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## Carbon Black Fact Sheet

### What is Carbon Black?

Carbon black is an odorless fine black powder which is widely used in manufacturing operations. It is also called lamp black, acetylene black, channel black, furnace black or thermal black.

### What's New About Carbon Black?

The International Agency for Research on Cancer (IARC) changed its classification of carbon black because of the results of a scientific animal study in 1996. In the study rats were exposed to carbon black. Some of the animals developed lung tumors.

### Who is IARC and why did they make this change?

IARC is an agency of the United Nations' Work Health Organization. IARC has the responsibility to classify the cancer causing potential of materials used in the workplace.

Some employers have responded to these changes by circulating fact sheets or other written materials, and some are showing videotape summaries of the carbon black changes. The USW has reviewed some employers' materials including an industry-produced videotape. The material contained in the employer information and videotape that we have reviewed has been factual. However, some of our members have had questions and concerns about the material that they received. Many members feel that the content of their employer's information was confusing.

### What did IARC Do?

IARC changed its carcinogen classification for **carbon black** from a category 3 to a category 2B. IARC uses a numbering system to demonstrate the toxic and cancer causing properties of a chemical or compound. A compound categorized as an "IARC class 1 carcinogen" should be considered much more dangerous than a compound categorized as a "class 4."

<b>What Do IARC Carcinogen Classifications Mean?</b>	
Category 4	Material probably does not cause cancer in people.
Category 3	There is not evidence to prove that the material causes cancer.
Category 2B	Compound possibly causes cancer in humans -- some evidence shows that it causes cancer in animals, but there is not evidence to prove that it causes cancer in people.
Category 2A	Some evidence shows that the material causes cancer in humans, and the compound does cause cancer in animals.
Category 1	Evidence shows exposure to material causes cancer in humans.

<b>What is a CARCINOGEN?</b>	
Carcinogen	A material is considered to be a carcinogen when it does or may cause cancer.
Cancer	Cancer is a disease that causes an abnormal growth of cells. The cancer cells attack the body and may spread to other parts of the body.

### **What Does This IARC Change Mean?**

The IARC change indicates that carbon black, like many of the compounds that are used in our workplaces, may present a long-term health hazard. Specifically, there is a possibility that workers exposed to carbon black may, over time, develop health problems including cancer. Until evidence proves otherwise, carbon black should be treated as a dangerous or hazardous compound that may cause long-term health problems.

Carbon black may contain some dangerous chemicals called, polycyclic aromatic hydrocarbons (PAHs). PAHs are various petroleum-based substances which may be formed during the manufacturing process and absorbed by the carbon black. PAHs may pose additional health concerns to workers. Therefore, worker exposure to PAH's should be avoided and/or kept to a minimum.

### **What Else?**

<b>OTHER IARC 2B CARCINOGENS</b>		
Lead (Inorganic)	Hydrazine	Methylene Chloride
Chloroform	DDT	Toluene-2,3-diisocyanate (TDI)
Styrene	Carbon Tetrachloride	Fiberglass
Gasoline	Coffee	Saccharin

Because of the potential health concerns associated with carbon black, workers should follow work practices which limit the amount of carbon black exposure. Engineering controls, such as local exhaust ventilation, is very important in limiting exposure to carbon black. An effective means to limit worker exposure to carbon black is to utilize a closed system in the compounding area.

OSHA requires that worker exposure be limited to 3.5 mg of carbon black per cubic meter of air. NIOSH considers carbon black to be a potential occupational carcinogen, and if PAHs are present, NIOSH suggests that exposure be limited to 0.1 mg of PAHs per cubic meter of air.

Workers should wear protective clothing, e.g., coveralls and gloves, to limit exposure to carbon black. Workers may need to utilize eye protection, such as goggles, if irritation occurs. In some cases respirators may be needed. If respirators are used, proper selection and use must be considered. Workers should follow whatever procedures are available to keep from carrying carbon black out of the work area and especially to their homes on their body, clothes, vehicles or shoes.