

India Liquid Oxygen Market By Type (Vertical Storage Tank v/s Horizontal Storage Tank), By End User (Aerospace, Submarine, Gas Industries, Medical, Others By Region, Competition Forecast & Opportunities, 2018-2028F

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Abstracts

India liquid oxygen market is anticipated to project robust growth in the forecast period, owing to rapidly increasing COVID-19 cases all around the globe. Liquid oxygen is the liquid form of the molecular oxygen extracted from the oxygen found in the air. It serves as a portable source of breathing oxygen in various commercial & military airplanes and for medical purposes. Due to its cryogenic nature, liquid oxygen can cause materials (it comes into contact with) to become extremely brittle. Additionally, liquid oxygen has a strong oxidizing effect and will cause organic things to burn quickly and vigorously. Moreover, several substances, like coal briquettes, carbon black, etc., can explode unexpectedly when exposed to liquid oxygen and ignited by flames, sparks, or the impact of light blows. Asphalt and other petrochemicals frequently display this characteristic leading to the rise in demand for Indian Liquid Oxygen. India has seen a surge in demand for medical oxygen due to the COVID-19 pandemic. The use of liquid oxygen has become vital to treat critical COVID-19 patients who require oxygen support. Liquid oxygen is used for medical purposes in hospitals, as well as in various industries like welding and cutting, chemical manufacturing, and refining.

When the second wave peaked, close cooperation with foreign vendors accelerated the nation's purchase and delivery of 29,600 premium oxygen concentrators. According to National Health Mission, in hospitals all over India, there are 1,242 liquid medicinal oxygen tanks with a 15,622 tonnes capacity. This represents an increase of 131% in storage capacity and a 104% increase in the number of tanks. Thus, these factors are increasing the demand of the overall market. The Indian liquid oxygen market is

expected to grow at a rapid pace in the coming years due to the increased demand from various industries and the healthcare sector. The major players in the market are investing heavily in expanding their production capacity and distribution networks to meet the growing demand. With the government's support, the Indian liquid oxygen market is expected to witness significant growth in the coming years.

Rapid Advances in Aeronautics

The sudden shortage of Indian liquid oxygen during the COVID-19 pandemic had adverse effects on other industries other than medicine, such as aerospace and automotive. A rocket engine developed by a startup AGNIKUL COSMOS (the world's first single-piece 3D-printed rocket engine) uses liquid oxygen as a fuel (propellant). Liquid Oxygen is also employed in cryogenic engines, which provide more force with each kilogram of cryogenic propellant as compared to other solid and liquid propellant rocket engines. Liquid oxygen is commonly used in aeronautics due to its high oxidizing ability and high density, which makes it an efficient and powerful oxidizer for rocket propellants. In Rocket engines, Liquid oxygen is used as an oxidizer, which provides the oxygen required for the fuel combustion reaction. Liquid oxygen is preferred over other oxidizers because it has a high density, which allows for a higher fuel-to-oxidizer ratio, resulting in a higher specific impulse (i.e., the amount of thrust produced per unit of propellant consumed), thus augmenting the growth of Indian Liquid Oxygen Market. In addition, Indian Liquid oxygen is used in cold gas thrusters, which are small rocket engines used for maneuvering satellites and spacecraft in orbit. The Liquid Oxygen is stored in a pressurized tank and expelled through a nozzle to produce thrust, leading to the huge demand for Indian Liquid Oxygen. Liquid oxygen can also be used in airbreathing engines, which are designed to provide propulsion by using atmospheric air as the oxidizer. The Indian Space Research Organization (ISRO) conducted a hot test for the rocket engine for the development of launch vehicles. According to IBEF, India is the 7th largest civil aviation market in the world and is expected to come to 3rd position in the civil aviation market within the next 10 years. According to IATA, India will be the world 3rd largest air passenger market by 2030, overtaking China and the United States.

High Medical Liquid Oxygen Demands in Medical Sector Fueling the Market Growth

COVID-19 has abominably affected lung functioning which hampers the oxygen supply to various parts of the human body. Hence, oxygen is required for patients that are hit by the COVID-19 pandemic. One way in which this oxygen can be supplied and transported elsewhere is through Liquid Medical Oxygen which is a high-purity oxygen

usually employed for medical treatments. Indian Liquid oxygen is also used in cryotherapy, a medical treatment that involves exposing the body to extremely low temperatures to treat certain conditions, such as warts, skin tags, and cancerous tumors. In cryotherapy, liquid oxygen is applied directly to the affected area, which freezes and destroys the abnormal tissue leading to the growth of India Liquid Oxygen Market. Liquid oxygen is also used in life support systems for critically ill patients, such as those in intensive care units (ICUs). These systems deliver a high concentration of oxygen to the patient's lungs, which helps improve their breathing and can save their life leading to the huge demand for Indian Liquid Oxygen.

Furthermore, according to Union Home Secretary, all stocks of liquid oxygen should be made available to the government for use for medical purposes. No exception is allowed for any industry regarding the use of liquid oxygen. "Oxygen Express" is operated by the Indian Railways to certify bulk and quick oxygen demands for COVID-19 patients, and a green corridor was built to facilitate the quick movement of these trains. India increased its overall oxygen capacity, including liquid medical oxygen (LMO) and pressure swing adsorption (PSA) plants, to over 20,000 tonnes per day in the past year after the second wave of COVID-19 infections, led by the Delta strain. This is almost a 20-fold increase. Hence, the demand from the medical industry is propelling the growth of India Liquid Oxygen Market.

Market Segmentation

India liquid oxygen market is segmented based on Type, By End User, By Region and Company. Based on Type, the market is further fragmented into vertical storage tanks vs. horizontal storage tanks. Also, segmentation of the market on the grounds of the End User is done into aerospace, submarine, gas industries, medical, and others. Market is further divided by region into North, South, East, and West.

Recent Developments

With the aid of programs like the Oxygen Demand Aggregation Systems (ODAS) and the Oxygen Digital Tracking Systems (ODTS), states may now monitor and guarantee the delivery of oxygen at various points throughout the supply chain. Monitoring consumption and predicting demand can also be done using artificial intelligence and digital connectivity.

Through the PM Cares fund, the central government has supported 1,222 PSA plants, which deliver 1,750 metric tonnes of captive oxygen daily. In addition,

many plants have been established in states, thanks to government initiatives and business sponsorship.

To meet the growing demand for liquid oxygen, many companies in India have expanded their production capacity. In February 2021, the Indian Oil Corporation (IOC) announced plans to set up a new oxygen plant in Bihar with a production capacity of 150 tonnes per day.

In December 2020, the Adani Group announced plans to set up a 1,000 tonne per day liquid medical oxygen plant in Gujarat.

In March 2020, the government announced that it would provide incentives for the production of medical oxygen, including a waiver of excise duty and customs duty on the import of equipment used for the production of medical oxygen.

Company Profiles

INOX Air Products, Ellenbarrie Industrial Gases, India Glycols Pvt Ltd, Universal Boschi, Delhi Cryogenic Products Private Limited, Reliance Industries Ltd, Praxair India Pvt. Ltd are some of the key players in the India Liquid Oxygen Market.

Report Scope:

In this report, India liquid oxygen market has been segmented into the following categories, in addition to the industry trends, which have also been detailed below:

India Liquid Oxygen Market, By Type:

Vertical Storage Tank

Horizontal Storage Tank

India Liquid Oxygen Market, By End User

Aerospace

Submarine

Gas industries

Medical

Others

India Liquid Oxygen Market, By Region:

North

South

East

West

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in Indian liquid Oxygen market.

Available Customizations:

With the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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