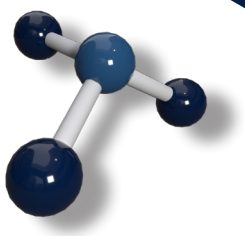
Gas Factsheet

Ammonia



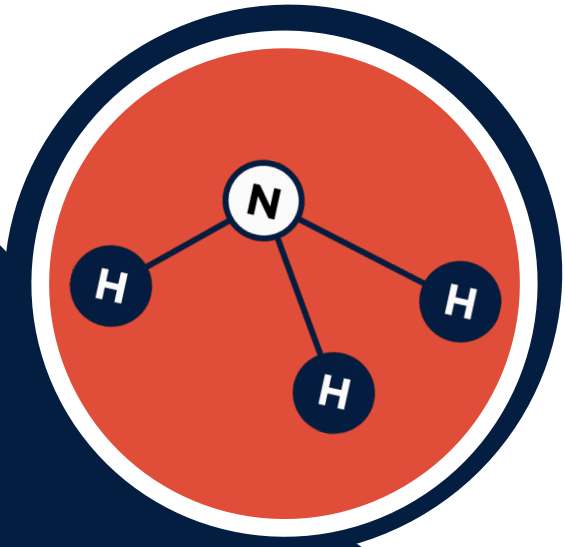
Formula: NH_3
CAS: 7664-41-7
Source: Fertiliser, Refrigerant gas, Manufacturing & Cleaning products
Detection Method: Tiger, Tiger^{LT}, Cub, Falco, TVOC 2, GasClam 2 & GasCheck G

Ammonia (NH3) is one of the most commonly produced industrial chemicals in USA. It is used in industry and commerce, and also exists naturally in humans and in the environment. Is essential for many biological processes and serves as a precursor for amino acid and nucleotide synthesis. In the environment, it is part of the nitrogen cycle and is produced in soil from bacterial processes. Ammonia is also produced naturally from decomposition of organic matter, including plants, animals and animal wastes.

NH_3 - HIGHLY IRRITATING GAS WITH A PUNGENT, SUFFOCATING ODOUR

Exposure Effects To Ammonia

Ammonia is one of the most abundant nitrogen-containing compounds in the atmosphere. It is an irritant with a characteristic pungent odour that is widely used in industry. Inasmuch as ammonia is highly soluble in water and, upon inhalation, is deposited in the upper airways, occupational exposures to ammonia have commonly been associated with sinusitis, upper airway irritation, and eye irritation. Acute exposures to high levels of ammonia have also been associated with diseases of the lower airways and interstitial lung.
Small amounts of ammonia are naturally formed in nearly all tissues and organs of the vertebrate organism. Ammonia is both a neurotoxin and a metabotoxin. In fact, it is the most common endogenous neurotoxin. A neurotoxin is a compound that causes damage to neural tissue and neural cells. A metabotoxin is an endogenously produced metabolite that causes adverse health effects at chronically high levels.



Ammonia Levels In The Environment

Ammonia is very important to plant, animal, and human life. It is found in water, soil, and air, and is a source of much needed nitrogen for plants and animals. Most of the ammonia in the environment comes from the natural breakdown of manure and dead plants and animals.

Ammonia does not last very long in the environment. Because it is recycled naturally, nature has many ways of incorporating and transforming ammonia. In soil or water, plants and micro-organisms rapidly take up ammonia. After fertilizer containing ammonia is applied to soil, the amount of ammonia in that soil decreases to low levels in a few days. In the air, ammonia will last about 1 week.

Ammonia has been found in air, soil, and water samples at hazardous waste sites. In the air near hazardous waste sites, ammonia can be found as a gas. Ammonia can also be found dissolved in ponds or other bodies of water at a waste site. Ammonia can be found attached to soil particles at hazardous waste sites. The average concentration of ammonia reported at hazardous waste sites ranges from 1 to 1,000 ppm in soil samples and up to 16 ppm in water samples.

Ammonia Detection Instruments

Fixed Instruments


Semi-Portable Instruments


Portable Instruments


Personal Instruments

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