

VOCs from Mothballs

Mothballs are a pesticide used to help ward off moths and protect fabrics in closets, drawers, and other confined spaces. What makes mothballs different from most pesticides is that the active ingredient is present at nearly 100% and is a volatile organic compound (VOC). The active ingredient is either naphthalene (CAS 91-20-3), which is found in older formulations, or less flammable p-dichlorobenzene (CAS 106-46-7), which is found in more recent formulations. Some formulations may contain both ingredients. The active ingredient is evolved to the indoor air by a sublimation process (i.e., the slow release of vapor from the solid state). Both ingredients are characterized by a strong, pungent odor, which has an impact on indoor air quality. Once mothballs are applied to an area, the odor is very difficult to subsequently remove.

The National Pesticide Information Center (<http://npic.orst.edu/>), which is a cooperative agreement between Oregon State University and the EPA, provides a good resource for the proper use of pesticides and provides links to health-related information regarding the active ingredients in pesticides. Information related to mothballs can be found by clicking on the letter M (<http://npic.orst.edu/az.html#M>) and scrolling to mothballs. Due to the fact that mothballs are applied as flakes or spheres, one must take caution to be aware of potential pet or child ingestion. Mothballs are not to be placed in the attic or crawl space of a home because of the potential of circulation of the noxious fumes throughout the home. An alternative method to control moth damage is to vacuum-pack clothing or seal clothing in air-tight containers.

Besides use as a pesticide, p-dichlorobenzene is also used as a disinfectant in deodorizing cakes for bathrooms or in public restrooms. Naphthalene can be found in many other petroleum products such as gasoline, diesel fuel, paints, primers, and automotive products, so identification of naphthalene in indoor air also may be due to contributions from these other sources.

About Prism Analytical Technologies, Inc.

Prism Analytical Technologies, Inc. is a leading consultative air testing laboratory in the United States that is devoted to the chemical identification and analysis of contaminants in the air. We are a recognized leader in the development and deployment of ambient air testing methodologies for Fortune 100 and 500 companies, industrial hygienists, and environmental consultants. Prism's science-based technologies and wide range of air testing support help clients solve indoor air quality, process control, industrial, and environmental challenges.