





CATALOGUE

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Introduction
of Air Pollution



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What is Air Pollution?

A physical, biological or chemical alteration to the air in the atmosphere can be termed as pollution. It occurs when any harmful gases, dust, smoke enters into the atmosphere and makes it difficult for plants, animals and humans to survive as the air becomes dirty.

Air quality in Beijing is ranked the third worst out of 113 cities, according to China's Ministry of Environmental Protection.

What Is the Cause for Air Pollution?



1. Burning of Fossil Fuels

Sulfur dioxide emitted from the combustion of fossil fuels like coal, petroleum and other factory combustibles is one the major cause of air pollution. Pollution emitting from vehicles including trucks, jeeps, cars, trains, airplanes cause immense amount of pollution.



2. Agricultural activities

Ammonia is a very common by product from agriculture related activities and is one of the most hazardous gases in the atmosphere. Use of insecticides, pesticides and fertilizers in agricultural activities has grown quite a lot.



3. Exhaust from factories and industries

Manufacturing industries release large amount of carbon monoxide, hydrocarbons, organic compounds, and chemicals into the air thereby depleting the quality of air.



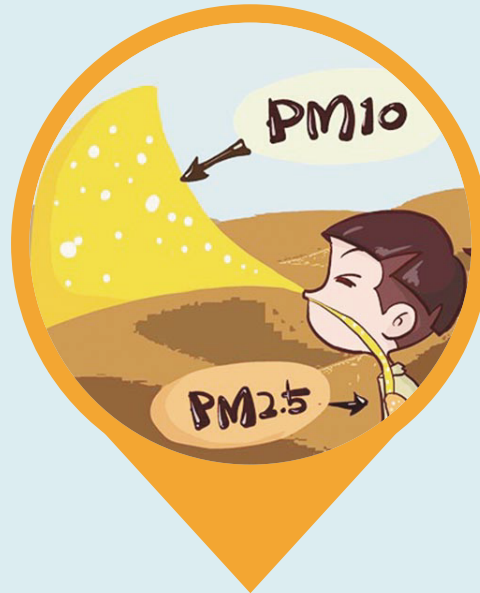
2. Indoor air pollution

Household cleaning products, painting supplies emit toxic chemicals in the air and cause air pollution.

What is PM2.5?



PM itself is a relatively complex mixture with extremely small particles and liquid droplets that float around in the air.



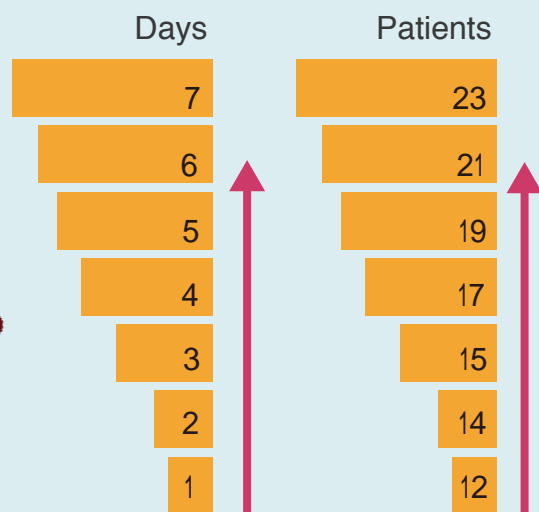
There are two kinds of particle pollution, fine particles and inhalable coarse particles. Fine particles are called PM2.5, because their size is 2.5 micrometers in diameter and smaller. Inhalable coarse particles are called PM10, because their size ranges from 10 micrometers down to larger than 2.5 micrometers.



Because fine particles (PM2.5) is much smaller than inhalable coarse particles (PM10), its negative effects on human health is more severe.



Once the air pollution lasts for several days, the emergency treatment would, as statistics indicates, increase by 7 to 8 percentage.

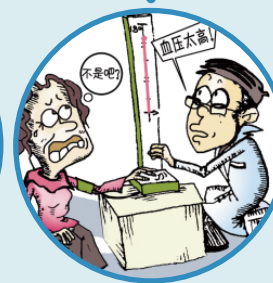


Air pollution would cause disease

The short-time but severe air pollution can also lead to the increase of morbidity of chronic disease, such as asthma and hypertension. Also, as a result of the damaged immunologic function, the resilience against external environment may decrease by degree. What is more, the influence of polluted air can be more threatening over the long term. Citizens may be more susceptible to cancer as a result of the heavy metal element and macromolecular organic compounds in the air.



