



IndianOil

Cryogenics & Explosives

Leadership in
Niche Businesses

CRYOGENICS & EXPLOSIVES



Future-Ready *with*
Passion *for* Excellence





Crown Jewel of Govt. of India

Maharatna Company;
Gol own 54.06%

Contribution to exchequer of ₹1,90,670 crore in FY 18

Largest Refiner in the Country

11 refineries with 80.70 MMTPA Capacity

33% of Domestic Refining Capacity



Pan-India Pipeline Infrastructure

About 13,850 km pipelines for crude oil & products

49% share in crude oil and product pipelines (by length)



Leading Market Share Across Portfolios

Over 44% petroleum market share in 2017-18 with over 47,800 touch points



Integrated Operations Across the Energy Value Chain

2nd largest domestic player in Petrochemicals

E&P: 9 domestic and 11 overseas blocks

19% share in imported gas market



Strong Focus on Innovation through R&D and Alternative Sources

611 active patents as on 31st March 2018

Renewed focus on Alternative Energy



Driven by a Management Team That Delivers Results

Consistent revenue growth (CAGR: 6.40% since 2010-11)



CRYOGENICS BUSINESS

IndianOil has a thriving Cryogenics Business with expertise in design & production of state-of-the-art vacuum super-insulated Cryogenic Storage & Transport Vessels. The Corporation is one of the largest manufacturers of cryogenics containers in the country. We offer a diverse range of products for long-term cryogenic preservation of biological samples. A wide range of super-insulated liquid Nitrogen tanks are available for laboratories, industries and oilfield service applications. We also offer turnkey Cryobank management systems with the fully automated controls. Our Cryogenics business also caters to requirement of pressure vessels in refining, fertilisers and gas industries.

During 2017-18, IndianOil clocked sales of 28,782 units of cryocans and cryovessels over the previous year's sale of 27,694 units.

IndianOil's state-of-the-art manufacturing facilities for cryogenics containers are ISO 9001:2008 certified and located at Nashik, Maharashtra. Super insulation technology is used to maintain high pressure & minimise evaporation loss. Safety equipment such as relief valves are used. Inner vessel is made up of stainless steel and external outer vessel is made up of carbon steel for strength. The cryo-containers are designed using international standards like ASME / ENCode under third-party inspection.

To reach Liquefied Natural Gas to customers located away from natural gas pipelines, IndianOil has pioneered the concept of 'LNG at Doorstep' (LNG by road) in India that is in service for almost a decade.



Product Range



Cryobiology Containers

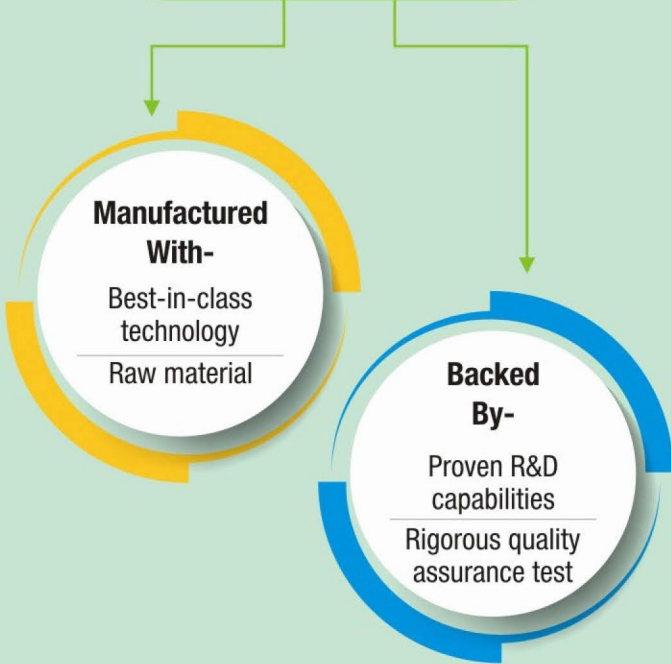
(BIS certified for IS:11552 standards)

- Cryocan for biological applications
- Cryocan for transport applications

Cryovessel

- Wide-mouth cryogenic containers of 340-1200 litres capacity for bulk preservation of semen, vaccines and biological samples, etc.

