

SAFETY TRAINING GOUGE #7

AFLOAT ASBESTOS CONTROL

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About "Safety Training Gouge"

If you're an afloat safety officer or division officer, you have a challenging, important role at your command. This series of pamphlets will help you meet your bi-monthly training requirements. Modify and use them at quarters or muster. You can also check the Naval Safety Center website at <http://www.public.navy.mil/navsafecen/Pages/safety-gouge/SafetyGouge.aspx> for the latest issues. We welcome feedback so we can continue to provide you with topics you need. Email LTJG Melissa Balint at melissa_balint@navy.mil.

This series is prepared by the Naval Safety and Environmental Training Center and the Naval Safety Center.

The Asbestos Threat

Asbestos was recognized as a major health hazard in the 1970s. Most insulation materials manufactured before the mid-1970s contained asbestos. Fire rooms and engine rooms aboard ships typically had the most use because of the insulation and refractory products necessary in these high-heat areas, however, no area was considered asbestos-free. Pipes throughout ships (including in sleeping quarters) were covered with asbestos lagging. Crew members usually lived and worked aboard ships during routine maintenance periods and during overhaul in dry docks.

Asbestos was used because it was fireproof, had high tensile strength, was chemically resistant and was a good insulator of heat. Still today, all ships whose keels were laid prior to 1980 must be treated as if they contain *friable* asbestos thermal systems insulation (TSI) and maintain [cont.]



A damage controlman collects samples of lagging from a shipboard space to see if there are traces of asbestos aboard.

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CAUTION

**Asbestos Containing
Material (ACM)**
Cancer and lung disease hazard
Do not disturb without proper
training and equipment

The Asbestos Threat, cont.

Friable ACM: Pipe lagging, acoustical insulation, sheet gasket material used in high-temperature applications.

Non-friable ACM: Brake and clutch lining; gaskets and adhesives; floor tiles and adhesives.

an emergency asbestos response team (EART).

“Friable” means “easily crumbled or brittle.” Whether or not controls are put in place to remove asbestos-containing material (ACM) depends on whether the material is considered “friable.” Friable ACM represents the most significant health hazard because airborne fibers can be released during normal work operations and removal. Non-friable ACM cannot be crumbled, pulverized or released into the air under normal work conditions.

If a suspect material is, when dry, capable of being crumbled, pulverized or reduced to a powder by hand pressure, and if the material contains asbestos fibers in excess of 1%, it is considered *friable* ACM and must be treated as a hazardous material.

Navy policy is to eliminate asbestos hazards by substitution with other materials. However, ACM that is in good condition may be left in place.

Health Effects of Asbestos Exposure

The danger is that asbestos can get into your lungs. The good news for Sailors today is that asbestos is generally not a hazard until it is disturbed. Once dispersed, the fibers can break off into small particles that can be inhaled and deposited in the lungs. Over time, these tiny fibers can cause asbestosis, lung cancer and mesothelioma.

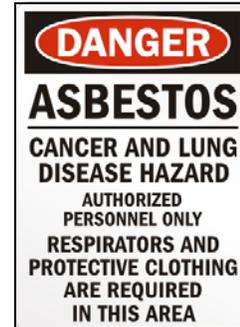
The major issue with asbestos exposures is that these diseases may not appear for 10 to 45 years after an individual was initially exposed. Most of the lung cancer in workers exposed to asbestos occurs among workers who smoke. Workers who smoke and are exposed to asbestos can be 90 times more likely to develop cancer than non-smokers.

REFERENCES

- OPNAVINST 5100.19E (series), Chapter B1
- Appendix B1-B: SOPs for replacing gaskets, packing and seals, as well as training requirements.
- Appendix B1-C: SOPs for Emergency Asbestos Response Team (EART)
- Appendix B1-D: Training requirements for ship's force protocol
- DoD 4715.05-G: Overseas Environmental Baseline Guidance Document

Major Elements of the Navy's Asbestos Exposure Control Program

1. Identify asbestos hazards
2. Control asbestos in the workplace
3. Adhere to prescribed work practices
4. Properly stow and offload materials containing asbestos
5. Establish an Asbestos Medical Surveillance Program (AMSP)
6. Environmental protection
7. Training



Frequently Asked Questions About Asbestos

Is my ship required to have an asbestos program?

