

Toxic Chemicals Released From the Tie Plant in Somerville

IARC – International Agency for Research on Cancer, part of the World Health Organization

EPA – United States Environmental Protection Agency

NTP – National Toxicology Program of the U.S. Department of Health and Human Services

Name	General Description	Use	Classification	Health Effects
Arsenic	Naturally occurring semi-metallic element; small amounts found in drinking water and foods such as seafood, poultry and rice	Heavy-duty pesticide used to preserve wood	A known human carcinogen, according to IARC, NTP and EPA	Linked to birth defects and various cancers, including bladder, colon, kidney, liver, lung, rectal, skin and stomach
Benzene	Aromatic hydrocarbon derived from coal and petroleum; small amounts found in car exhaust, cigarette smoke	Chemical solvent	A known human carcinogen, according to NTP	Linked to leukemia
Benzo(a)pyrene (BaP)	Polycyclic aromatic hydrocarbon; small amounts found in car exhaust, charcoal-broiled foods, cigarette smoke, soot	Heavy-duty pesticide used to preserve wood	A probable human carcinogen, according to IARC, NTP and EPA	Linked to lung cancer, skin cancer and stomach cancer
Chromium VI	Transition-group metal; small amounts found in inks and paints	Corrosion inhibitor; heavy-duty pesticide used to preserve wood	A known human carcinogen, according to EPA and IARC	Linked to bone cancer, leukemia, lung cancer and genetic damage
Dioxin	Chlorinated hydrocarbon created as a byproduct of waste incineration and pesticide manufacturing; small amounts found in plastic packaging and burn barrels	No commercial applications; used in 1960s and 1970s in defoliant Agent Orange	A known human carcinogen, according to EPA, IARC and NTP	Linked to various cancers, birth defects and developmental problems
Naphthalene	Aromatic hydrocarbon derived from coal tar and petroleum; small amounts found in clothes stored with moth repellants	Intermediate in production of insecticides and toilet bowl deodorants	A possible human carcinogen, according to EPA and NTP; a known animal carcinogen and probable human carcinogen, according to IARC	Linked to colorectal cancer, laryngeal cancer and lung tumors



Chemical Solutions Used at the Tie Plant in Somerville

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Name	General Description	Use	Classification	Carcinogenic Components	Health Effects	Legal Status
Chromated Copper Arsenate (CCA)	Mix of arsenic, chromium and copper once commonly used to treat playground equipment, picnic tables, decks and patios	Heavy-duty pesticide and insecticide used to preserve wood	A known human carcinogen, according to EPA, IARC	Arsenic, Chromium VI	Linked to lung cancer, bladder cancer, birth defects	EPA banned for residential use since 2003
Coal-Tar Creosote	A chemical stew of more than 400 hydrocarbons, and as many as 10,000 compounds, distilled from bituminous coal	Heavy-duty pesticide and insecticide used to preserve wood	A known human carcinogen, according to NTP	Benzo(a)pyrene, dioxin	Linked to various cancers, including bladder, lung, kidney, scrotal and skin	European Union banned since 2003
Pentachlorophenol (PCP)	Synthetic substance manufactured from other chemicals, specifically the chlorination of phenol, or carbolic acid	Heavy-duty pesticide and insecticide used to preserve wood	Probable human carcinogen, according to EPA and IARC	Dioxin; emits polycyclic aromatic hydrocarbons (PAHs) such as benzo(a)pyrene when improperly combusted	Linked to harmful effects on nervous system, immune system, digestive system and reproductive system	EPA restricted to certified applicators since 1984
Naphtha	Hydrocarbon product derived from oil or coal tar; an ingredient in shoe polish, lighter fluids and camping-stove fuel	Cleaning solvent; also used as dehydrating agent for drying wood	Not classified	Benzene	Linked to brain tumors, pancreatic cancer, skin cancer, stomach cancer	No bans or restrictions