

A glimpse of how smog affects human life and property, and a set of remedial measures on how to reduce it, and avoid its ill effects.

## Overview

Smog refers to a combination of smoke and fog, thus forming the word smog. It is a complex mixture that is formed by various pollutants, such as nitrogen oxides and dust particles, which interact with the sunlight to form ground-level ozone.

Smog-causing pollutants are created by combustion, in particular from the burning of fuels such as oil, gas and coal. A large amount of air pollution comes from cars and trucks. In certain other cities, such as Delhi, smog severity is often aggravated by stubble burning in neighboring agricultural areas.

### What is at Risk?

Apart from its dangerous effect on human health, smog can also damage vegetation and decrease the productivity of some crops, injure flowers and shrubs and contribute to forest decline in some parts of India. Ozone can also damage synthetic materials, cause cracks in rubber, accelerate fading of dyes, and speed deterioration of some paints and coatings. It damages cotton, acetate, nylon, polyester and other textiles.



## Case Study

On 9th November 2017, The Air Quality Index (AQI) of the Delhi shot up to 451 on a scale where the maximum level is 500. AQI above 300 means 'very unhealthy' air quality. It will widespread effects in general population and can have serious impact on the sensitive group. Inhaling this air has been equated with smoking 50 cigarettes a day by doctors.

Since the mid-1990s, Delhi has undertaken some measures to curb air pollution – Delhi has the third highest quantity of trees among Indian cities and the Delhi Transport Corporation operates the world's largest fleet of environmentally friendly compressed natural gas (CNG) buses. The Delhi Metro has also been credited for significantly reducing air pollutants in the city. Burning of agricultural waste in nearby Punjab, Haryana and Uttar Pradesh regions results in severe intensification of smog over Delhi.

## Health effects

Smog is a serious problem in many cities and continues to harm human health. Ground-level ozone, sulfur dioxide, nitrogen di-oxide, carbon monoxide are especially harmful for senior citizens, children, and people with heart and lung conditions such as emphysema, bronchitis, and asthma. It can inflame breathing passages, decrease the lungs' working capacity, cause shortness of breath, pain when inhaling deeply, wheezing, and coughing. It can cause eye and nose irritation and it dries out the protective membranes of the nose and throat and interferes with the body's ability to fight infection, increasing susceptibility to illness.

Warning signs that smog may be affecting your health:

- Mild breathing difficulties
- Chest tightness and coughing
- Headache
- Eye, nose and throat irritation
- Low energy or feeling unusually tired; a chore that usually seems easy could prove more strenuous
- Aggravation of respiratory diseases (such as asthma)

## Preventing Tips

### Protect your health when air quality is poor



Avoid or reduce time spent outdoors doing vigorous activities. Wear a mask when you are outdoors. Ensure your eyes, nose, mouth, and ears are covered. While it is not a foolproof method, it certainly limits the amount of toxins we inhale.



Stay indoors if you can - a cool, well-ventilated place is best.



Avoid being outside around high traffic areas and during peak rush hour times to minimize your exposure to smog.



If you experience any breathing difficulties or respiratory complications, contact your physician or go to the nearest hospital.

### Home Made Remedies



Eat Jaggery every day to eliminate toxins and dust particles from your systems. Jaggery, a natural detox food, is packed with nutrients that help remove harmful elements from the bloodstream, lungs, respiratory tract, as well as the food pipe.



Include ginger in your diet. Ginger contains gingerol and certain compounds that can help in reducing airway inflammation and inhibit airway contraction.



Onions and garlic are also used in traditional medicine for their health benefits, including some related to the prevention and treatment of asthma.



Incorporate citrus fruits like lemon, gooseberries, oranges, etc in your diet. The vitamin C content in the citrus fruits helps boost your immunity and lessen the effects of air pollution.



A glass of milk with a teaspoon of turmeric powder every day is helpful.

### What can we do to reduce smog?

- Energy comes from a mix of sources including gas, oil and coal-fire generators that emit pollutants. Save electricity at home year-round by adjusting the heat or air conditioner and turning off lights you are not using.
- Avoid leaving your car, or any other engine, idle for long periods.
- Reduce your use of gasoline-powered equipment.
- Avoid mowing the lawn when air quality is poor.
- Don't use oil-based products such as paints, solvents or cleaners if you can avoid them; they contain volatile organic compounds (VOCs), which contribute to smog.
- Get engine tune-ups and car maintenance checks as advised by the manufacturer.
- Whenever possible, take public transit or walk to work.
- If you use a car, don't travel alone; encourage and facilitate carpooling.
- Avoid traffic congestion.
- Consider teleconferencing, instead of travelling to meetings.

As always, consult your doctor for specific medical advice on how to cope with poor air quality

### Liberty Videocon General Insurance Company Limited

10th Floor, Tower A, Peninsula Business Park, Ganpatrao Kadam Marg, Lower Parel, Mumbai - 400 013  
Phone: +91 22 6700 1313 Fax: +91 22 6700 1606 Email: [LiVSafe@libertyvideocon.com](mailto:LiVSafe@libertyvideocon.com)

[www.libertyvideocon.com](http://www.libertyvideocon.com)

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