If your ship has asbestos on board, your ship is required to train personnel who store the ACM and train the personnel who perform the maintenance on items with ACM. Ships built before 1980 are required to have a trained emergency asbestos response team that can provide work on ACM in an emergency.

How do I properly store asbestos-containing materials?

Asbestos materials must be double-bagged and labeled with this warning:
Danger, contains asbestos fibers. Avoid creating dust. Cancer and lung disease hazard.

How is asbestos identified?

Treat all thermal insulation on ships built prior to 1980 as if it contains asbestos unless the insulation material is confirmed to be asbestos-free by laboratory analysis. If in doubt about insulation, consider it to be ACM. There are currently 32 asbestos identification proficient laboratories in the Navy.

How will I know if I am around asbestos?

Warning signs and labels must be posted at each location where asbestos work is performed. Labels must be affixed to containers of raw materials, scrap, waste, mixtures, debris, samples or other products containing asbestos.

Are You Inspection Ready?

Use this inspection checklist:

http://www.public.navy.mil/fltfor/insurv/Getting_Inspected/Pages/Deck_Pages/NAVOSH_EP.aspx

Asbestos Best Practices from INSURV

When it comes to the asbestos program, ships historically lose a lot of points for items that could have been taken care of prior to the inspection. Below are some recommendations to ensure your program is properly prepped:

1. The LSC in supply should conduct a stock check for all asbestos containing items on-board. A lot of time this is completed before INSURV arrives. However when the team does come and conducts a stock check on day one of the inspection, they often find additional items that were missed by the initial stock check. Use the following instructions in conducting a stock check in R-Supply.

- In the R-Supply data base, go to Log -> Management -> Logistic Report -> Master Stock Status.
- Check the box for Special Material Content Code.
- In the drop-down box, search and highlight "N" Code (Asbestos Containing Material).
- Go to Site -> Management -> Batch Job Scheduling -> Approval.
- Type "R" into the blank box next to the Master Stock Status.

The instructions should ensure your Supply Dept performs the correct Stock Check. All material that is found by the stock check needs to

be double bagged (zip locks work great) and labeled. The asbestos labels are in the stock system or you might also be able to obtain materials from other ships.

2. Make sure you have a Non-Friable Asbestos Removal SOP. This only needs to be one or two pages long. Excellent examples are located in the OPNAVINST 5100.19E Section B1-B. The local Industrial Hygiene group that completes your ship's IH Survey can also help with this.

3. Make sure your medical surveillance is up to date with regards to asbestos exposure.

4. Conduct asbestos training with those work centers that could possibly be exposed to asbestos (those work centers that perform maintenance on pumps and valves, clutch assemblies, and arc chute breakers).

5. Ensure that you have the items required in the Asbestos Work Protocol Authorized Equipment List. Each ship is also required to have an asbestos kit (AEL 2-330024045). NAVSEA requires that all vessels carry the AEL onboard due to the fact that arc chute breakers located in the main switchboards contain asbestos impregnated insulation panels.

Source: <http://www.public.navy.mil/fltfor/insurv/Pages/default.aspx>

Frequently Asked Questions, cont.

What should I be trained in?

Training requirements differ depending on the roles in handling ACM.

In general, training includes:

- Health effects and hazards of exposure to asbestos.
- Understanding that smoking and working with asbestos can increase the risk of developing cancer.
- Where asbestos is located on your ship.
- An explanation of required what engineering controls and work practices.

Training should also include:

- Purpose, use and limitations of personal protective equipment (PPE).
- Purpose and description of the medical surveillance program.
- Description of emergency and clean-up procedures.
- Purpose of posting signs and affixing labels.

What can I do to protect myself?

Avoid areas posted with asbestos warning signs. Unless authorized, do not enter an asbestos-posted area. Inform your supervisor of damage to materials covered under the Navy's protocol. Don't try to handle, remove or repair suspected asbestos material without authorization, correct work practices, and PPE. Emergency asbestos removal teams (EART) receive special training and equipment.

