

## SAFETY ADVICE: HAZE

### WHAT IS 'HAZE'?

Haze is a phenomenon or occurrence caused by the accumulation of fine particles in the air, which are barely visible to naked eye. These particles may occur naturally or may be an outcome of human activities like open burning or smoky discharges from factories and exhaust of motor vehicles. When these particles accumulate in large quantities and suspend in the air, they can lock out sunlight and visibility will be greatly reduced.

### AIR POLLUTANT INDEX (API)

The API is obtained from the measurement of fine particles (below 10 microns) and several gases, which are hazardous to health such as Carbon Monoxide, Sulphur Dioxide, Nitrogen Dioxide, Fine Particles (PM10), Plumbum and Ozone. The API is used as a guide for measuring air quality and its effect on health as follows (Refer Table 1):

**Table 1: General Health Effects and Precaution To Be Taken At Various Air Quality Levels**

API Value	Status	Health Effects	Precautions
0 - 50	Good	None	Practice healthy lifestyle.
51 - 100	Moderate	Possible aggravation of heart and respiratory disease	People with heart or lung disease should pay attention to symptoms.
101 - 200	Unhealthy	Increasing likelihood of respiratory symptoms, aggravation of lung diseases (e.g.: asthma) and heart disease. Possible respiratory effects to general population.	People with respiratory or heart disease, the elderly and children should avoid prolonged exertion and stay indoors when possible; everyone else should limit prolonged exertion.
201 - 300	Very Unhealthy	Significant increase in respiratory symptoms and aggravation of existing lung and heart disease; increasing likelihood of respiratory effects of general population	People with respiratory or heart disease, the elderly and children should avoid any outdoor activity; everyone else should avoid any outdoor exertion.
301 - 500	Hazardous	Serious aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; serious risk of respiratory effects in general population.	Everyone should avoid any indoor and outdoor exertion; everyone should remain indoors whenever possible
Above 500	Emergency	Premature death of ill and elderly. Healthy people will experience symptoms that affect their normal activity.	All persons should follow the instruction of 'National Safety Council', stay indoors and keep yourself updated with latest developments thru media.

## HAZE THREATENS HEALTH

Continuous hazy conditions will cause ill effects to all people especially those in the high-risk groups such as:

- Children
- The elderly
- Those with illnesses like, Asthma, Bronchitis, Pneumonia, Chronic lung diseases, Heart diseases and Allergies
- Cigarette smokers
- Those who work outdoors most of the time

## THE HEALTH EFFECTS OF HAZE

The effects of continuous exposure to the haze include:

- Itchy sensation in the throat, and coughing, increased phlegm
- Difficulty in breathing (wheeze) or nose block
- Pain, irritation, red and watery eyes
- Itchy skin rashes

## RECOMMENDATIONS FOR PREVENTION OF HAZE-RELATED ILLNESSES

### 1.0 Staying Indoors

- During haze it is advisable to stay indoors as much as possible. Although staying indoors, there are rules that need to be followed (Refer Table 2).

**Table 2 – Recommendations While Staying Indoor**

Recommended	Not Recommended
<ul style="list-style-type: none"> <li>• Close doors and windows</li> <li>• Turn on the air-conditioner</li> <li>• Wet mopping the house</li> <li>• Cooking using electric stove, microwave</li> <li>• Performing stretching exercise</li> </ul>	<ul style="list-style-type: none"> <li>• Open doors and windows</li> <li>• Turn on the fan</li> <li>• Sweeping</li> <li>• Smoking</li> <li>• Cooking in the house using gas or charcoal</li> <li>• Performing strenuous exercise</li> </ul>

- Close all windows and doors to your bedroom. Boil a kettle (electric) of water in the room and allow the steam to fill the room. Allow 10 – 15 minutes for the fine water vapor (steam) to collect the pollutants / particles in the air and settle down. After this the room should contain healthier air.

### 2.0 If Need To Be Outdoor

- Outdoors activities should be reduced as much as possible. If outdoor activities is necessary, mask need to worn (N95 mask).
- Use of N95 mask or equivalent is recommended during haze. N95 is able to filter out 95% of particulate  $\geq 0.3$  micron

**3.0 Physical Activities**

- Outdoors physical activities should be avoided as much as possible. This is because when exercising, people tend to breathe through their mouth by passing the natural filtering ability of nasal passages and hence deliver more pollution to the lung. They also tend to breathe more deeply causing particulate to lodge deeper into the lung and cause more damages.
- Reduction of physical activity reduces the dose of inhaled air pollutants and may reduce health effects of haze.

**4.0 Road Users**

- All journeys should be minimized to essential ones since the visibility could be poor during severe episode of haze. Therefore increases the risk of traffic accident.
- It also helps to prevent further deterioration of air quality by decreasing emission of smoke from vehicles.
- Air-conditioned vehicles should turn on their air-conditioned and switch to "Recirculate Inside Air" mode.
- The vehicle windows should be kept closed.
- Do not leave children unattended in the vehicle.
- Don't smoke in the vehicle.
- Turn on the lights to increase visibility of other road users to your vehicle.
- All motorcyclist / cyclist must use mask at all times. Ensure it is correctly fitted.
- All motorcyclist / cyclist must use vest with reflector to increase the visibility of other road users to your vehicle.

**5.0 General Measures**

- Always wash / bath as soon as you return from outdoors. This will minimize eye / skin irritation. For minor eye irritation try using over the counter eye drops e.g. Eye Mo.
- As far as practicable reduce opening and closing of exits/ windows of air-conditioned buildings.
- Drink a lot of water, more than 8 glasses of water per day.
- Smokers are advised to quit smoking.
- Those who suffer from diseases such as flu, bronchitis, asthma, conjunctivitis, heart diseases or chronic lung diseases should seek immediate treatment at the clinic or hospital if their condition worsens.
- Keep yourself updated with the air quality status by listening to the media.