# Activity 2.3 Why do companies include acids into cleaning products? – Intended effects9

## Apparatus and materials

* Water heater with lime scale build-up
* Essence of vinegar or decalcifying substance as bought in the store

## Safety

Observe all safety measures regarding the handling of acids! Wear your safety goggles!

## Procedure

* Dilute some essence of vinegar with water in a ration of 1:5.
* Pour the solution into the water heater and boil it. Rinse afterwards and compare the look of the interior of the water heater.
* For using the decalcifying substance as bought in the store, follow its instructions.
* According to the degree of lime scale build-up, you may have to repeat the process a few times.

## Disposal

* After diluting, pour the solutions down the sink.

9 Source (adapted from):

Freienberg, Julia (2002). „Chemie fürs Leben – ein neuer Ansatz für den Chemieunterricht am Beispiel der Behandlung von Säuren, Laugen und Salzen in der Sekundarstufe I sowie Anknüpfungsmöglichkeiten für die Sekundarstufe II“, Dissertation, University of Rostock 18.12.2002.