

Injection Molding Fume Monitoring

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The number one priority of all industries should be safety; however, one industry that often falls short in this area is plastic manufacturing, specifically those utilizing injection molding. This process can release toxic fumes depending on what material is being manufactured. These fumes can cause severe health risks for the machine operators. The fumes are produced by the heated pellets, release agents, or cleaning solvents (DeMatteo). In addition, the coolant used to cool the mold after injection can release renegade mist into the air ("The Hazards of Plastic"). Developing a system coupled with MTConnect that could monitor the fumes being released would allow companies to monitor how many toxic chemicals their workers are being exposed to. This would help them to develop more efficient and safer injection molding procedures, help companies to ensure they are complying with safety protocol, and improve the health of many plastic manufacturing workers. The system would be mounted within the inside the vent used to remove some of these fumes. It would monitor the composition and volume of the fumes and use the vent efficiency information to determine the amount of toxic chemicals escaping into the surrounding area.