

What is ammonia ?

Ammonia is a compound of hydrogen and nitrogen and is the second-most-widely produced commodity chemical globally. It is a colourless gas with a distinct smell produced naturally in the environment in air, soil, water, plants, and animals, including humans. It is also produced by industry for use in agriculture as fertiliser, a refrigerant gas, for purification of water supplies and in the manufacture of plastics, textiles, dyes, and other chemicals.

Ammonia is also emerging as a potentially efficient fuel and energy carrier. Fortescue is a global leader in developing ways that green ammonia can potentially be used to power ships, trucks, and cars.

Is green ammonia safe?

Ammonia is safe provided safe storage, handling, operating, and maintenance procedures are in place and being followed. Ammonia is, however, a toxic and corrosive gas that can cause harm to humans if released into the environment or mishandled.

Ammonia is flammable at concentrations of approximately 15% to 28% by volume in air. It can explode if released in an enclosed space with a source of ignition present. Fortunately, ammonia has a very strong smell, therefore a leak can be identified at much lower concentrations.

Used across the globe for well over a hundred years, the requirements for the safe production, storage and use of ammonia are well established. Applicable industry codes and standards and best practice guidelines will be followed by Fortescue.

One of Fortescue's core values is safety, and this will be a key consideration when we are ready to produce, store and transport green ammonia. Fortescue follows the principal of inherently safer design which attempts to eliminate hazards where possible, reduce them through substitution, or to control them through engineering solutions.

How is green ammonia stored?

Ammonia can be compressed and stored as a liquid using modest pressure or refrigeration. Ammonia becomes liquid at minus 33 degrees Celsius, which makes it efficient to store as a liquid in double walled, high-integrity tanks.

How is green ammonia transported?

Ammonia can be transported in a variety of ways. On land, ammonia is usually transported as a pressurised liquefied gas by rail, by road in tanker trucks or by pipeline. Ammonia can also be transported via ship, typically in a refrigerated state.

How does Fortescue manage risks to our people and communities?

The health and safety of our people and communities is Fortescue's highest priority. Processing facilities, storage areas and transportation routes will all be built and operated in accordance with applicable standards and located safe distances away from adjacent communities.