

WADA Bans Xenon And Argon

The World Anti-Doping Agency has banned Xenon and Argon despite doping experts yet to find an effective test for athletes using these gases.

This ban was introduced amid concerns that athletes were breathing these gases to improve the growth of red blood cells that boost stamina. The anti-doping agency believes there is sufficient evidence of the potential of these so-called noble gases (because they are inert and don't react with anything else) to ban them. Earlier this year, it was reported in media that athletes in Russia have been using Xenon and Argon for years to boost stamina ahead of international competition. The company that developed techniques to help athletes prepare using Xenon has a "[badge of honor](#)" on its website from the Russian Olympic Committee for "the organization and conduct of inhalation remediation".

Xenon at less than 100 parts per billion is one of the rarest natural gas components in the atmosphere. It has been used in medical imaging, lamps, and flash bulbs. This gas has been used in Russia for decades as an anesthetic because of its lack of side effects.

Inhaling Xenon, mixed with oxygen, is rumored to improve stamina as it increases ability of the body to produce a protein known as hypoxia inducible factor 1, or HIF1. This protein stimulates the production of natural [erythropoietin](#) (EPO) that plays a critical role in regulating the count of red blood cells in the body. The more of these cells, the more amount of oxygen is transported in the body, and the greater the athletic stamina.

Earlier this year, the executive committee of WADA decided to ban Argon and Xenon by adding them to the prohibited list from this month. WADA's science director Dr Olivier Rabin remarked we had serious information that xenon was being used and added that we believe it has been used in the preparation for some major events. Dr Rabin added WADA scientists are close to developing a direct test for the gas. Rabin remarked we had some preliminary pilot results that do indicate that detection is not too much of an issue but we just need to make it solid and robust in the anti-doping context and make sure that any result in the future will be accepted by a court.

When asked if the test would be in place by the end of the year, Dr Rabin said he cannot give a specific date, we usually do not, what he can tell is that the science is very solid and certainly we will do our best, now that the gases are on the prohibited lists to make sure there are detection methods available as soon as possible.

There could be dangers to the health of the athletes if they use large amounts of xenon or argon, says WADA. Dr Ben Koh, a former athlete and an expert on [sports medicine](#), rejected this argument and said xenon is actually safer than hypoxic tents, in terms of heart failure, trauma to the ear and to the lungs, the risks are very well documented from hypoxic tents, on the other hand, xenon gas from the published literature seems to be quite safe.