

CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Asbestos **Mixed oxides of Si, Al, Fe, Mg, and H** **CAS No.: 1332-21-4**

Synonyms: Actinolite, Anthophyllite, Cummingtonite-grunerite, Chrysotile, Amosite, Crocidolite

Physical Properties

Grayish-white, fibrous solid.
Vapor pressure at 20 °C: negligible
Melting point: >1000 °C

Exposure Limits

OSHA PEL: 0.1 respirable fiber/cm³ See 29 CFR 1910.1001
OSHA STEL/C 1 respirable fiber/cm³
ACGIH TLV: 0.1 respirable fiber/cm³

Hazardous Characteristics

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with:
4	0	0	0	No	No	No known significant incompatibilities.

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9?

Yes, by inhalation of respirable fibers.

Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace*? No

Typical symptoms of acute exposures:

Eye irritation.

Typical symptoms of chronic exposures:

Asbestosis, dyspnea (breathing difficulty), restricted pulmonary function, lung cancer.

Principal target organ(s) or system(s):

Respiratory system, eyes.

Storage Requirements

In a cool, dry, well-ventilated, locked location and in a fully labeled, well-sealed container.

Additional Remarks

All four major components of asbestos—Chrysotile, Amosite, Anthophyllite, and Crocidolite—are considered to be carcinogenic. When heated above approximately 1200 °C, asbestos changes to a powdery amorphous solid and is no longer carcinogenic.

Notes

ReadMe

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed.* For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at www.sis.nlm.nih.gov and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed.* See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*; Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m³—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling. 29 CFR—Title 29, Code of Federal Regulations.

Prepared by: Jay A. Young

Date of preparation: March 1, 2001