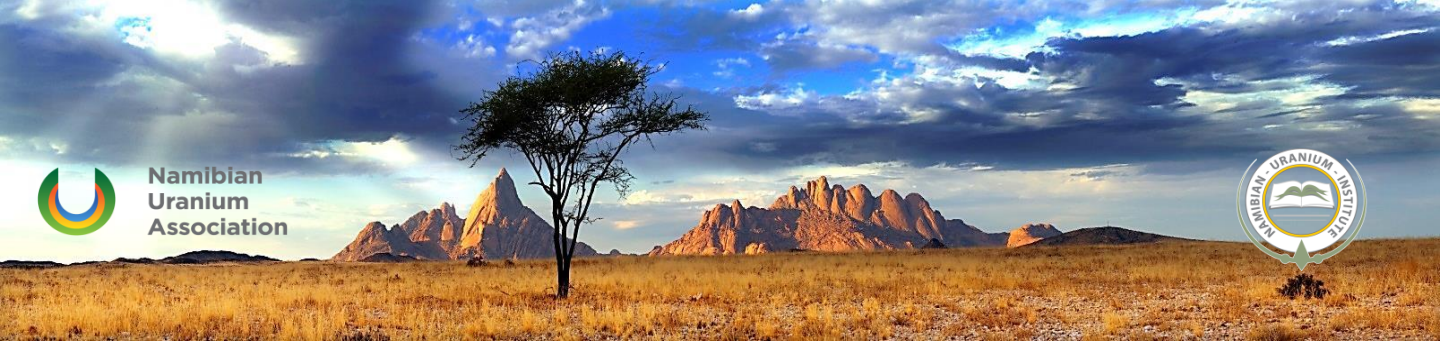


FACTSHEET: Dust

What is Dust?

What we call dust is known to scientists as particulate matter. This is a mixture of organic and inorganic substances of various shapes and sizes. It is divided into coarse and fine particulate matter because the wind can transport fine dust much farther than coarse sand grains. Strong winds may be able to carry particles as large as 0.15 mm (150 micrometres). As shown in the diagram below, these grains may creep or jump (saltation) for short distances. Generally, dust particles larger than 75 to 100 micrometres do not travel far and are trapped behind plants or rocks close to the source of emission. Fine dust, on the other hand, is picked up and suspended in the air so that it can be transported over great distances.

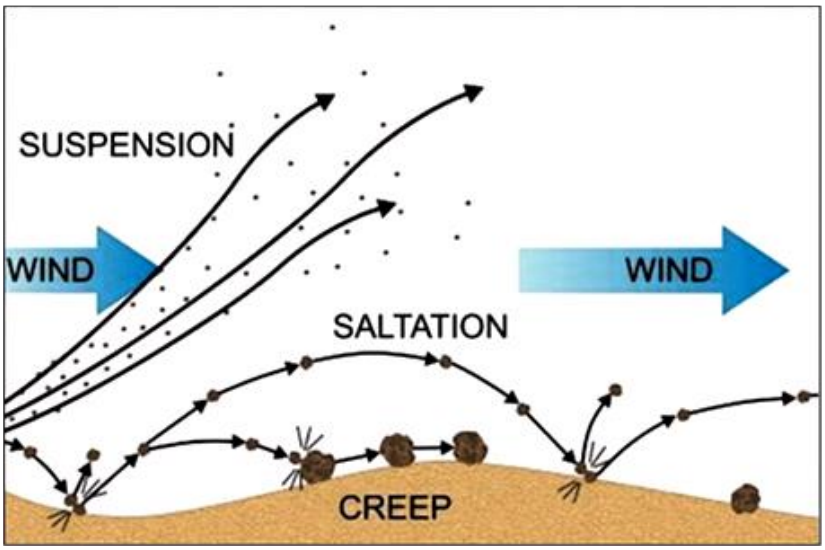
Health Effects of Dust

Suspended, visible dust is also known as 'nuisance dust', which is harmless. Only the tiny particles of inhalable dust influence human health. The potential of particles to be inhaled and deposited in the lung is a function of the particle size, shape and density, with size being the main factor. Large dust particles can enter the nose, but they are deposited on hairs or at the bends of the nasal passages. Smaller particles pass through the nose and are deposited in the tracheobronchial and pulmonary regions. Particles are removed by impacting with the wall of the bronchi. As the air-flow decreases near the terminal bronchi, the smallest particles settle on the alveolar membrane. PM2.5 dust that gets into the alveoli (tiny air sacs in the lungs) has emerged as the major cause of health problems, whereas the bronchi have a self-cleaning function that ejects dust particles together with mucus.

Recognising the importance of dust particle sizes, international air quality guidelines are given for each of the following size fractions:

- total suspended particulates
- thoracic (PM10) and
- respirable (PM2.5) particulates

PM10 means particles smaller than 10 micrometres (0.01 mm), while PM2.5 refers to tiny particles smaller than 2.5 micrometres.



Source: NUA