

pH Report

SAMPLER DATA:

Sampler ID: 130384
Test Start (dmy): 30.12.2019
Test End (dmy): 16.01.2020
Test Length (days): 17

SCOPE:

This test is an important indicator for metal corrosion potential caused by contamination which is acidic (low pH) or caustic (high pH). The test result shows the pH of the airborne contaminants collected by the sampler during the sampling period.

TEST RESULTS (blue)

pH of contamination: 6.800 pH

Good. pH is within the 5 to 8.5 range and has little corrosive impact on most metals.

Information

When contaminants have a pH between 5 and 8.5, the pH has little corrosive impact on most metals. However, the corrosion rate increases rapidly when the pH is outside of that range. pH levels of 5 or below can lead to extreme corrosion rates and premature pitting of metallic objects. Studies* have shown that even small amounts of low pH (acidic) contaminants can corrode metals.

Metals typically develop a passivation layer with moderately alkaline (high pH) exposure, which lowers the corrosion rate as compared to acidic (low pH) exposure. While the passivation layer provides a measure of immunity to further corrosion, corrosion rates can be expected to be comparable in the transpassive region (i.e. highly alkaline versus highly acidic).

Possible sources of corrosive contaminants include smoke, chemicals and acids. This measurement is particularly important in assessing insurance claims resulting from damages caused by smoke or other particle events. In chemistry, pH is a scale used to specify how acidic or basic a water-based solution is. Acidic solutions have a lower pH, while basic solutions have a higher pH.

* Source: "Comparative investigations of corrosive fire gas condensates" EMPA - Swiss Federal Laboratories for Materials Testing and Research.