

## Electronic Equipment Failure due to Corrosion

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**Abstract :** There are many reasons which are involved in electronic equipment failure i.e. temperature, humidity, dust, smoke etc. Corrosive gases are also one of the factor which may involve in failure of equipment. Sensitivity of electronic equipment increased when "lead-free" regulation enforced on manufacturers. In data center, equipment like hard disk, servers, printed circuit boards etc. have been exposed to gaseous contamination due to increase in sensitivity. There is a worldwide standard to protect electronic industrial electronic from corrosive gases. It is well known as "ANSI/ISA S71.04 - 1985 - Environmental Conditions for Control Systems: Airborne Contaminants. ASHRAE Technical Committee (TC) 9.9 members also recommended ISA standard in their whitepaper on Gaseous and Particulate Contamination Guideline for data centers. TC 9.9 members represented some of the major IT equipment manufacturers e.g. IBM, HP, Cisco etc. As per standard practices, first step is to monitor air quality in data center. If contamination level shows more than G1, it means that gas-phase air filtration is required other than dust/smoke air filtration. It is important that outside fresh air entering in data center should have pressurization/re-circulated process in order to absorb corrosive gases and to maintain level within specified limit. It is also important that air quality monitoring should be conducted once in a year. Temperature and humidity should also be monitored as per standard practices to maintain level within specified limit.

**Keywords :** corrosive gases, corrosion, electronic equipment failure, ASHRAE, hard disk

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