

Health Impacts of Titan's Cement Plant on New Hanover County:

For Pollutants the EPA Classifies as Possible/Probable Human Carcinogens, Titan's Cement Plant Will:

- Increase Benzene: EPA has classified benzene as a Class A carcinogen. It is associated with increases in leukemia and other types of cancer.
- Increase Arsenic: EPA has classified arsenic as a Class A carcinogen. Associated with harmful effects on the heart and circulatory system.
- Increase Polycyclic Aromatic Hydrocarbons (PAHs): EPA has classified 7 PAHs as probable human carcinogens.
- Increase Chromium Compounds: a known carcinogen.
- Increase Nickel & Nickel Compounds: May cause cancer and genetic damage, especially to the unborn child.

For Pollutants the EPA Considers As Criteria and/or Hazardous Air Pollutant, Titan's Cement Plant Will:

- Increase nitrogen dioxide (NO_x), and Volatile Organic Compounds (VOCs), pollutants that contribute to the formation of ground level ozone/smog.
- Increase sulfur dioxide (SO₂), a pollutant that contributes to ground level ozone/smog and acid rain.
- Increase Particulate Matter (PM), a pollutant that contributes to increases in asthma, decreased lung function, and premature death in people with heart and lung disease.
- Increase Mercury, a potent neurotoxin that affects brain function and developmental issues in fetuses and very young children.
- Increase Carbon Monoxide, a pollutant that affects the nervous system and people with heart disease.

A Few Things You Should Know About Titan and the Cement Industry:

- The cement industry is considered to be a leading emitter of criteria air pollutants like PM, SO₂, carbon monoxide and NO_x.
- In the US, the cement industry is the 4th largest emitter of dioxins and furans and accounts for about 9 % of all air emissions reported to the US Toxic Release Inventory (TRI).
- *USA Today* recently ranked schools across the nation based on their exposure to industrial pollution. New Hanover County schools have some of the worst rankings in NC. Titan will be one of the worst polluters in our area and be within 5 miles to more than 8,500 school kids.
- The primary fuel source for Titan will be coal/COKE (a petroleum derivative.) Cement plants also use "alternative" fuel including hazardous and non-hazardous wastes—scrap tires, in particular, have become an important fuel source for the cement industry. Titan has stated they may burn tires at their Castle Hayne facility.
- US cement plants emit nearly 23,000 lbs. of mercury each year. A ground-breaking study showed, for the first time in scientific literature, a statistically significant association between autism risk and distance from industrial release of mercury. Titan is asking to emit 263 lbs./year of mercury, the EPA legal limit.
- Cement plants across the US act as de facto incinerators, burning hazardous waste with less regulations than are required by licensed hazardous waste incinerators.

New Hanover County already has some of the highest toxic emissions in North Carolina. Add Titan's Proposed Emissions and See Where We'll Be (table below):

Bolded pollutants are pollutants from Titan's air permit application that would increase New Hanover County's rank in NC

Name of Air Pollutant	Where New Hanover County Will Rank (out of 100 NC counties)	Associated Human Health Risk
Chromium	Highest Emissions in NC.	Lung cancer, nasal septum ulcerations and perforations, skin ulcerations, and allergic and irritant contact dermatitis.
Carbon Monoxide	Highest Emissions in NC.	Exacerbates existing heart disease; causes problems in vision and reduced manual dexterity.
Chlorine	Highest Emissions in NC.	Potent irritant to the eyes, upper respiratory tract, and the lungs.
Nickel & Compounds	Highest Emissions in NC.	May cause cancer and genetic damage; may affect the blood, lung, nose, reproductive system, skin and the unborn child.
Benzene	2 nd Highest Emissions in NC.	EPA classifies Benzene as a group A carcinogenic; associated with increases in leukemia and other cancers.
NOx	2 nd Highest Emissions in NC.	Can cause serious respiratory illness; contributes to acid rain and formation of ozone.
Methanol	3 rd Highest Emissions in NC	May cause irritation to eyes, nose, mouth and throat. Can lead to liver damage, cause headaches, cardiac depression, nausea, vomiting, blurred vision and optic nerve damage.
VOC	3 rd Highest Emissions in NC.	Known or suspected of having carcinogenesis and neurotoxicity affects on humans.
Mercury	3 rd Highest Emissions in NC.	Can harm brain, heart, kidneys, lungs and immune system of people of all ages. High levels of methyl mercury in bloodstream of unborn babies and young children may harm the developing nervous system.
Arsenic & Compounds	3 rd Highest Emissions in NC.	Classified as known human carcinogen by EPA. May lead to skin, lung, colon and bladder cancers. Also associated with harmful effects on the heart and the circulatory system.
Lead and Lead Compounds	3 rd Highest Emission in NC.	Adversely affects the nervous system, kidney function, immune system, reproductive and development systems and the cardiovascular system.
Polycyclic Organic Matter (POMs) including Polycyclic Aromatic Hydrocarbons (PAHs)	3 rd Highest Emission in NC.	Class of compounds that includes the polycyclic aromatic hydrocarbon compounds (PAHs), of which benzo[a]pyrene is a member. EPA has classified 7 PAHs as probable human carcinogens; studies show increases in lung cancer in humans; animal studies report respiratory tract tumors from inhalation exposure to benzo[a]pyrene and forestomach tumors, leukemia, and lung tumors from oral exposure to benzo[a]pyrene.
SO2	5 th Highest Emissions in NC.	Contributes to respiratory illness, especially in children and elderly. Aggravates existing heart and lung diseases.
Toluene	5 th Highest Emission in NC.	Irritating to eyes, throat, lung and skin; inhalation or ingestion can cause dizziness, drowsiness, sickness, headache, coma; possible reproductive toxin; long-term inhalation can cause permanent damage to the nervous system.
Hydrochloric Acid	5 th Highest Emissions in NC.	HCL is irritating and corrosive to any tissue it contacts. HCL can cause throat irritation, swelling and spasm of the throat and lung tissues, lead to suffocation and even death. Children are more vulnerable because of small airways.
Particulate Matter: PM2.5 PM (TSP) PM10	<u>PM2.5</u> : 6 th Highest Emissions in NC. <u>PM (TSP)</u> : 5 th Highest Emissions in NC. <u>PM10</u> : 5 th Highest Emissions in NC.	Classified as known human carcinogen by EPA. May lead to skin, lung, colon and bladder cancers. Also associated with harmful effects on the heart and the circulatory system.

Data obtained from Titan's air permit application and North Carolina's TRI database for 2007.

