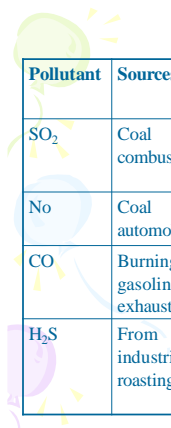


Effect of Air Pollution


- Effect on Human Health
- Effect on Vegetation
- Effect on Materials




Effect on Human Health



Pollutant	Sources	Effect
SO ₂	Coal & oil combustion	It causes problem to chest head cut vomiting sensation & Respiratory problems
No	Coal combustion automobiles exhaust	Causes problem of lungs & respiratory track
CO	Burning of coal gasoline, vehicle exhaust	It reduces the oxygen carrying capacity of blood
H ₂ S	From chemical industries, Refineries roasting operation	Effect to nausea, irritation to eyes & throat problem




Pollutant	Sources	Effect
HCN	Blast furnace, fumigation from chemical industries & metal plating industries	Damage neural system produce dry the throat, Damage vision & Headache
Ammonia	Explosions, Dyes making industries fertilizer industries	In flames offer respiratory passage problems
Phosgene	Chemical & dye making Industries	Induce coughing fatal
Aldehydes	By thermal decomposing of oils & fats	It damages respiratory system & cause irritation in eyes



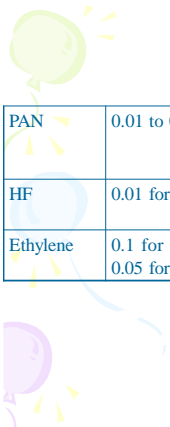
Pollutant	Sources	Effect
Arsenic	In soldering process which involves metals or acids	Damages red Blood cells, damage kidney & causes jaundices
Lead	Automobile exhaust paint & Batteries	Effect the blood system & leads to death
Nickel	Combustion of coal Diesel residual oil & steel mfg.	Nickel particles causes damage to the respirators system & leads to lung cancer
Mercury	Combustion of fossil fuel & exhaust from metal smelters	Cause damages to nervous system, brain & Kidney



Effect on Vegetation



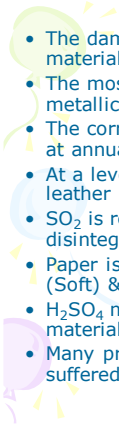
Pollutant	Level (ppm) and Exposure	Effect
SO ₂	0.3-0.5 for several days	Bleached spots, chlorosis, injury to spinach & other leafy vegetables
NO ₂	0.25 for eight months	Increases abscission & reduce yield in citric acid plants
	0.5 for 10 – 12 days	Suppressed growth of tomatoes
	3.5 for 21 Hrs	Spot mild necrosis on cotton and bean plants
	25 for 1 hr	Actuate leaf injury
Ozone	0.03 for 8 hours	Fleck on upper surface, Necrosis & bleaching, Damage to tobacco leaves

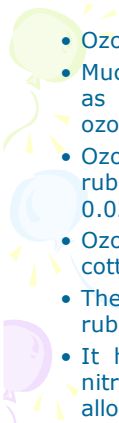


PAN	0.01 to 0.05 for few Hrs.	Damages to sensitive plants, young leaves more susceptible to damage
HF	0.01 for 7 – 21 days	Damage grape plants.
Ethylene	0.1 for several hours or 0.05 for several weeks	Flower dropping



Effect on Materials

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- The damage caused by atmospheric pollutions to the materials is a well known process.
 - The most poisonous pollution responsible for metallic corrosion is SO_2 .
 - The corrosion of hard metals such as steel begins at annual mean concentration of 0.02 ppm.
 - At a level of 0.09 to 1 ppm, SO_2 affects fabrics, leather & paint.
 - SO_2 is readily absorbed by leather & causes disintegration.
 - Paper is decolorized by SO_2 gas & becomes brittle (Soft) & fragile.
 - H_2SO_4 mist in the atmosphere causes damage to the materials such as marbles & limestone.
 - Many priceless marble sculptures and buildings have suffered such as Taj Mahal, Charminar etc.

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- Ozone is a very reactive substance.
 - Much of the degradation of materials such as fabrics & rubber is caused due to ozone gas.
 - Ozone causes cracking of synthetic rubber at atmospheric level of 0.01 to 0.02 ppm.
 - Ozone also attacks fabric fibers such as cotton, nylon, polyester, & acetate.
 - The fading of fibers & cracking of rubber is due to ozone's oxidizing ability.
 - It has been observed that particulate nitrate attack & damage nickel-brass alloys in the presence of moisture.
