

MIL-C-22750 (EPOXY TOPCOAT) & MIL-P-23377 (EPOXY PRIMER)

EXPOSURE IN NAVY AVIATION:

SHORT- AND LONG-TERM HEALTH EFFECTS

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MIL-C-22750 (Epoxy Polyamide Topcoat) and MIL-P-23377 (Epoxy Primer) are commonly used military specification coatings in U.S. Navy aviation. They are used for:

- Aircraft painting and refinishing
- Corrosion control and surface protection
- Sealing aircraft structures
- Fuel tank and wheel well protection
- Coating engine bays, avionics areas, and structural components

Both coatings contain hazardous ingredients, including:

- Epoxy resins
- Polyamide curing agents
- Organic solvents (xylene, MEK, toluene)
- Chromates (in some variants of MIL-P-23377)
- Isocyanates (in some topcoat systems)

Exposure occurs during spraying, sanding, mixing, curing, and paint removal—especially in poorly ventilated hangars or confined aircraft spaces.

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SHORT-TERM (ACUTE) HEALTH EFFECTS

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1. ****Respiratory Irritation****

Inhalation of vapors, aerosols, or sanding dust may cause:

- Burning throat/nose

- Coughing
- Shortness of breath
- Chest tightness
- Headaches

Isocyanates and chromates can cause rapid airway irritation even at low levels.

2. ****Skin Irritation and Sensitization****

Direct contact with primers or topcoats may cause:

- Redness
- Burning
- Dermatitis
- Chemical sensitization (reactions worsen with repeated exposure)

3. ****Eye Irritation****

- Burning
- Watering
- Redness

4. ****Central Nervous System Effects (from solvents)****

- Dizziness
- Nausea
- Fatigue
- Slowed reaction time
- Confusion or impaired judgment

5. ****Allergic Reactions****

Some workers may experience:

- Hives
- Respiratory distress
- Asthma-like symptoms

Especially after repeated exposure to chromates or isocyanates.

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LONG-TERM (CHRONIC) HEALTH EFFECTS

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1. ****Chronic Respiratory Disease****

Long-term exposure may lead to:

- Chronic asthma
- Reactive Airway Disease (RADs)
- COPD-like symptoms
- Reduced lung function

Isocyanates are a leading cause of occupational asthma.

2. ****Skin Sensitization & Chronic Dermatitis****

Repeated exposure to epoxy resins and curing agents may cause:

- Persistent dermatitis
- Chemical burns
- Lifelong hypersensitivity (even tiny exposures trigger reactions)

3. ****Neurological Effects (from organic solvent exposure)****

- Memory problems
- Difficulty concentrating
- Chronic headaches
- Mood swings or irritability
- Fatigue

4. ****Chromate-Related Health Risks (MIL-P-23377 variants)****

Chromates are:

- Carcinogenic

- Respiratory sensitizers
- Causes of nasal irritation and ulceration

Associated cancers:

- Lung cancer
- Nasal/sinus cancers

5. ****Liver and Kidney Stress****

Solvents may contribute to:

- Elevated liver enzymes
- Kidney irritation

6. ****Increased Cancer Risk****

Due to:

- Chromates (proven carcinogen)
- Long-term solvent exposure

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NAVY AVIATION ROLES AT HIGHEST RISK

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- Airframe structural mechanics (AM)
- Aviation corrosion control teams
- Painters and surface finish technicians
- Depot-level artisans
- Fuel tank repair teams
- Maintenance personnel sanding or stripping coatings

Confined aircraft structures (wheel wells, tail sections, fuselage bays) greatly increase exposure levels.

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VA DISABILITY CLAIM WRITEUP EXAMPLE

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****Statement in Support of Claim: Exposure to MIL-C-22750 and MIL-P-23377****

I am submitting this statement in support of my claim for service-connected disability due to long-term occupational exposure to epoxy coatings MIL-C-22750 and MIL-P-23377 during my service in the United States Navy.

From [YEAR] to [YEAR], I served as an Aviation [RATE/MOS] assigned to the USS [SHIP] and naval air stations. My duties included corrosion control, aircraft refinishing, surface preparation, and painting. These tasks required daily handling, mixing, spraying, and sanding of epoxy primers and topcoats, including MIL-C-22750 and MIL-P-23377.

These coatings were frequently used in enclosed aircraft spaces such as wheel wells, engine bays, fuselage compartments, and hangars with limited ventilation. Protective equipment such as respirators, paint suits, and gloves was not always provided or consistently enforced. I often inhaled paint vapors and sanding dust, and I experienced immediate symptoms including headaches, dizziness, throat irritation, nausea, and eye burning. Skin exposure caused redness, irritation, and rashes.

Since separating from the Navy, I have continued to experience chronic health problems consistent with exposure to epoxy coatings and solvents, including persistent respiratory irritation, chronic headaches, difficulty concentrating, memory issues, fatigue, and chronic dermatitis. Medical evaluations have documented [RESPIRATORY CONDITION / CHRONIC DERMATITIS / NEUROLOGICAL SYMPTOMS / OTHER], all known effects of long-term exposure to chromates, solvents, epoxy resins, and isocyanates.

Given the frequency and intensity of my exposure, the inadequate protective measures, and the persistence of my symptoms after service, I believe my medical conditions are directly related to occupational exposure to MIL-C-22750 and MIL-P-23377. I respectfully request that the VA recognize these disabilities as service-connected.

Signed,

[Veteran Name]

[Date]