

Pollution of the Air, Soil and Water by SOUTH ATLANTIC GALVANIZING

What are they doing?

“Hot-dip” galvanizing plants dip iron or steel in a bath of liquid zinc, causing a chemical reaction between the zinc and the iron. The process is illustrated below: 1) Degreasing the steel by immersion in acid or caustic solution, 2) Pickling in a bath of hydrochloric or sulfuric acid, 3) Fluxing in a tank of zinc chloride and ammonium chloride, and 4) Galvanizing in the liquid zinc heated to about 840 degrees-F.

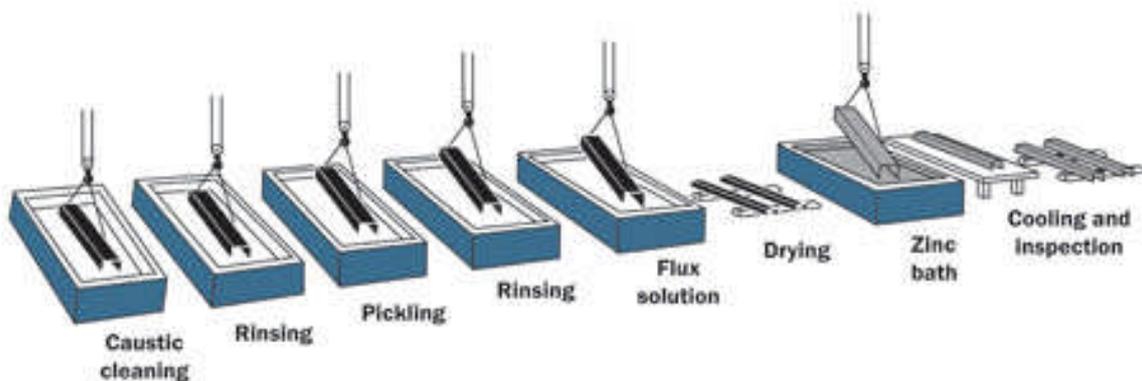


Illustration at <http://galvanizeit.org/aga/inspection-course/galvanizing-process/>

Why should we be worried?

South Atlantic Galvanizing operates with virtually no pollution controls. Their tanks of hot metal, acid and caustic chemicals are open to the atmosphere. The contaminants of concern include airborne zinc, lead, ammonia, acid and fine particles. The North Carolina Division of Air Quality regulates many industrial processes to control toxic air pollution, but has allowed South Atlantic Galvanizing to escape scrutiny for a decade.

Is there a health risk?

Toxic air pollutants are emitted from galvanizing plants. Fine particles bypass the body's defense mechanisms with negative consequences for respiratory and cardiovascular systems. Hydrogen chloride emissions form corrosive hydrochloric acid on contact with body tissue, causing lung, skin and eye damage. Ammonia is also an irritant to the skin and eyes; chronic exposure may lead to irritation of the respiratory tract, asthma and lung fibrosis. Exposures to high levels of zinc have been associated with pulmonary inflammation and injury. Lead affects virtually every system in the body and is particularly harmful to young children.

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Blue Ridge Environmental Defense League

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According to the US Environmental Protection Agency, soil contaminated with heavy metals can pose a public health risk, especially for children who play nearby and inadvertently swallow it. Recent tests reveal elevated levels of pollutants in the community around South Atlantic, chemicals which are known to come from galvanizing operations. The soil levels of four toxic heavy metals are above normal.

Tests Results

Pollutant	Sample A	Sample B	Sample C	Sample D	Typical US level in soil
Cadmium	1.0	2.3	8.6	8.0	0.06
Chromium	30.4	43.3	86.6	40.6	40
Lead	13.8	23.7	23.2	14.5	10
Zinc	84.9	181.0	30.1	258.0	50

All values in parts per million

If ingested in enough quantities, heavy metals can lead to a variety of serious health effects.¹

What has been done already?

For years South Atlantic's neighbors have catalogued adverse impacts including damaged and dying vegetation, nausea, respiratory distress and other health effects, and visible and noxious emissions.

In 2006 the Blue Ridge Environmental Defense League requested that the Division of Air Quality require South Atlantic Galvanizing to obtain an air pollution permit.² So far, the DAQ has refused to do so.

What can we do about it?

The neighbors of South Atlantic Galvanizing continue to observe clouds of air pollution, especially at night. They experience pungent odors and acrid tastes. These concerned residents are keeping records of their observations including videos of voluminous clouds emanating from the plant.

People living in this community have now lodged credible, consistent and serious complaints and are asking for relief. The remedy is conservative and available.

It is time to apply state air pollution control requirements to this facility.

ORGANIZE

¹ US Environmental Protection Agency Research & Development website at http://www.epa.gov/ord/sciencenews/scinews_contaminated-soil.html

² Letter from Louis Zeller to Myron Whitley, Re: South Atlantic Galvanizing, July 24, 2006