

EHS Newsletter

MONTHLY BULLETIN OF ENVIRONMENT HEALTH AND SAFETY



Industrial Pollution

A review

Industrial pollution is the pollution which can be directly linked with industry. This form of pollution is one of the leading causes of pollution worldwide. There are a number of forms of industrial pollution. Industrial pollution can also impact air quality, and it can enter the soil, causing widespread environmental problems.

Industrial activities are a major source of air, water and land pollution, leading to illness and loss of life all over the world. The World Health Organisation estimates that outdoor air pollution alone accounts for around 2% of all heart and lung diseases, about 5% of all lung cancers, and about 1% of all chest infections

Causes of Industrial Pollution

1. *Lack of Policies to Control Pollution* -Lack of effective policies and poor enforcement drive allowed many industries to bypass laws made by the pollution control board, which resulted in mass-scale pollution that affected the lives of many people.

2. *Unplanned Industrial Growth*- In most industrial townships, unplanned growth took place wherein those companies flouted rules and norms and polluted the environment with both air and water pollution.

3. *Use of Outdated Technologies* - Most industries still rely on old technologies to produce products that generate a large amount of waste. To avoid high cost and expenditure, many companies still make use of traditional technologies to produce high-end products.

4. *Presence of a Large Number of Small Scale Industries* - Many small scale industries and factories that don't have enough capital and rely on government grants to run their day-to-day businesses often escape environment regulations and release a large number of toxic gases in the atmosphere.

5. *Inefficient Waste Disposal* - Water pollution and soil pollution are often caused directly due to inefficiency in the disposal of waste. Long term exposure to polluted air and water causes chronic health problems, making the issue of industrial pollution into a severe one. It also lowers the air quality in surrounding areas, which causes many respiratory disorders.

6. *Leaching of Resources From Our Natural World* - Industries do require a large amount of raw material to make them into finished products. This requires the extraction of minerals from beneath the earth. The extracted minerals can cause soil pollution when spilled on the earth. Leaks from vessels can cause oil spills that may prove harmful to marine life.

7. *Natural Resource Use* - Raw material is a must for industries, which often requires them even pulling out underground elements. One of the most common forms of leaching from natural resources is fracking for oil.

Effects of Industrial Pollution on Our Environment

1. Water Pollution

The effects of industrial pollution are far-reaching and liable to affect the ecosystem for many years to come. Most industries require large amounts of water for their work. When involved in a series of processes, the water comes into contact with heavy metals, harmful chemicals, radioactive waste, and even organic sludge.

2. Soil Pollution

Soil pollution is creating problems in agriculture and destroying local vegetation. It also causes chronic health issues to the people that come in contact with such soil on a daily basis.

3. Air Pollution

Air pollution has led to a steep increase in various illnesses, and it continues to affect us on a daily basis. With so many small, mid and large scale industries coming up, air pollution has taken a toll on the health of the people and the environment.

4. Wildlife Extinction

By and large, the issue of industrial pollution shows us that it causes natural rhythms and patterns to fail, meaning that the wildlife is getting affected in a severe manner. Habitats are being lost, species are becoming extinct, and it is harder for the environment to recover from each natural disaster.

5. Global Warming

With the rise in industrial pollution, global warming has been increasing at a steady pace. Smoke and greenhouse gases are being released by industries into the air, which causes an increase in global warming.

Melting of glaciers, extinction of polar bears, floods, tsunamis, hurricanes are few of the effects of global warming.

6. Biodiversity Loss

Industrial pollution continues to cause significant damage to the earth and all of its inhabitants due to chemical wastes, pesticides, radioactive materials etc. It affects wildlife and ecosystems and disrupts natural habitats



Ways to Control Industrial Pollution

The issue of industrial pollution is critical to every nation on the planet. With the increase of the harmful effects of industrial pollution, there are many agencies and individuals who are working to reduce carbon footprints and live and work in an eco-friendly way.

However, industrial pollution is still rampant and will take many years for proper control and regulation. Many steps can be taken to seek permanent solutions to the problem.

1. Source Control

Adopting new technology, efficient training of employees for safe use and development of better technology for disposal of waste, and being more conscientious about the use of raw materials can help control industrial pollution at the source.

2. Recycling

Recycling as much polluted water in the industries as possible by increased recycling efforts to reduce industrial pollution.

3. Cleaning of Resources

Organic methods should be adopted to clean the water and soil, such as using microbes that use heavy metals and waste as feed naturally. Cooling rooms or bins need to be developed that allow industries to recycle the water they need instead of pushing it back into the natural water source it came from.

4. Industry Site Selection

Consideration of location of the sites and the potential impact on the surrounding environment can help reduce harmful consequences.

5. Proper Treatment of Industrial Waste

By developing and implementing adequate treatment facilities for handling industrial waste and proper habits can reduce pollution.

6. Rebuilding Habitats and Afforestation

Rebuilding habitats by planting more trees and plants can help give wildlife back their homes, and the trees can help purify the air with enough oxygen, and act as a buffer against the environment.

7. Stricter Laws and Enforcement

The Environmental Protection Agency (EPA) works to correct the damage from industrial pollution. There should be more stringent rules to take action against the companies who do not follow proper protocol and more significant rewards for the companies who operate properly. It requires creating policies that prevent misuse of land.

8. Regular Environmental Impact Assessments

Being a responsible company or industry should require regular environmental impact assessments that are reported for evaluation.



On June 3, 11 workers were died and more than 40 others were injured after a massive boiler blast in an agro-chemical factory - Yashyashvi Rasayan Pvt. Ltd at Dahej, Gujrat.

According to the report submitted by six-member monitoring committee to the Hon'ble NGT, the management as a whole is responsible for the accident. The unit was engaged in manufacturing of chemicals. On the 2nd June, 2020 the chemicals known as DMS and Nitric Acid brought by different tankers were to be unloaded. Without following the strict procedure for downloading the chemicals which are hazardous, the person not operating as an operator in the tank farm area unloaded the material. However, the Nitric Acid was unloaded in the tank of DMS and the DMS was unloaded in the tank of Nitric Acid. Despite the knowledge of mixing of incompatible chemicals, the chemical engineers of the unit did not think it fit to shut down the plan but on the contrary continued their activities and even on the next day the unit operated on 3rd June, as usual. The mixture on account of heating in view of the nature of the chemicals, exploded and the fire took place and as a consequence 11 persons died and many others sustained grievous hurt.

From the report, it is clear that the management as a whole is responsible for allowing the person not appointed as a tank farm operator to unload the chemicals, when they were aware that the tank farm operator left the tank farm area. The proper procedure was not followed while unloading the chemicals. DISH which permitted the storage of incompatible chemicals and did not bother about automatic temperature measure system along with the siren/hooter in case the temp rises beyond a limit is also liable.

Boiler operators and technicians should pay close attention to three key safety devices to protect personnel, equipment, and the facility:

1. Safety valves. The safety valve is the most important safety device in a boiler or domestic hot-water system.
2. Water-level control and low-water fuel cutoff.
3. Water-gauge glass



Upcoming Events

- ✓ *Webinar on Environment Legislative Framework in India.*
- ✓ *Air Pollution Control Training (Virtual Classroom)*
- ✓ *Awareness on Occupational Health & Safety (online Training)*
- ✓ *Review on ISO 45001*



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