

# Nitrification Encyclopedia Article

## Nitrification

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# Nitrification

A biological process involving the conversion of nitrogen-containing organic compounds into **nitrates and nitrites**. It is accomplished by two groups of chemo-synthetic bacteria that utilize the energy produced. The first step involves the oxidation of ammonia to nitrite, and is accomplished by *Nitrosomas* in the **soil** and *Nitrosoccus* in the marine **environment**. The second step involves the oxidation of **nitrites** into **nitrates**, releasing 18 kcal of energy. It is accomplished by *Nitrobacter* in the soil and *Nitrococcus* in salt water. Nitrification is an integral part of the **nitrogen cycle**, and is usually considered a beneficial process, since it converts organic **nitrogen** compounds into nitrates which can be absorbed by green plants. The reverse process of nitrification, occurring in oxygen-deprived environments, is called **denitrification** and is accomplished by other **species** of bacteria.