OCCUPATIONAL DISEASES

A Guide
To Their Recognition

Rewritten and Enlarged Edition of
Occupation Hazards and Diagnostic Signs

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1969 NIOSH Predecessor
No Cancer

U.S. DEPARTMENT OF HEALTH,
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Public Health Service

pulmonary insufficiency or from cor pulmonale secondary to obliteration of the pulmonary vascular bed by fibrous tissue invasion.

The roentgenographic characteristics of simple coal workers' pneumoconiosis include discrete opacities up to 10 mm in diameter, which may be arranged in groups or spread diffusely throughout the lung fields.

In the complicated form of the disease, the earliest roentgenographic evidence of PMF is the presence, usually on a background of simple pneumoconiosis, of larger, less well defined opacities, often resembling reinfection-type tuberculosis in both position and appearance. These large shadows tend to increase in size and to coalesce. They later may contract with resultant severe distortion of the lung architecture.

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(3) Asbestosis

Asbestos is a general term used to describe several fibrous mineral silicates which differ in their chemical composition and physical properties The most important types of asbestos are chrysotile, a simple magnesium silicate: amosite and anthophyllite, which are complex magnesium iron silicates; and crocidolite, a complex sodium iron silicate. About 95 percent of the world's asbestos production is derived from chrysotile. Deposits of this mineral are found in many countries, but the largest mines are located in Canada.

Prolonged inhalation of asbe
may result in the production o
accompanied by severe respirat
studies of asbestosis, it was rep
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in the terminal bronchioles, ir
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asbestos or asbestosis body.
nism of the lung. If large qu
longed period of time, charact
progresses until a generalize
fibrosis is seen first in the lowe
continues, appears in the other
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that asbestos fibers smaller th
be incapable of initiating a fibr

The roentgenogram of the
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of the diaphragm and the cost

It should be emphasized
be used to estimate the prese
disability in lung diseases i
many individuals with radi
been able to carry on their
several years. On the othe
rarely been reported in the

There is no typical clinica
in its onset and is slowly p
tinues. There is a gradua
and weight loss, all combi
and clubbing of the fingers

Special Diagnostic Test

None.

Recommended Threshold Limit

Cellosolve, 200 parts per million parts of air by volume or 740 milligrams per cubic meter of air.

Cellosolve acetate, 100 parts per million parts of air by volume or 540 milligrams per cubic meter of air.

Methyl cellosolve, 25 parts per million parts of air by volume or 80 milligrams per cubic meter of air.

Methyl cellosolve acetate, 25 parts per million parts of air by volume or 120 milligrams per cubic meter of air.

Butyl cellosolve, 50 parts per million parts of air by volume or 240 milligrams per cubic meter of air.

Potential Occupational Exposures

Cellophane sealers
Cellosolve workers
Cleaning solution makers
Cotton thread makers
Dope makers
Dry cleaners
Dry cleaning agent makers
Dye makers
Enamel makers
Film makers
Gum processors
Hydraulic fluid makers
Insecticide makers
Lacquer makers
Lacquer thinner makers
Leather makers
Nail polish makers
Nitrocellulose makers
Oil processors
Paint makers
Perfume makers
Photographic film makers
Printers
Resin makers
Sludge removing agent makers
Soap makers
Stainers
Stain makers
Textile dyers
Textile printers
Varnish makers
Varnish remover makers
Wax processors
Wood stain makers

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(43) Cement, Portland

Harmful Effects

Local Exposure may produce cement dermatitis which is usually due to primary irritation from alkalinity, hygroscopicity, or abrasive property of

• section VIII

PLASTICS AND SYNTHETIC RESINS

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Plastics were so named because at some stage in their manufacture they were soft enough to be formed into various shapes. Synthetic resins were named for their similarity to natural resins, such as rosin. Generally the words are interchangeable, although, for a specific plastic or resin, it is customary to use one in preference to the other; thus, epoxy resin rather than epoxy plastic.

There are a number of basic chemical or family groups of plastics and resins, several of which have been arbitrarily chosen for presentation. Each group may be classified as either thermosetting or thermoplastic. Thermosetting resins cure or harden under heat and cannot be reshaped subsequently. Examples are alkyds, allyls, aminos, diisocyanates, epoxies, phenolics, and polyesters. Thermoplastic resins can be softened by heat and reshaped repeatedly. Examples are acrylics, cellulosics, fluorocarbons, nylons, polyethylenes, polystyrenes, and vinyls.

Plastics and resins are made by polymerization or condensation. In polymerization, a large number of identical molecules, called monomers, unite to form a larger molecule, called a polymer. In condensation, a number of molecules, not necessarily of the same composition, unite to form a molecule dissimilar in composition to the components, with the liberation of water or other simple substances.

In addition to monomers and condensate components, many other materials are used in compounding plastics and resins; namely, accelerators, catalysts, copolymers, dyes, fillers (asbestos, diatomite, glass fiber, mica, quartz, sand and many other substances), mold lubricants, pigments, plasticizers, solvents, stabilizers, and ultraviolet absorbers.

The major hazard from the manufacture, curing, and processing of plastics and resins is contact dermatitis which may be due either to primary irritation or to allergic sensitization. As a rule, completely condensed or polymerized resins do not cause dermatitis. Frequent offenders are the catalysts,