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[Handbook of Dangerous Materials]

# Handbook of Dangerous Materials

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**Arsenical Mixtures or Compounds, N. O. S.\*  
Solid**

*Hazardous Properties:* Poisonous materials. See **Arsenic**.

*Shipping Regulations:*†

Poison B 352, 354\* Poison label 200 lbs.  
(max. lot)

**Arsenical Dip, Liquid (Sheep Dip)**

*Hazardous Properties:* Poisonous liquid. See **Arsenic**.

*Shipping Regulations:*†

Poison B 338, 349\* Poison label 55 gals.  
(max. lot)

**Arsenical Dust**

*Hazardous Properties:* A poisonous material. See **Arsenic**.

*Shipping Regulations:*†

Poison B 352, 355\* Poison label 200 lbs.  
(max. lot)

**Arsenical Flue Dust**

*Hazardous Properties:* Poisonous material. See **Arsenic**.

*Shipping Regulations:*†

Poison B 352, 355\* Poison label 200 lbs.  
(max. lot)

**Arsenous Acid, Solid**

*Hazardous Properties:* A poison. See **Arsenic**.

*Shipping Regulations:*†

Poison B 352, 361\* Poison label 200 lbs.  
(max. lot)

**Arsenous and Mercuric Iodide Solution, Liquid**

*Hazardous Properties:* A poisonous liquid. See **Arsenic and Mercury**.

*Shipping Regulations:*†

Poison B 338, 349\* Poison label 55 gals.  
(max. lot)

**Arsine**

*Maximum Allowable Concentration in Air:*\* 0.05 parts per million.

*Hazardous Properties:* See **Arsenic**. Caution! Arsine can be liberated from unusual places. For instance, in cleaning out steel tanks which contained concentrated sulfuric acid it is possible to liberate arsine; although concentrated sulfuric acid does not react with steel, dilute acid does react with it momentarily, liberating hydrogen, which reacts with the arsenic, forming arsine. This is but one of the very numerous possibilities for industrial exposure to this toxic material.

*Synonyms:* Arsenic hydride; arseniuretted hydrogen

*Formula:* AsH<sub>3</sub>

*M. Wt.:* 77.9

*M. P.:* -113.5°C

*B. P.:* -55°C

*Density:* 3.484 g/liter

*Description:* Colorless gas

*Shipping Regulations:*† Poison label (1).

**Arsphenamine**

*Hazardous Properties:* A toxic material. See **Arsenic**.

*Synonyms:* 3-Diamino-4-dihydroxy-1-arsenobenzene hydrochloride; 606

*Formula:* C<sub>12</sub>H<sub>12</sub>As<sub>2</sub>N<sub>2</sub>O<sub>2</sub>·2HCl·2H<sub>2</sub>O *M. Wt.:* 475.0

*Description:* Light yellow hygroscopic powder

*Shipping Regulations:*† None.

**"Artic"**

Trade mark of a refrigeration grade of methyl chloride. A proprietary material. See under component as listed.

**Asbestos Particles or Asbestos Dust**

*Maximum Allowable Concentration in Air:*\* 5 million particles per cubic meter

*Hazardous Properties.* Asbestos is a class name for various minerals of a fibrous nature. The commercial material is mainly fibrous serpentine, known as chrysotile. The implication is that this material merely constitutes a nuisance dust. The figure given for the M. A. C. is probably the safe limit. There is a specific lung disease known as asbestosis, which may be caused by this material; it can also cause chronic conjunctivitis with hypertrophy (6). Asbestosis is a comparatively new disease which was first described by English writers (1920 to 1925). Finely ground asbestos is said not to be dangerous, and this theory is supported clinically. The time necessary to develop asbestosis is from 7 to 9 years, if the exposure concentration is fairly high. Lower concentrations are likely to require 15 to 20 years of exposure. Once established, the disease is progressive, even though exposure has stopped. It would seem that the irritation due to this material is related to its physical nature rather than its chemical composition. The first sign is dyspnea; the cough is usually dry and auscultation reveals few if any physical signs; loss of weight, pallor and cyanosis are also early symptoms. Later, emaciation and chest symptoms appear. There is a distinction between this disease and silicosis, i.e., the chest appears emaciated and lacks the robust character noticed in silicosis. Occupational exposure occurs in the packing, insulating and fire-proofing industry or where this material is combined with textiles.

*Treatment and Antidotes:* Rest and removal from exposure are indicated. Consult a physician

*Storage and Handling:* Personnel exposed to high concentrations or to unknown concentrations of asbestos particles should wear respiratory protection of an approved design.

**Asphalt**

*Hazardous Properties:* Asphalt causes skin eruptions which vary roughly in relation to the specific gravity and boiling point of the asphalt or bitumen. It can cause dermatitis. The fumes evolved are noxious and unpleasant with a strong odor, so that kettles of this material

\* See list of abbreviations and symbols, page vii. † Section 5 gives complete ICC Shipping Regulations. Numbers in parentheses refer to literature citations, page vi.