Each Cryovessel is

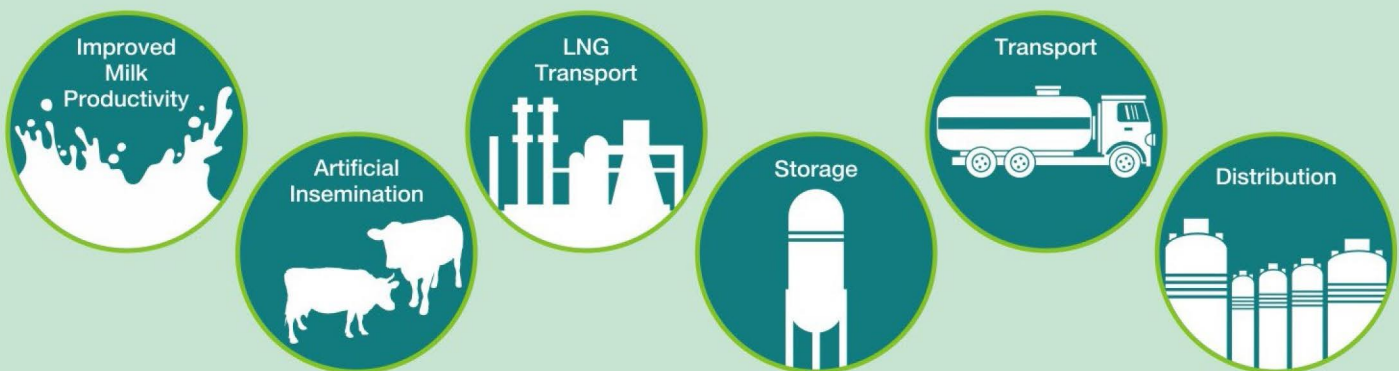


Industrial Application Containers

- For storage and transportation of industrial gases (such as oxygen, nitrogen, argon and ethylene) in liquid phase at cryogenic temperatures
- Standard and custom-built containers are manufactured
- Range of cryo-containers includes:
 - Vertical storage containers
 - Horizontal storage containers
 - Bulk transport containers mounted on vehicles, and articulated transport tankers
 - Custom-built complete solutions in liquefied gas storage and transportation

Depending on the requirement of the customer and the application, containers are also designed for specific use. These specialised containers are used in various process applications in production industries as well as storage and transportation of liquefied gases.

Products Developed under 'Make in India' Initiative



EXPLOSIVES BUSINESS

IndianOil is the brand leader among bulk explosives in India. Marketed under the brand name Indogel, it offers a range of bulk explosives for surface mining. Indogel site-mixed bulk explosives are among the best researched and developed formulations currently available in the country.

During the year 2017-18, the Explosives business of IndianOil recorded the highest ever production and sales of explosives – clocking a y-o-y growth of 12% on sales of 1,77,000 MT of explosives.

Advantage IndianOil

A highly qualified & skilled team; vast range of products, solutions, equipment & technical resources, over 35 years of experience and countrywide network across India have

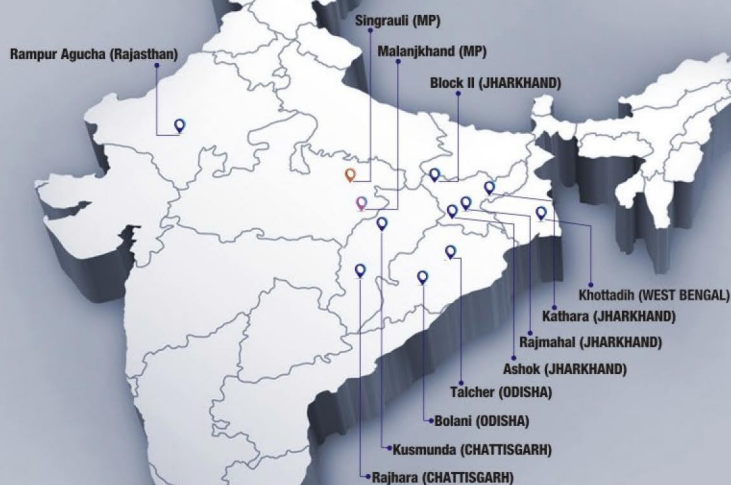
made IndianOil an acknowledged leader in the field of site-mixed bulk explosives in India. Even under the most trying blasting conditions, IndianOil has proven technologies to deliver tangible benefits to its customers across the entire mining operation.

Benefits of Indogel Bulk Explosives

While retaining high shock energy and stability, Indogel site-mixed bulk explosives ensure safety while improving blasting efficiencies in a variety of surface mining applications.

- Attains explosives property only after mixing & delivery in the blastholes
- Onsite blending, sensitising and ease of delivery
- Variable energy to meet blasting requirement for all types of rocks
- Choice of various blend ratio-on the bench

Countrywide Network



12 site-mixed Bulk Explosives Plants to serve the customers right at their mining locations.



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