



## **Benzophenone-3 (BP-3)**

Benzophenone-3 (BP-3) is a naturally occurring chemical found in some flowering plants. BP-3 absorbs and scatters the sun's harmful ultraviolet (UV) rays. For this reason, it is produced for use as sunscreen in lotions, conditioners, and cosmetics. BP-3 also is used in plastic products to block and prevent UV rays from altering the plastic and the contents inside.

### **How People Are Exposed to BP-3**

People may be exposed to BP-3 when they apply sunscreen or cosmetic products that contain the chemical to their skin. Once applied, a small amount of BP-3 passes through the skin into the body.

### **How BP-3 Affects People's Health**

The human health effects from skin exposure to low levels of BP-3 are unknown. Occasionally, wearing products containing BP-3 has resulted in a skin allergy or photo allergy, a skin reaction that occurs with exposure to sunlight. BP-3 has been shown to cause weak hormonal activity in laboratory animals. More research is needed to assess the human health effects of exposure to BP-3.

### **Levels of BP-3 in the U.S. Population**

In the *Fourth National Report on Human Exposure to Environmental Chemicals (Fourth Report)*, CDC scientists measured BP-3 in the urine of 2,517 participants aged six years and older who took part in the National Health and Nutrition Examination Survey (NHANES) during 2003–2004. By measuring BP-3 in urine, scientists can estimate the amount of BP-3 that has entered people's bodies.

CDC scientists found BP-3 in the urine of nearly all of the people tested, indicating widespread exposure to BP-3 in the U.S. population.

Finding a measurable amount of BP-3 in urine does not mean that levels of BP-3 cause an adverse health effect. Biomonitoring studies on levels of BP-3 provide physicians and public health officials with reference values so they can determine whether people have been exposed to higher levels of BP-3 than are found in the general population. Biomonitoring data can also help scientists plan and conduct research on exposure and health effects.

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