

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE**

**LOK SABHA  
UNSTARRED QUESTION NO. 2837**

**TO BE ANSWERED ON WEDNESDAY, AUGUST 03, 2016**

**SILICA AEROGEL**

**2837. SHRI M. CHANDRAKASI:**

**Will the PRIME MINISTER be pleased to state:**

- (a) whether the ISRO has developed the lightest synthetic material called Silica aerogel or Blue-air and if so, the details thereof;**
- (b) the advantages and uses of the material; and**
- (c) whether ISRO can claim patent rights for this product, its process and if so, the details thereof and if not, the reasons therefor?**

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG &  
PENSIONS AND IN THE PRIME MINISTER'S OFFICE**

**(DR. JITENDRA SINGH):**

- (a) As a spin-off of Research & Development in Space Technology, Vikram Sarabhai Space Centre (VSSC) of Indian Space Research Organisation (ISRO) has developed Silica aerogel or Blue-air. Aerogels are**

**synthetic porous ultra-light materials derived from gel, in which the liquid component of the gel is replaced with air. Aerogels exhibit extremely low density and low thermal conductivity.**

- (b) It is extremely light in weight, has excellent thermal resistance and acts as a good insulator. Due to its very high thermal resistance, silica aerogel could be used for - (i) insulating jackets & foot insoles in boots for extreme cold conditions, (ii) insulating rocket engines, (iii) painting windows to keep them cool or warm, (iv) insulating pipelines.**
- (c) ISRO has assessed that the process through which the product is realised is patentable and necessary steps are being taken to filing the patent.**

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