
Impact Category. Acidification Potential

Brief summary. Acidification relates to an increase in hydrogen ions (H⁺) deposited to a receiving medium. This alters the pH of that medium which may cause damage to the organic and inorganic materials contained therein.

Units. kg SO₂-equivalents

Detailed summary. The chief acidifying chemicals are oxides of sulphur (SO_x), oxides of nitrogen (NO_x), hydrochloric acid (HCl) and ammonia NH₃, and a significant source of these chemicals is from fossil fuel combustion [1]. The acidification potential of a pollutant is the propensity of that chemical to form acidifying H⁺ ions, and chemicals are characterised accordingly.

Acidifying chemicals may emanate from large distances away and are usually distributed by air [2]. The deposition of acidifying chemicals can be direct or via precipitation and the impact is dependent on the sensitivity of the receiving medium. Accordingly site specific characterisation of acidification often yields significantly different results to ready made characterisation factors [3].

In New Zealand, levels of acidifying pollutants have been decreasing and acid rain is not a significant issue [4]. However increasing industrialisation and the unique flora and fauna of New Zealand may mean certain ecosystems are particularly vulnerable.

References.

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 3. Seppälä, J., et al., Country-dependent characterisation factors for acidification and terrestrial eutrophication based on accumulated exceedance as an impact category indicator. International Journal of Life Cycle Assessment, 2006. **11**(6): p. 403-416.
 4. MfE, Sulphur Dioxide. Ministry for the Environment, Wellington. 2006.
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