

Some of the Chemicals in Cigarette Smoke



There are over 4,000 chemicals in cigarette smoke. More than 50 of them are known to be carcinogens (to cause cancer). Many of the chemicals in cigarette smoke are also found in the workplace and regulated by OSHA. Some are found in common household products. This is a small sample of the toxic chemicals in cigarette smoke.

Acetaldehyde: Used in glues and resins; suspected carcinogen; may increase the absorption of other hazardous chemicals into the bronchial tubes.

Acetone: Used in solvents; irritating to the throat, nose, and eyes; long-term exposure can cause liver and kidney damage.

Acrolein: Used in polyester resins and herbicides; an ingredient in tear gas and other chemical warfare agents; extremely toxic; intensely irritating to the upper respiratory tract and eyes.

Acrylonitrile: Used in synthetic resins, plastics and rubber, and as a fumigant; also known as “vinyl cyanide”; suspected human carcinogen.

1-aminonaphthalene: Used in weed control; causes cancer.

2-aminonaphthalene: Banned in industrial uses; causes bladder cancer.

Ammonia: Used in cleaners; causes asthma and elevated blood pressure.

Benzene: Used in solvents, pesticides and gasoline; causes leukemia and other cancers.

Benzo[a]pyrene: Found in coal tar pitch, creosote, and some asphalts; causes skin cancer, lung cancer and reduction in reproductive capacity.

1,3-Butadiene: Used in rubber, latex, and neoprene products; suspected carcinogen.

Butyraldehyde: Used in solvents and resins; powerful inhalation irritant; affects the lining of nose and lungs.

Cadmium: Used in non-corrosive metal coatings, bearings, pigments and storage batteries; causes cancer; damages kidneys, liver and brain.

Carbon Monoxide: Produced by burning (in gasoline engines, welding, gas-powered tools, etc.); decreases heart and muscle function; causes fatigue, dizziness, weakness; especially toxic for the unborn, infants and people with lung or heart disease.

Catechol: Used as an antioxidant in dyes, inks and oils; causes high blood pressure, upper respiratory tract irritation and dermatitis.

Chromium: Used in metal plating and alloys, wood treatment and preservatives, and pigments; causes lung cancer. Stainless steel welding involves the greatest exposure.

Cresol: Used in solvents, disinfectants, and wood preservatives; highly irritating to the skin; acute inhalation levels cause upper respiratory, nasal and throat irritation.

Crotonaldehyde: Used as a warning agent in fuel gases; causes chromosome aberrations; reported to interfere with immune function.

Formaldehyde: Part of resin used in particleboard, fiberboard, and plywood, also used in foam insulation. Causes nasal cancer; can damage lungs, skin and digestive system.

Hydrogen Cyanide: Used in the production of resins and acrylic plastics and as a fumigant; released in metal treatment operations and metal ore processing; used for executions in some states’ gas chambers; weakens lungs; causes nausea, headaches, and fatigue.

Hydroquinone: Used in paints, varnishes and motor fuel; causes eye injuries, skin irritation and central nervous system effects.

Isoprene: Used in rubber; similar to 1,3-butadiene; causes irritation to the skin, eyes and mucous membranes.

Lead: Used in paint and metal alloys (solder, brass, bronze); damages brain, nerves, kidneys and reproductive system; causes anemia and stomach problems; may cause cancer; particularly toxic to children.

Methyl Ethyl Ketone

(MEK): Used in solvents; irritating to nose, throat, and eyes; depresses the central nervous system.

Nickel: Used in stainless steel, other metal alloys and alkaline batteries; causes upper respiratory irritation, bronchial asthma and cancer.

Nicotine: Used as a highly controlled insecticide; exposure can result in seizures, vomiting, depression of the central nervous system, growth retardation, developmental toxicity in fetuses; mild

nicotine poisoning results in diarrhea, increase in heart rate and blood pressure, headache, dizziness and neurological stimulation.

Nitric Oxide: Created by combustion of gasoline; major contributor to smog and acid rain; linked to Huntington’s disease, Alzheimer’s disease, Parkinson’s disease and asthma.

NNN, NNK, and NAT: These compounds are found only in tobacco, NNN causes cancer and may cause reproductive damage; NNK is a powerful lung carcinogen; NAT is a possible carcinogen.

Phenol: Used in resins in plywood and other construction materials and in epoxy resins; highly toxic; affects the liver, kidney, respiratory, cardiovascular and central nervous system.

Propionaldehyde: Used as a disinfectant; causes irritation of the skin, eyes and respiratory system.

Pyridine: Used in solvents; causes eye and upper respiratory tract irritation; causes nausea, headaches and nervousness; may cause liver damage.

Quinoline: Used as a corrosion inhibitor and as a solvent for resins; causes genetic mutations; possible human carcinogen; severe eye irritant; linked to liver damage.

Resorcinol: Used in laminates, resins and adhesives; irritating to skin and eyes.

Styrene: Used in insulation, fiberglass, pipes and plastic; possible human carcinogen; may cause leukemia; causes headaches, eye irritation, slowed reaction time, fatigue and dizziness.

Toluene: Used in solvents, oils and resins; highly toxic; causes fatigue, confusion, weakness, memory loss, nausea, loss of appetite and drunken-type actions; linked to permanent brain damage.