Asthma



Hypertension



Cancer

Right Action VS Wrong Action Against Air Pollution

Right Action



Wearing medical sanitary masks.



Move green plants outside the house in the evening if possible for they will produce CO2 at night instead of absorb it.



Wash nose one to two times a day to keep your nose clean.



Do exercise daily or several times a week to keep yourself fit and it will strengthen your immunity. Choose some exercises which will not cause acute breathing if the air quality is not that bad.



Have a balanced diet to keep fit.

Wrong Action



Wearing professional masks like N95 or 3M masks which will make the elderly hard to breathe.



Keep green plants in the house as more as possible during the whole day.



Avoid wash face or nose in winter for it is cold outside or wash nose too many times in a day which can hurt mucous coat in your nose.



Avoid doing exercise if the air quality is somewhat bad. Actually, be exposed in the bad air for about one to two hours can just do a little harm to our health.



Eat too much so called healthy food which can clean your lungs which is advocated by traditional Chinese medical science.

The AQI is the best indicator:

Air quality grade	AQI	Air quality condition	Impact on health	Recommendations
I	0-50	excellent	nearly no pollution	act normally
II	51-100	good	acceptable, some unusually sensitive people may be slightly affected by some pollutants	some unusually sensitive people should reduce outdoor activities
III	100-150	slightly polluted	sensitive people present worse symptoms, normal people are stimulated	children, the elderly, people with heart and respiratory system disease should reduce longtime and intensive outdoor activities
IV	151-200	moderately polluted	sensitive people present even worse symptoms, affect heart and respiratory system for normal people	children, the elderly, people with heart and respiratory system disease should avoid longtime and intensive outdoor activities
V	200-300	Heavily polluted	sensitive people present obviously worse symptoms, lower tolerance of exercise, normal people generally present symptoms	Children, the elderly, people with heart and respiratory system disease should stay indoors, normal people should reduce outdoor activities
VI	>300	Seriously polluted	lower tolerance of exercise, normal people generally present obvious symptoms and some disease	children, the elderly, people with heart and respiratory system disease should stay indoors and avoid physical output, normal people should avoid outdoor activities

for people in Beijing, AQI is available on the website bellow



<http://zx.bjmemc.com.cn/web/index.aspx>

Data at each monitoring station are available:

各监测站点实时数据					更新时间: 2015-11-08 10:00
监测站点	AQI	空气质量状况	PM2.5浓度	PM10浓度	首要污染物
古城	60	良	43	0	细颗粒物 (PM2.5)
奥体中心	64	良	46	0	细颗粒物 (PM2.5)
昌平镇	54	良	38	0	细颗粒物 (PM2.5)
怀柔镇	72	良	52	59	细颗粒物 (PM2.5)
顺义新城	74	良	54	0	细颗粒物 (PM2.5)
宜园	53	良	37	0	细颗粒物 (PM2.5)
海淀区万柳	50	优	35	0	—
农展馆	63	良	45	0	细颗粒物 (PM2.5)
东四	55	良	39	0	细颗粒物 (PM2.5)
天坛	52	良	36	36	细颗粒物 (PM2.5)
定陵	63	良	45	0	细颗粒物 (PM2.5)
万寿西宫	53	良	37	0	细颗粒物 (PM2.5)

<http://www.pm25china.net/beijing/>

1 Mask



As for the mask, according to the recommendation of the doctor, the hospital-used mask is good enough.

2 Air Cleaner



Blueair 303



Philips AC4076

If the smog in the house is heavy, it's better to select filtering air cleaner, consisting of such materials as HEPA and active carbon. HEPA is used to filter the microscopic particle, and the active carbon can be used to purify poisonous air.

Recommended:
Blueair 303,
Philips AC4076



SHARP KC-Z380SW



Panasonic F-PDF35C

If the smog is not quite heavy, you can choose plasma air cleaner, which is convenient and effective to sterilize the air. But it is a little expensive.

Recommended:
SHARP KC-Z380SW
Panasonic F-PDF35C

SAMSUNG
AX022 for small house

YADU KJF2903E

The choice of the air cleaner is also determined by the size of the house. For example, the air cleaner of 120m³ per hour is a good choice for the house of 15 square meters. The larger the house, the more air should be blown per hour.

Recommended:
SAMSUNG AX022 for small house
YADU KJF2903E

As a whole, the air cleaner for the elderly should be easy to control. And it should also be energy-saving, because the senior citizens tend to save more energy.