# Asbestos Exposure in the Navy

The majority of asbestos exposure in the Navy occurs on ships and in shipyards, but sailors in land-based occupations were also exposed. If you have been diagnosed with mesothelioma after serving our country in the Navy, the Lanier Law Firm can help you pursue significant financial compensation.

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Editorial Guidelines

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Military veterans account for nearly a third of all mesothelioma cases in the United States, and Navy veterans experienced the most extensive asbestos exposure during military service. As a result, they face a heightened risk of developing mesothelioma, asbestosis, and lung cancer.

Asbestos-related illnesses are painful diseases that shorten life expectancy. These diseases generally develop 20, 30, 40, or more years after the initial exposure. As a result, Navy veterans who served our country during World War II, Vietnam, and the Gulf War are still being diagnosed with mesothelioma today.

## Navy Occupations with the Highest Asbestos Exposure Levels

Navy veterans have faced occupational asbestos exposure while serving in the following capacities:

- Gunner's mate
- Electrician's mate
- Hull maintenance technician
- Machinist
- Firefighter
- Welder
- Pipefitter, steamfitter, and plumber
- Boat and engine mechanic

## Asbestos on Navy Ships

The highest risk of asbestos exposure in the Navy occurred aboard Navy ships and in shipyards. Asbestos was used heavily on Navy ships due to its ability to insulate against heat, water, and corrosion. It was used in plumbing fixtures, adhesives, industrial compounds, cabin insulation, the mechanical parts of ships, and the hull. It was common for the entire hull of Navy ships to be lined with asbestos.

The heaviest asbestos exposure on Navy ships affected sailors who served below deck in engine rooms, boiler rooms, and areas that controlled ship propulsion.

Asbestos was used on Navy ships beginning in the 1880s and was not completely eliminated until approximately 1985. The Navy required its use, and even safety organizations such as the National Fire Protection Association and the National Board of Fire Underwriters required it as a fire safety measure.

According to asbestos regulations, the maximum permissible exposure level, or PEL, in any civilian workplace is 0.1 fiber per cubic centimeter during an eight-hour workday. This is lower than the original PEL set in 1971 at ten fibers per cubic centimeter, which OSHA adjusted after becoming aware of how dangerous asbestos really is.

Asbestos on Navy ships has been measured in concentrations as high as 70 fibers per cubic centimeter three meters from the source, according to the International Journal on Environmental Research and Public Health. Even at distances as far as 25 meters from the source, asbestos concentrations were as high as 46 fibers per cubic centimeter.

The exposure level on ships has a higher impact than in civilian workplaces, where exposure occurs during an eight-hour workday. Navy sailors were surrounded by asbestos 24/7. They walked on it, slept around it, prepared and consumed food near it, and could never escape it. Most were unaware of its presence or its dangers.

## Ship Components that Contained Asbestos

Nearly every component on Navy ships contained asbestos. There was virtually nowhere a sailor could go on a ship where asbestos was absent. In a letter to the Government Accountability Office, the Department of the Navy acknowledged that the list of asbestos-containing components on its ships is so extensive that “it is nearly impossib

free of the mineral."

Asbestos-containing components on Navy ships include, but are not limited to, the following:

- Bulkhead systems and panels
- Pipe coverings
- Boilers
- Machinery casings
- Thermal insulation
- Block insulation
- Cement
- Lagging
- Preformed insulation on flanges and valves
- Electrical coils
- Gaskets
- Packing

- Brakes
- Plastic materials
- Vinyl asbestos tile in the decking and flooring
- Engine room machinery
- Asbestos blankets, which were 100 percent asbestos
- Amosite asbestos blocks and pipe sections
- Ventilation ducts
- Walls (drywall)
- Plaster
- Asbestos cement used in lagging and machinery casings
- Lagging cloth

- Electrical wiring

## Types of Asbestos on Navy Ships

The majority of asbestos used on Navy ships was amosite and chrysotile asbestos. A small amount of crocidolite asbestos was also used. Chrysotile asbestos was the most common form used commercially and was considered less dangerous than the other types. However, it was still dangerous.

Amosite and crocidolite come from a separate family of asbestos known as amphibole asbestos. These types of asbestos fibers are smaller and more needle-like. They are known to embed more deeply into human tissues and in higher numbers.

## How Were Sailors Exposed to Asbestos on Navy Ships?

The vibration and constant motion of ships at sea caused components to flake and crack more quickly than if they were in stable structures on land. This included ship parts containing asbestos. As these parts become worn or damaged, the asbestos contained within them gets released into the surrounding spaces.

Saltwater in the environment may also have contributed to asbestos being released throughout Navy ships. Although asbes

corrosion, it was often contained in materials like cement that corroded easily. This, coupled with ships' vibrations, exposed virtually every sailor in every section of the ship.

Sailors that performed routine maintenance and repairs on engines and other mechanical ship components experienced the highest levels of asbestos exposure. Some tests have detected high asbestos concentrations involving the following:

- Winch brake box cleaning – 70 fibers of asbestos dust per cubic centimeter
- Routine brake operation – 2.1 fibers per cubic centimeter
- Dry sweeping proceeding repairs – 3.4 fibers per cubic centimeter
- Welding – 5 fibers/cc

Wearable machinery parts such as pipe insulation, valve covers, and gaskets often required complete rip-outs during replacement, increasing ambient asbestos levels.

