



## Cotton dust (raw)

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CAS number: none

Cotton dust is colorless, odorless solid. It is generated from the processing of cotton fibers [NJgov].

Cotton dust means dust present in the air during the handling or processing of cotton, which may contain a mixture of many substances including ground up plant matter, fiber, bacteria, fungi, soil, pesticides, non-cotton plant matter and other contaminants which may have accumulated with the cotton during the growing, harvesting and subsequent processing or storage periods. Any dust present during the handling and processing of cotton through the weaving or knitting of fabrics, and dust present in other operations or manufacturing processes using raw or waste cotton fibers or cotton fiber byproducts from textile mills are considered cotton dust within this definition. Lubricating oil mist associated with weaving operations is not considered cotton dust [OSHA].

## Exposure

The ginning, spinning and weaving process of textile industry generate large amount of cotton dust. The dust consists of different size and type of particles. The type and concentration of dust, duration of exposure and genetic factors are interplaying the diseases of the respiratory system induced by occupational dusts. Moreover, working in the department where there is higher exposure of cotton dust such as spinning and weaving and being aged were found to be the risk factors for respiratory problems related to cotton dust [Wami].

Although in the industrialized world, there has been a significant decline in the prevalence of cotton dust lung diseases, studies show an increasing incidence in the developing world [NCBI].

## **Routs of exposure**

Inhalation.

## **Target organs**

Respiratory system, cardiovascular system.

## **Health hazards**

Cotton dust can irritate the eyes on contact. Breathing cotton dust can irritate the nose, throat and lungs [NJgov].

The available toxicological data do not indicate that an acute exposure to a high concentration of cotton dust would cause death or any irreversible health effects within 30 minutes [CDC].

Respiratory symptoms, such as cough, phlegm, wheezing, shortness of breath, chest tightness, chronic bronchitis, and byssinosis are common among workers exposed to cotton dust [Wami].

Byssinosis is a chronic respiratory disease that is seen among workers exposed to cotton, flax, and soft hemp dust. Also called “Monday morning dyspnea”, byssinosis is a disease present in workers exposed to cotton dusts and characterized by respiratory symptoms both histologically and physiologically, with decline of the respiratory function [Hinson].

## **References**

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