



भारत सरकार

GOVERNMENT OF INDIA

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन  
**Petroleum and Explosives Safety Organisation**

(पूर्व नाम – विस्फोटक विभाग)

(Formerly- Department of Explosives)

"ए-ब्लॉक 4, पाँचवा तल, केन्द्रीय कार्यालय परिसर",

"A" Block, 5<sup>th</sup> Floor, CGO Complex,

सेमिनरी हिल्स, नागपूर - 440 006 (महा)

Seminary Hills, Nagpur- 440006

Website : <http://peso.gov.in>

Email: [explosives@explosives.gov.in](mailto:explosives@explosives.gov.in)

दूरभाष/ Telephone : 0712-2510248

फैक्स/ FAX : 2510577

कार्यालयीन उद्देश्य के सभी पत्रादि "मुख्य विस्फोटक नियंत्रक" के पदनाम से भेजे जाए उनके व्यक्तिगत नाम से नहीं.

All communications intended for this Office should be addressed to the 'Chief Controller of Explosives' and NOT to him by name.

संख्या: D-21013/PBL/18-Exp

दिनांक /Nagpur, dated : 22/04/2020

### CIRCULAR

Sub: Standard Operating Procedures (SOP) for conversion of Industrial Oxygen Cylinders and Inert Gas Cylinders (Nitrogen, Argon & Helium only) to Medical Oxygen Cylinders in the wake of COVID-19 pandemic- reg.

In wake of the outbreak of the COVID-19 pandemic in the country and to ensure uninterrupted supply of Oxygen to hospitals and other health care facilities; DPIIT, Ministry of Commerce and Industry, Government of India has advised PESO to formulate a Standard Operating Procedure for conversion of Industrial oxygen cylinders and Non toxic Non flammable Gas Cylinders (Nitrogen, Argon and helium).

The Industrial gas cylinders Filling Units covered under License Form E & F of the Gas Cylinders Rules, 2016 may convert their industrial and inert gas cylinders to Medical Oxygen Cylinders in their endeavor of national interest.

A copy of the SOP is enclosed herewith. It shall be obligatory to adopt Standard Operating Procedure (SOP) during the conversion.

The copy of the same is made available in PESO's website:  
<https://peso.gov.in/index.aspx>.

  
(M.K. Jhala)

Jt. Chief Controller of Explosives (H.O.D.)

To:

1. Shri R.K. Sood, Deputy Secretary Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Udyog Bhavan, New Delhi: 110 107: *For information.*
2. Heads of Circle and Sub Circle Offices of PESO and Nodal Officers of PESO: *They are advised to give wide publicity about the Circular and SOP*
3. The President, All India Industrial Gases Manufacturers Association, 215, Square One, C-2 District Centre, Saket, New Delhi: 110 017: *He is advised to inform the gas cylinder filling plants and persuade for conversion of cylinders duly adhering to the SOP.*
4. All the Nodal Officers monitoring the inventory of Oxygen and Gas Cylinders: *They are advised to note and take necessary action*

**S O P for conversion of Industrial Oxygen Cylinders to Medical Oxygen**

Following procedure is required to be adopted for conversion of Industrial oxygen cylinders to medical oxygen service.

1. Cylinder shall be completely degassed.
2. Removal of Valve and cleaned with cleaning solution, completely dry and flush with air.
3. Cleaning of cylinder internally as well as externally with mild detergent and completely de-grease with cleaning solution (May refer ISO 11621). *Organic solvents like carbon tetra chloride should not be used being toxic.*
4. Cylinders shall be again filled with water/warm water.
5. Drain and dry with air.
6. During the COVID-19 crisis Industrial Oxygen valves (without chrome plating) may be used and fitted.
7. The cylinder shall be painted as required for medical oxygen( IS 3933)
8. For any details please refer ISO 11621.
9. The cylinders may be converted only at E and F licensed premises.
10. Record of converted cylinders shall be maintained in the following format and intimate on mail to [seeniraj@explosives.gov.in](mailto:seeniraj@explosives.gov.in)

License No.( E and F)

Cylinder No.	Make	Water capacity	Last Hydrotest date	Valves code/chrome plated Yes/No

**SOP for conversion of non toxic and non flammable high pressure industrial gas cylinders i.e Argon, Nitrogen and Helium to cylinders for medical oxygen service during COVID-19 Pandemic.**

Following procedure is required to be adopted for conversion:

I. The Cylinders shall be completely degassed, adequately cleaned from inside and outside, purged and/or evacuated to remove any contaminations like water, oil, hydrocarbons etc., if any after degassing and safe removal of valve. Refer to ISO 11621 for detailed cleaning procedures. Organic solvents like Carbon Tetra Chloride shall not be used as they are toxic.

II. Ensure that the cylinders have passed last cylinder periodic examination/re-test as per Rule 26 of the Gas Cylinders Rules, 2016. However, the periodic testing of cylinders is extended from 5 years to 5 years 3 Months for those cylinders which are due for statutory hydro testing on 31.03.2020 because of the ongoing COVID-19 pandemic and shall be reverted to 5 years once the Government of India declares that the pandemic is over. The extension of cylinder retest is also applicable to industrial Oxygen cylinders used in medical Oxygen service. The records of such cylinders shall be maintained.

III. Cylinders shall be fitted with appropriate valves according to the medical gas in line with IS:3224. In this case, change valve with IS 3224 No.20 (3/4 BSP RH External thread) to IS outlet No.3 (5/8 BSP, RH, internal thread) for Oxygen. During the COVID-19 crisis industrial oxygen valves (without chrome plating) may be fitted and used in medical oxygen service since the outlets are identical. Where yoke type valves are needed to be installed for small cylinders, it shall be according to IS 3745.

IV. Colour-code of cylinders and warning labels shall be according to "IS 3933: Colour identification of gas cylinders and related equipment intended for medical use". This is also applicable to industrial oxygen cylinders which are converted to medical Oxygen service.

V. These activities shall be carried at the E&F licensed premises only.

VI. The records of such converted cylinders shall be maintained.

VII. Record of converted cylinder shall be maintained in the following format and intimated on mail to [seeniraj@explosives.gov.in](mailto:seeniraj@explosives.gov.in).

Cylinder Filling & Storage license No.

Cylinder Sr.No	Make	Water capacity in (in litres)	Existing service (Argon/Nitrogen/Helium)	Last Hydrotest date	Valve code-Chrome plated (Yes/no)