In 1982, studies of the James River Reserve Fleet found concentrations of asbestos ranging between 0.4 to 0.1 fibers per cubic centimeter, with levels three times higher in the engine rooms. These studies were likely during normal ship operations, not necessarily during repairs.

## What Types of Navy Ships Contained Asbestos?

Asbestos was used in every type of naval vessel

According to the Naval History and Heritage Command, this includes the following types of ships:

- Battleships
- Carriers
- Cruisers
- Destroyers
- Frigates
- Submarines
- Guided-missile submarines
- Nuclear-powered fleet ballistic missile submarines (nuclear powered)
- Command ships
- Mine warfare
- Patrol
- Amphibious
- Auxiliary
- Surface warships

The USS Iowa class of battleships carried nearly 465 long tons of thermal insulation, and World War II destroyers carried 24 to 30. Asbestos was a prominent feature of insulation.

According to a 1979 document prepared by the Comptroller General of the United States and addressed to Congress, several ships built and delivered after 1973 still contained asbestos insulation for machinery, equipment, and piping. Some also still used it in gaskets and pipe hanger liners. The document included the names of the ships that still used asbestos in these components after 1973.



### Amphibious Assault Ships

Amphibious assault ships still harbored asbestos-containing boiler insulation on the following ships:

- Belleau Wood
- Saipan
- Peleliu
- Tarawa

### Destroyers

Asbestos was still used in the thermal insulation of the following destroyers:

- Arthur W. Radford
- Caron
- David R. Ray
- Elliot
- Hewitt
- John Young
- Kincaid
- Oldendorf
- Paul F. Foster
- Peterson
- Spruance

### Frigates

The following Frigates still used asbestos thermal insulation:

- Ainsworth
- Capodanno

Miller

Moinester

Pharris

Thomas C. Hart

Truett

Valdez

### Combatant Missile Patrol (Hydrofoil) Ships:

The Pegasus still had non-structural bulkheads constructed of asbestos-containing Marinite.

### Guided Missile Cruiser (Nuclear propulsion)

The following guided missile cruisers still used asbestos thermal insulation:

California

South Carolina

The following guided missile cruisers used asbestos-free thermal insulation but continued to use removable asbestos pads in the propulsion plant:

Arkansas

Mississippi

Texas

Virginia

### Aircraft Carriers

The following aircraft carriers still use asbestos in the catapult trough insulation:

Eisenhower

Nimitz

Vinson

### Nuclear Propulsion Submarines

Asbestos thermal insulation was still used in the following nuclear propulsion submarines:

Glenard P. Lipscomb

Parche

Tunny

William H. Bates

Vavalla

The following nuclear propulsion submarines used asbestos-containing removable pads in the propulsion plants:

Baltimore

Baton Rouge

Birmingham

Boston

Bremerton

Cincinnati

Dallas

Groton

Indianapolis

Jacksonville

La Jolla

Los Angeles

Memphis

New York City

Omaha

Philadelphia

Phoenix

San Francisco

Several unnamed ships with Hull numbers 705, 706, 707, 708, 709, 710, 712, 713, 714

### Replenishment Oiler

The Navy still used asbestos thermal insulation in the Kalamazoo after 1973.

### Oceanographic Research Ships

The following research ships used asbestos thermal insulation after 1973:

Gyre

Moana Wave

## When Did the Navy Stop Using Asbestos on Ships?

While asbestos use was largely eliminated between 1975 and 1978, it was not strictly prohibited. Ships constructed until 1980—and even after 1985—possibly contain asbestos. The Navy is still permitted to use asbestos if it deems no suitable alternative is ava

### Do Navy Ships Still Contain Asbestos Today?

Testing is the only definitive way to know if a specific ship contains asbestos. Some older ships are still in service, and asbestos may still be present on these ships. According to a Business Insider report, the following classes have ships built before 1980 in service:

**Ticonderoga-class cruisers** – in service since 1978 with 22 active ships that often serve in combat roles

**Nimitz-class carriers** – originated in 1975 and commissioned in 1980, with 10 ships still in service

**Whidbey Island-class dock landing ships** – in service since 1985 and often used to transport marines

## Asbestos Exposure in Naval Shipyards

Naval shipyard workers directly handle asbestos and the components that contain asbestos. They may be tasked with complete rip-outs of hulls, gaskets, and other components with significant asbestos levels.

Measurements taken from the Long Beach Naval Shipyard during removal operations showed an average asbestos level of 40 to 150 fibers per cubic centimeter. In a 1964 Occupational Health Hazard report, researchers observed the following:

By far, the greatest potential exposure to asbestos fibers occurs during ripout of old insulation for ship overhaul or reconversions.

The report noted pipe coverers wore protection, but nearby workers did not. These workers experienced what is known as bystander exposure. Insulation shop workers in shipyards were exposed to asbestos during insulation installation and removal.

