

## Nitric Acid: Introduction

---

Nitric acid,  $\text{HNO}_3$ , is an oily, yellowish liquid, which is a strong acid and good oxidising agent. Its main use is in getting nitrogen (originally from the air) into compounds. Nitric acid is made naturally by rain water reacting with nitrogen oxides in the air. These oxides are made when the high temperatures in lightning force nitrogen and oxygen to react together.



### Some background

The process of making nitric acid from ammonia was developed by Friedrich Wilhelm Ostwald at the beginning of the 20th century. This allowed Germany to make explosives during the First World War without relying on the import of nitrates from Chile, which were blockaded by the British navy. The ammonia for the process was made, from nitrogen in the air, by the Haber process, also developed in Germany at about this time.

Ostwald was awarded the Nobel Prize in 1909. Although he did research on ions, for most of his life he refused to believe in the existence of atoms - he saw them as a useful theoretical concept only.

### Did you know?

Nitric acid plants are often situated on the same site as ammonia plants.

A replacement catalyst gauze costs about £250,000.

Aqua regia, a mixture of concentrated nitric and hydrochloric acids, dissolves gold.

Concentrated nitric acid is stored in brown bottles as it is decomposed by light.