grind steel and other ferrous (spark-producing) metals or tools. Too often, these wheels are not maintained before use and can explode, seriously injuring the operator.

To correctly operate a bench grinder, four steps are required: Do a static pre-operational inspection, energize the equipment, grind the material safely, and de-energize the equipment. The pre-op static inspection should be done, using the manufacturer's pubs or locally generated MRCs. That inspection must be logged on OPNAV Form 4790/52. If a manufacturer's handbook is used, make sure it is stamped by the CTPL. Local MRCs should contain simple and common-sense guidelines to keep you safe.

What are some things to look for in a static inspection? Ensure the grinder is mounted securely to the workbench, remove all combustible material from the area, use a protective device like a welder's curtain to contain sparks, and wear goggles or face shield. You should make sure the electrical connection is secure, strain relief is not loose, and wires are not chafing.

All guards and tool rests should be tight and adjusted (one-eighth inch for tool rests and one-quarter inch for the adjustable tongue). Make sure the wheel spins freely, and check for wobble, restrictions or imbedded non-ferrous materials. If damage is suspected or when a new wheel is installed, make sure the wheel is rated for the spindle speed of the equipment, and do a ring or tap test.

A ring test requires the wheel to be suspended from a string, using a pencil or other type dowel capable of supporting the wheel's weight. Gently tap the wheel with a non-metallic item, starting from the center and working toward the edge. A good wheel will produce a sharp, clear, metallic ring or a ping. If a wheel sounds dead or produces a dull thud, then it probably is cracked or contaminated. Dispose of that wheel, and install a new one. Never use a damaged wheel or allow one to spin on the bench grinder that has been dropped, chipped, stuck with a metallic object, or saturated with any type liquid.

Before grinding a piece of metal, you must wear PPE. Eye protection consists of impact-resistant goggles, glasses with side protection, or a face shield. Never rely solely on the clear protective guard attached to the equipment. Hearing protection also must be worn, and a dust mask or approved respirator will prevent inhaled dust.

Know the type of metal being ground to make sure you have the correct respiratory equipment. Some metals give off fumes that could impair breathing. Your clothing should be secured. Remove rings and bracelets, and button your sleeves at the wrist. Do not allow long hair or loose clothing to contact the spinning wheel. Leather gloves should be worn to protect the hands from sparks and debris.

When turning on a bench or pedestal grinder, you always must stand to the side of the wheel while it comes up to speed. This precaution will keep your body out of the way of debris should a wheel disintegrate. Once the wheel is up to speed, the grinding can begin. Never grind until the abrasive wheel has reached its operating speed. Never grind on the side of the abrasive wheel because this technique undercuts the abrasive wheel, causing it to shatter. For grinding small pieces, clamp the item in a vice or locking pliers (vice grips). Do not hold small pieces in your hand. Always use the full edge of a grinding wheel. An abrasive wheel that is uneven or shows any sign of excessive use should be dressed, using a dressing tool.

One common mistake most people make is grinding soft materials. Aluminum, brass, plastic (Plexiglas), and other soft, non-ferrous materials never should be ground on a general-purpose abrasive wheel. These materials clog the pores, causing it to overheat, explode or shatter. A clogged wheel does not cut efficiently, so people tend to push harder on the tool or material. This transferred force increases stress on the abrasive wheel and allows excessive heat to build. Allow it to stop on its own, and never use a piece of metal or other equipment to slow the abrasive wheel.

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What Flux Is in Your Toolbox?

By AVCM(AW/SW) Willie L. Burnett

During recent surveys, I've found too many activities use highly corrosive and unauthorized solder-paste flux on aircraft wiring and components. Most disturbing is that the container label for the flux paste has a clear warning not to use it on electrical components.

This trend led me to question the reason for the warning. I searched the FedLog, and it revealed the material is in the supply system, along with several other types of flux. I am not a chemist, so the chemical breakdown of the material and the references (organic, inorganic, chloride, rosins, activated, mildly activated, or basically lethargic) left my head spinning in short order.

I sent an e-mail to the experts at the Naval Surface Warfare Center in Crane, Ind. Their feedback was prompt and revealed a lot. The flux paste I continuously find is part number 0-F-506 and NSN 00-255-4566, and it contains zinc chloride and ammonium chloride. Zinc chloride is an acid, which should not be used for soldering electrical components because it's corrosive.

Electrical and electronic applications exist, and a number of items are available in the FedLog, for example NSN 3439-00-162-8388, corrosion-resistant, liquid-soldering flux. Work with material control to get a 2B advice code, and make sure the paste isn't offered as a substitute.

The experts from Crane said, "Every assembly this paste flux has touched may have reduced reliability and may cause premature failure." Yet, many technicians told me the paste is easier to use and to clean up, but they need to consider the additional work required to repair the damage done from the wrong material. What's in your toolbox?

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NAVAIR 01-1A-23, WP 003 00, Page 10, Paragraph 13(b)(6) clearly states, "Zinc chloride fluxes should never be used for high-reliability soldering, as they are highly corrosive." NAVAIR 01-1A-505, WP 017 00, Page 4, Paragraph 26 states "Acid or inorganic flux shall not be used as they are highly corrosive."–Ed.