What is the asbestos medical surveillance program (AMSP)?

This program tracks and evaluates individuals exposed to asbestos above allowable limits, for early diagnosis and treatment. Medical department personnel will determine who is placed in the AMSP.

What if my ship has TSI repair work performed OCONUS?

Any ship that had TSI repair work performed in any facility or by a contractor that isn't regulated by the Navy should handle the TSI as if it is ACM, unless supporting documentation by laboratory analysis [see B0104a(3)] verifies that ACM was not introduced onto the ship.

Without such verification, the ship must also maintain an EART (see OPNAVINST 5100.19 series; note that the age of the ship is not a factor).

What is an Emergency Asbestos Removal Team?

How USS Enterprise protects the crew.

By Journalist 1st Class (SW) Hendrick L. Dickson, USS Enterprise Public Affairs

“A lot of the crew doesn’t know what we do,” said Machinist's Mate 3rd Class James Shimchick, a member of the Emergency Asbestos Removal Team (EART). “We isolate the area and remove whatever insulation needs to be removed. We repair the place where the insulation was as well.”

While the crew is taught to avoid contact with asbestos, these Sailors are trained and qualified to handle asbestos safely. “We work with the Safety Department, getting

samples on older pipes that we know have been around for a while,” Shimrick explained.

Routine activity like walking around the ship does not expose Sailors to asbestos. However, when Sailors decide to remove insulation or lagging from shipboard piping, then it can become a problem. It is important the crew knows the proper precautions to take before attempting to do such jobs.

“If any lagging has to be ripped out, it first has to be tested,” said Machinist's Mate 1st Class (SW) John Townsend, of the Safety Department. “We’ll come and pull a sample out and take it to our analysis people to determine what

type of asbestos it is and what actions need to be taken.”

“Nobody has permission to cut any lagging before you get a lagging sample,” added Shimchick. “If you cut lagging before we get a sample you are in the wrong. You have no idea what you’re exposing yourself to.”

Once asbestos is found in a major system, EART is called in to take care of the scene. “There are only about eight to 10 people on board who are qualified to do this,” he explained. “It’s good to get out here and help out with safety issues like this, and prevent people from getting sick down the road.” [June 27, 2006]



An electrician’s mate conducts asbestos checks on materials found aboard a carrier. Such regular monitoring maintains safety and health standards for every Sailor aboard.

When you work on your car at home, how do you protect yourself from exposure to asbestos?

Work Practice Do's and Don'ts for Home Mechanics

- Don't use compressed air for cleaning. It blows dust into the air.
- Don't clean brakes or clutches with a dry rag, brush (wet or dry), or garden hose.
- Don't use an ordinary wet/dry vac without a high-efficiency particulate air (HEPA) filter to vacuum dust. Invisible particles of brake or clutch dust can stay in the air and on your clothes long after a job is complete.
- Avoid taking work clothing inside the home or tracking dust through the house after performing brake and clutch work to prevent exposing your family to dust particles that may contain asbestos.
- Use pre-ground, ready-to-install parts.
- If a brake or clutch lining must be drilled, grooved, cut, beveled, or lathe-turned, use low speeds to keep down the amount of dust created.
- Use machinery with a local exhaust dust collection system equipped with HEPA filtration to prevent dust exposures and work area contamination.
- Change into clean clothes before going inside the home and wash soiled clothes separately.
- Minimize exposure to others by keeping bystanders, as well as food and drinks, away from the work area.



Don't use compressed air for cleaning.

Sources

“Preventing Asbestos Exposure Among Brake and Clutch Repair Workers”:
<http://www.epa.gov/asbestos/pubs/brakebrochure-paginated.pdf>.

If you can't tell whether your brakes or clutch contain asbestos, use the wet-wipe method described in this brochure: www.osha.gov/SLTC/asbestos/standards.html. This method has been deemed acceptable by OSHA for shops that service no more than five brake or clutch jobs per week.

