

testicular tissue, increased embryo resorption rates, and abnormalities of development. Mercuric chloride (an inorganic mercury compound) exposure has been shown to result in forestomach, thyroid, and renal tumors in experimental animals. We have classified mercuric chloride as a Group C, possible human carcinogen.

Both acute and chronic oral exposure to methylmercury have been found to cause developmental damage to the central nervous system in fetuses and children, with effects including mental retardation, deafness, blindness, and cerebral palsy. Lower exposures may cause developmental delays and abnormal reflexes. The most important source of methylmercury exposure for most people is eating fish. Although fish is an important part of a balanced diet federal and state fish advisories recommend limiting intake of certain fish that contain elevated methylmercury levels.

10. Manganese

Health effects in humans have been associated with both deficiencies and excess intakes of manganese. Chronic (long-term) exposure to low levels of manganese in the diet is considered to be nutritionally essential in humans, with a recommended daily allowance of 2 to 5 milligrams per day (mg/d). Chronic inhalation exposure to high levels of manganese by inhalation in humans results primarily in CNS effects. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically-exposed workers. Manganism, characterized by feelings of weakness and lethargy, tremors, a mask-like face, and psychological disturbances, may result from chronic exposure to higher levels. Impotence and loss of libido have been noted in male workers afflicted with manganism attributed to inhalation exposures. We have classified manganese as Group D, not classifiable as to human carcinogenicity.

11. Nickel

Nickel is an essential element in some animal species, and it has been suggested it may be essential for human nutrition. Nickel dermatitis, consisting of itching of the fingers, hands, and forearms, is the most common effect in humans from chronic (long-term) skin contact with nickel. Respiratory effects have also been reported in humans from inhalation exposure to nickel. No information is available regarding the reproductive or developmental effects of nickel in humans, but animal studies have reported such effects. Human and animal studies have reported an

increased risk of lung and nasal cancers from exposure to nickel refinery dusts and nickel subsulfide. Animal inhalation studies of soluble nickel compounds (*i.e.*, nickel carbonyl) have reported lung tumors. Dermal exposure to nickel may produce contact dermatitis. Adverse effects of oral nickel exposure are not well-described. We have classified nickel refinery dust and nickel subsulfide as Group A, human carcinogens, and nickel carbonyl as a Group B2, probable human carcinogen, by inhalation exposure.

12. Lead

Lead is a very toxic element, causing a variety of effects at low oral or inhaled dose levels. Brain damage, kidney damage, and gastrointestinal distress may occur from acute (short-term) exposure to high levels of lead in humans. Chronic (long-term) exposure to lead in humans results in effects on the blood, CNS, blood pressure, and kidneys. Children are particularly sensitive to the chronic effects of lead, with slowed cognitive development, reduced growth, and other effects reported. Reproductive effects, such as decreased sperm count in men and spontaneous abortions in women, have been associated with lead exposure. The developing fetus is at particular risk from maternal lead exposure, with low birth weight and slowed postnatal neurobehavioral development noted. Human studies are inconclusive regarding lead exposure and cancer, while animal studies have reported an increase in kidney cancer from lead exposure by the oral route. We have classified lead as a Group B2, probable human carcinogen.

13. Selenium

Selenium is a naturally occurring substance that is toxic at high concentrations but is also a nutritionally essential element. Acute (short-term) exposure to elemental selenium, hydrogen selenide, and selenium dioxide by inhalation results primarily in respiratory effects, such as irritation of the mucous membranes, pulmonary edema, severe bronchitis, and bronchial pneumonia. Studies of humans chronically (long-term) exposed to high levels of selenium in food and water have reported discoloration of the skin, pathological deformation and loss of nails, loss of hair, excessive tooth decay and discoloration, lack of mental alertness, and listlessness. The consumption of high levels of selenium by pigs, sheep, and cattle has been shown to interfere with normal fetal development and to produce birth defects. Results of human and animal

studies suggest that supplementation with some forms of selenium may result in a reduced incidence of several tumor types. One selenium compound, selenium sulfide, is carcinogenic in animals exposed orally. We have classified elemental selenium as a Group D, not classifiable as to human carcinogenicity, and selenium sulfide as a Group B2, probable human carcinogen.

II. Summary of Responses to Major Comments and Changes to the Brick and Structural Clay Products Manufacturing Proposed NESHAP

In response to the public comments received on the proposed BSCP rule, we made several changes in developing today's final BSCP rule. The major comments and our responses and rule changes are summarized in the following sections. A more detailed summary can be found in the Response-to-Comments document, which is available from several sources (see **SUPPLEMENTARY INFORMATION** section).

A. Air Pollution Control Devices

The most significant change to the proposed BSCP rule concerns our conclusions regarding the effective application of air pollution control devices (APCD) to existing kilns. The EPA received numerous comments from industry representatives, kiln manufacturers, and air pollution control device vendors on issues related to the application and performance of APCD. The MACT floor in the proposed rule was based on the use of dry lime injection fabric filters (DIFF), dry lime scrubber/fabric filters (DLS/FF), or wet scrubbers (WS). Another technology commonly used to control emissions from brick kilns, dry limestone adsorbers (DLA), was not considered to be a MACT floor technology at the time of proposal because we had concerns with monitoring options and our data indicated that the DLA could not achieve HAP emissions reductions equivalent to the reductions achieved by DIFF, DLS/FF, or WS technologies. However, as discussed in the paragraphs below, many commenters reported disadvantages of the DIFF, DLS/FF, and WS technologies for BSCP kilns and provided information to address our concerns about DLA technology. Consequently, the final rule allows some sources to use the DLA technology.

Several commenters argued that DIFF, DLS/FF, and WS technologies are not proven or commercially available for BSCP kilns. Commenters pointed out that, with the exception of one facility, full-scale WS have never been used on