



NAVAL SAFETY COMMAND

SAFETY AWARENESS DISPATCH



SA 23-07

Hazardous Material Mishaps

In a recent local area assessment conducted by the Naval Safety Command, every ship, submarine and squadron had hazardous material (HAZMAT) in unauthorized spaces and improperly stored HAZMAT. Hazardous material and hazardous waste require special handling and storage, hence the adjective “hazardous” in its classification. That assessment came more than 18 months after the Vice Chief of Naval Operations-directed Major Fires Review found that in six of the 15 incidents examined, improper handling and stowage of hazardous and combustible material either caused or increased the severity of the fires.



While some of the mishaps in this dispatch illustrate the potential large-scale casualties of improperly stored HAZMAT, they demonstrate how seemingly harmless actions can lead to disaster. The unfortunate victims in the following narratives show precisely why there are strict requirements for storing and handling of hazardous material. If you think the proper treatment of HAZMAT is your boss’s responsibility, read on and learn why it’s yours too.

- While an aircraft carrier was conducting fueling at-sea operations, a fire broke out in the unmanned auxiliary boiler exhaust and supply space. The ship’s crew and embarked personnel fought the fire for approximately 12 hours. When the fire was extinguished and overhauled, 37 Sailors were injured and 80 spaces were damaged. The cost of the damage was estimated at \$70 million and the ship was out of commission for three months. The culprit was 90 one-gallon containers of compressor oil improperly stowed in the space. The chief engineer previously found over 300 cans of oil stowed below deck during a space inspection and ordered them to be turned in to hazardous material storage, but 90 of them never made it and were stowed in the exhaust space. — *This mishap was a very costly “squirreling away” of hazardous material for convenience.*
- A ship was in a maintenance availability when a cargo hold caught fire, burning all contents, including the surrounding area. The fire took more than five hours to extinguish partly due to used HAZMAT being co-mingled with new HAZMAT and non-HAZMAT in the hold, which exacerbated the fire leading to 11 Sailors injured and more than \$2 million in damage. During the maintenance availability, pillows, ironing boards, cleaning gear and other non-HAZMAT were temporarily stored in the hold, which was designated for HAZMAT. The compartment’s protective fire suppression and ventilation systems were also degraded, compounding the risk of an out-of-control fire. — *Proper training, material condition and risk management, among others, are designed to reduce the chances of having a significant mishap and to minimize damage quickly should a fire occur. Improper storing of HAZMAT only heightens the risk. Don’t chance it by taking unnecessary risks with HAZMAT storage.*
- A Sailor reported fire damage to the unit’s government van. The investigation revealed the fire’s origin was improper storage of high-capacity lithium batteries. The safety and warning instruction state, “do not store or charge batteries inside any area, specifically vehicles or buildings where the internal temperature exceeds 100 degrees Fahrenheit.” — *There’s no need to prove why there are warnings on batteries. Trust the experts who put them there.*

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- A Sailor noticed white smoke coming from a dumpster on the port aircraft elevator and reported it to the ship's Damage Control Central, temporarily located in the hangar bay. White smoke was called away and rapid response and hose team members responded. Two minutes later, a Class "A" fire was reported and extinguished within several minutes. The source of the fire was improperly disposed of battle lantern batteries. Several trash bags containing batteries and other HAZMAT were also removed from the dumpster and taken off the ship. — *In addition to the batteries in the dumpster, another concerning point here is "...and other HAZMAT" found in the dumpster. Batteries mixed with who knows what in a dumpster could have led to a significant fire or explosion. All hands should have a basic knowledge of what constitutes hazardous material and be aware of disposal requirements.*
- At the completion of a helicopter hangar and flight deck repair aboard a Coast Guard Cutter, a work team from a naval field support team collected their various industrial hazardous materials (propane, adhesives, cleaners, solvents, paint, etc.) and placed them in an unmarked poly-metal banded shipping container. The container was to be left with ship's force or transferred to the local base hazardous waste site for reuse or disposal. Instead, it was improperly staged with other non-hazardous equipment being returned to home station. The container was shipped via air cargo to a Navy base, where it exploded when two employees set it down on the loading dock at the destination base. The lid seared 9 of 10 metal securing latches from the container, striking the two employees in the face. Both employees were treated for severe facial trauma. Investigators believed that the hazardous material, which included compressed gas and aerosol containers, vented into the airtight shipping container during depressurized aerial transport. The lack of proper management and training in HAZMAT handling were causal factors. — *We shudder at the thought of the catastrophic consequences had the container exploded in the aircraft while in transit. HAZMAT handling is no joke. The job isn't over until the HAZMAT is properly labeled and stored.*

Key Takeaways

In most cases, hazardous material doesn't seem all that dangerous until there is a fire or it mixes with other hazardous or non-hazardous material. Then we learn the hard and sometimes painful way why hazardous material is so labeled. Otherwise, it would just be "material." Here are tips and references to help you make sure your HAZMAT is properly identified and stored:

1. **Know what puts the HAZ in HAZMAT.** We're not saying everyone needs to be a chemical engineer, but you should have a basic understanding of what HAZMAT is and how and where it should be stored. The Safety Data Sheet (SDS) is a great source of information on the hazards the chemicals you are using may contain. At a minimum, know the types of HAZMAT you use or store at your unit and the associated warnings.
2. **If you see something, say something.** With basic knowledge of hazardous materials in your workplace, look for unlabeled containers (especially in cleaning gear lockers) and boxes or containers with warning HAZMAT labels (there are many types) that are not stored in designated HAZMAT compartments or areas. The more eyes we have out there spotting improper handling or storage of HAZMAT, the better. We will all be safer for it.
3. **In charge of HAZMAT storage or use? Know the references.** There are a number of regulations on hazardous material storage and handling. For starters, here are some primary references to get you started on your journey to all things HAZMAT:

OPNAVINST 5100.23 (series) - Navy Safety and Occupational Health Manual

OPNAVINST 5100.19 (series) - Navy Safety and Occupational Health Program Manual for Forces Afloat

NAVSUP PUB 505 - Preparing Hazardous Materials for Military Air Shipments

MCO 4450.12A – Marine Corps Order on Storage and Handling of Hazardous Materials

And remember, "Let's be careful out there"