

# Oxygen and Nitrogen Gas Plant - Manufacturing Plant, Detailed Project Report, Profile, Business plan, Industry Trends, Market research, Survey, Manufacturing Process, Machinery, Raw Materials, Feasibility study, Investment Opportunities, Cost and Revenue

## Description:

Liquid oxygen must be handled with all the precaution required for safety with any cryogenic fluid. Gaseous Oxygen is authorized for shipment in cylinders, tank, and car and tubetrailers. Liquid Oxygen is shipped as a cryogenic fluid in insulated cylinders, insulated tank trucks and insulated tank cars. Gaseous Nitrogen is non-corrosive and inert and may consequently be contained in system constructed of any common metals and designed to withstand safely the pressure involved. At the temperature of liquid nitrogen, ordinary carbon steels and most alloy steels lose their ductility and are considered unsatisfactory for liquid nitrogen service.

## Uses and Applications

Applications of Oxygen include: It is used extensively in medicine for therapeutic purposes, for resuscitation in asphyxia and with other gases in anaesthesia. It is also used in high altitude flying, deep sea diving, and as both an inhalant and power source in U.S. space program. Industrial applications include its very wide utilization with acetylene, hydrogen and other fuel gases for such purposes as metal cutting, welding, hardening, scaring, cleaning and dehydrating. Oxygen helps increase the capacity of steel and iron furnaces on growing scale in the steel industry. One of its major uses is in the production of synthesis gas from coal, natural gas or liquid fuel. Synthesis gas is in turn used to make gasoline, methanol and ammonia. Oxygen is similarly employed in manufacturing some acetylene through partial oxidation of the hydrocarbons in methane. It is also used in the production of nitric acid, ethylene and other compounds in the chemical industry. Applications of Nitrogen include: Agitation of colour film solution in photographic processing, blanketing of oxygen sensitive liquids, and of volatile liquid chemicals, The deaeration of oxygen sensitive liquids, The degassing of non ferrous metals, It is used in food processing and packing, Inhibition of aerobic bacteria growth, Magnesium reduction of aluminium scrap, Pressurization of air craft tires and emergency bottles to open landing gear, Purging and filling of electronic devices, The purging and filling of pipelines and related instruments and the treatment of alkylid resins in the paint industry etc.

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