In the pipe covering shops, workers were exposed to asbestos during the following processes, resulting in bystander asbestos exposure throughout the work areas:

- Cutting hard pieces of asbestos with band saws
- Manufacturing asbestos pipe covering
- Cutting and pounding asbestos matting

Shipyard workers experienced asbestos exposure during installation, repair, and routine maintenance of engine parts, brakes, the ship hull, wallboards, and plumbing pipes. They were exposed to asbestos while installing or otherwise working with wiring, adhesives, and industrial compounds.

Asbestos exposure during shipbuilding primarily occurred until the late 1970s, but asbestos exposure may still occur during repairs and rip-outs involving older ships.

## Asbestos in the Navy During World War II

During World War II, the Navy began stockpiling chrysotile, crocidolite, and various grades of amosite asbestos to such an extent that civilian use was prohibited to conserve the material for the war effort. It was used freely on sea vessels, land machinery, weaponry, and even personal protective gear in need of its fire-protective properties.

## Did the Navy Know Asbestos Was Hazardous to Human Health?

The Navy was at the forefront of asbestos research and became aware of its dangers by the 1930s. In fact, it was one of the most knowledgeable agencies in the world regarding asbestos. By all accounts, the Navy knew it was a severe occupational hazard but believed it could be controlled with proper handling. Consequently, it began recommending and requiring exposure protection by 1939.

These precautions included the following:

- Wetting down asbestos materials to prevent dust
- Requiring certain workers to wear respirators
- Providing protective gloves

Where respirators were impractical aboard ships, the navy recommended keeping amosite asbestos wet at all times to prevent dust.

Despite its awareness of the dangerous aspects of asbestos, the Navy did not relay this information to the sailors or its commanding officers until 1962, when it distributed a publication on how to avoid asbestosis.

However, this publication fell short of providing workers with the full extent of the danger they faced regarding asbestos hazards. At the time, it was erroneously believed that only long asbestos fibers w

asbestos dust was inert. It is now widely known that even the smallest particle of asbestos can lead to mesothelioma.

## Did the Navy Do Enough to Protect Workers?

While wetting asbestos and utilizing personal protective equipment are important protective measures when handling asbestos, these actions alone are known to be inadequate by today's standards. Asbestos abatement professionals adhere to the following protocols in addition to the Navy's:

**Containment:** Use plastic sheeting to tightly seal the contaminated area.
Disposal: Dispose of asbestos material in 6 mm double plastic bags and place it in EPA-approved dumpsters.
**Purification:** Clean the air using HEPA filtration equipment.
**Testing:** Test the air regularly throughout and after the work.
**Decontamination:** Require asbestos workers to decontaminate before leaving the concealed area.
**Disposable clothing:** Wear disposable gloves and clothing throughout the work.

OSHA requires similar practices in workplaces where asbestos materials are handled. Under OSHA regulations, any areas known to contain asbestos must be clearly marked. Access to these areas is restricted, and employees who enter these areas are prohibited from eating, drinking, chewing gum, or applying cosmetics.

The Navy only required workers directly handling asbestos to wear protection, and the asbestos was never contained. Nearby workers were completely unprotected, and asbestos fibers were allowed to mo

shipyards, and other workplaces through the environment and on work uniforms.

### Navy Veterans and Mesothelioma

These practices were clearly insufficient to protect workers and prevent the spread of asbestos fibers. Based on the number of mesothelioma cases affecting Navy veterans, the U.S. Navy did not do enough.

Approximately 30 percent of malignant pleural mesothelioma cases occur in military veterans. The Environmental Working Group estimates that as many as 40,000 veterans have died of asbestos-related illnesses. The majority of these asbestos-exposure victims served in the Navy.

## Can You Sue the Navy for Asbestos Exposure?

The Feres Doctrine bars lawsuits against the military for injuries or illnesses sustained while serving on active duty. However, this does not eliminate the possibility of mesothelioma compensation for Navy veterans.

You may be able to sue the asbestos companies that supplied asbestos to the Navy under the doctrine of strict liability. Companies that supplied asbestos to the military include the following:

Johns-Manville

John Crane

Coltec Industries, the former parent company of Garlock Sealing Technologies Inc.

Armstrong International

Flexitallic

Some of these companies have declared bankruptcy. These companies cannot be sued but have established asbestos trust funds under Section 524(g) of the U.S. Bankruptcy Code. Navy veterans with mesothelioma may be able to file trust fund claims against these companies, which include the followig:

- Armstrong World Industries
- Flexitallic
- Garlock Sealing Technologies, Inc.
- Johns-Manville

Eligible Navy veterans with asbestos-related illnesses can also file a claim for veterans' benefits. When you file a VA claim, you may be able to receive monthly tax-free monetary benefits and free medical care. Compensation may be payable via VA disability benefits, pensions, and the Aid and Attendance program.

VA benefits are also available for the families of Navy veterans who have passed away due to asbestos exposure in the military. In addition, the family members of veterans who have passed away may be able to file trust fund claims and wrongful death lawsuits against the responsible companies.