



## FREQUENTLY ASKED QUESTIONS

**QUESTION:** There is black staining on many supply air diffusers (extending to adjacent ceiling tiles) in my commercial office space. What causes this staining? Is it hazardous? And, how can it be prevented?

**ANSWER:** Staining can originate from multiple factors. The solution on how to stop this staining and evaluate if the staining is hazardous requires the collection of sample(s) of the staining and having it analyzed microscopically.

### WHAT TO TEST FOR:

- **Mold:** Differences between the temperature and humidity conditions at the air supply discharge from the diffusers and the room itself can result in condensation on adjacent surfaces. Surface moisture can lead to mold growth.
- **Fiberglass/Cellulose:** The black discharge may be due to deterioration of the lining inside the duct work or flex duct servicing the diffusers. Further, fiberglass/cellulose presence may indicate the duct work contains significant dust/debris and the duct work needs to be professionally cleaned.
- **Skin Cells, Insect Parts, Excess Pollen:** The presence of these pollutants may indicate inadequate filtration on the HVAC system.
- **Asbestos:** PLM analysis of the staining and the ceiling tile itself must be performed before initiating any cleanup. This will also ensure the health and safety along with necessary precautions are implemented during the cleaning procedure.

**NOTE:** HVAC duct work leakage (particularly at returns) can also pull in contaminants from dirty spaces. Duct work leakage also waste energy and significantly reduces the quantity of airflow discharge from the diffusers to meet ASHRAE requirements for the given space.

Once you identify what the staining is comprised of consult with an HVAC engineer to verify your HVAC system performance and make required corrective actions.

When you need professional help or advice, email Alan Sutherland, CIH, CHMM at [a.sutherland@aetinc.biz](mailto:a.sutherland@aetinc.biz) or call 610-891-0114. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services we provide at our website [www.aetinc.biz](http://www.aetinc.biz)

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