



Lung Center of the Philippines Health Advisory

In the light of the recent events involving the eruption of the Taal Volcano last July 1, 2021, the general public is warned of the health effects of the resulting ash fall.

According to the International Volcanic Health Hazard Network (IVHHN), volcanic ash is composed of fine particles of fragmented volcanic rock (less than 2 mm diameter) formed by volcanic eruptions. The fine, airborne particles remain suspended in the air for long periods of time and may cover large areas depending on the speed and direction of the wind. Freshly fallen ashes may have acid coating and may cause irritation to the lungs and eyes.¹

HEALTH EFFECTS

Effects of ash on health may be divided into several categories: respiratory effects, eye symptoms, skin irritation and indirect effects.

A) **Respiratory.** Since volcanic ash is a form of suspended particulate matter in the air, it may easily be inhaled from the environment during ashfall and may cause the following symptoms:

- Irritated and runny nose
- Dry cough and throat discomfort
- Shortness of breath, wheezing and coughing (especially among asthmatics or those with bronchitis, as ash exposure may trigger an attack)
- Worsening of respiratory symptoms among people with preexisting lung diseases like COPD

B) **Ocular.** Volcanic ash is an abrasive particle and may cause eye irritation on exposure. Symptoms may include:

- Foreign body sensation in the eye
- Painful, itchy, or red eyes
- Mucus discharge or excessive tears

Volcanic ash may also cause scratches to the cornea.

C) **Skin Irritation.** Volcanic ash may cause skin irritation and itching upon contact

D) **Accident hazard.** Roof collapse may result because of the weight of too much volcanic ash accumulating on rooftops.

Heavy ashfall may present as a serious driving hazard due to limited visibility

The ash may also cause surfaces to be slippery and may lead to vehicular and fall accidents

GENERAL PREVENTIVE MEASURES

1. Keep windows and doors closed to prevent entry of ash and gases
2. Use N-95 disposable mask while outdoors will provide >98% filtration efficiency. If unavailable, the following options may provide protection: ²
 - a) 2 standard surgical masks (efficiency of 89-91%)
 - b) Single layer cloth material 29% efficiency, while triple layered cloth material (fold a bandana 3x) provide 40% efficiency
 - c) Wetting the bandana or surgical mask did not give additional benefit.
3. Avoid using air-conditioning units during heavy ashfall. You may continue using window type and split type airconditioning during light ash fall. ³
4. Wear goggles to protect the eyes while outdoors, especially when cleaning up fallen ash. Avoid using contact lenses.
5. Keep skin covered to prevent irritation by ash particles
6. Avoid driving during ashfall when possible
7. Avoid drinking water contaminated with ash
8. Secure sources of clean water as eruptions may cause disruption or contamination of the water supply.
9. When cleaning up fallen ash, it would be best to wet the ash to prevent the particles from flying while sweeping.
10. Clear ash from roofs and gutters to prevent collapse from the weight or clogging of drains

Post-exposure recommendations

1. For those with pre-existing respiratory conditions like asthma or COPD, aside from taking precautionary measures stated above, make sure you are using your preventive inhaler medications regularly. Consult your doctor once symptoms develop.
2. If with skin or eye irritations, wash or rinse area with water and consult your doctor if symptoms persist.

Sources:

1. <https://www.ivhcn.org/information/health-impacts-volcanic-ash>
2. <https://www.sciencedirect.com/science/article/pii/S438463917308003>
3. <https://news.abs-cbn.com/news/01/13/20/refrain-from-using-aircon-during-heavy-ashfall-says-concepcion-industries>
4. PCP Statement health bulletin no. 2020-001 January 12, 2020
5. PCCP Statement Health bulletin January 13, 2020