

Autopsy of former Russian agent Litvinenko was 'one of the most dangerous' ever due to radioactivity

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A handout image released 20 November 2006 shows former Russian spy Alexander Litvinenko at the University College Hospital, in central London.



Image to the left - former Russian spy Alexander Litvinenko at the University College Hospital, in central London.

LONDON — The body of former Russian agent Alexander Litvinenko was so radioactive that his post-mortem was “one of the most dangerous” ever undertaken and the isotope that killed him so rare it would not have been discovered by a normal autopsy, a pathologist said Wednesday.

Nathaniel Cary, who conducted the post mortem examination, told an inquiry into the death that Litvinenko’s corpse was so hazardous that it was left in place for two days after he died in a London

hospital on Nov. 23, 2006, from poisoning with radioactive polonium-210. Cary said the autopsy conducted by medics in protective clothing and ventilation hoods was “one of the most dangerous post-mortem examinations ever undertaken in the Western world.”

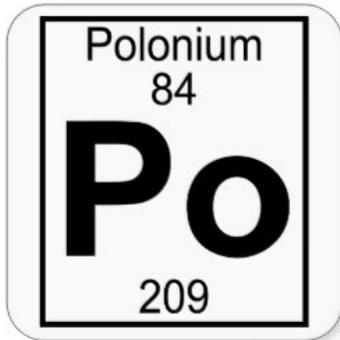
Litvinenko, a former KGB agent turned Kremlin critic, fell violently ill on Nov. 1, 2006, after drinking tea with two Russian men at a London hotel, and spent three weeks in hospital before he died. On his deathbed, Litvinenko accused Russian President Vladimir Putin of ordering his assassination, and Britain has also alleged that the Russian state was involved.

Cary said he did not know of another confirmed case of polonium poisoning anywhere in the world, and the isotope’s presence would not have been discovered by routine post-mortem toxicology tests. He said the cause of death would likely have remained a mystery was it not for a urine test conducted by a doctor, on a hunch, shortly before Litvinenko died.

Ben Emmerson, lawyer for the dead man’s widow Marina Litvinenko, suggested that polonium’s rarity made it an ideal assassination weapon. Police Det. Insp. Craig Mascall told the inquiry that the investigation remains active, and the men who met Litvinenko – Dmitry Kovtun and Andrei Lugovoi – are still wanted for murder.

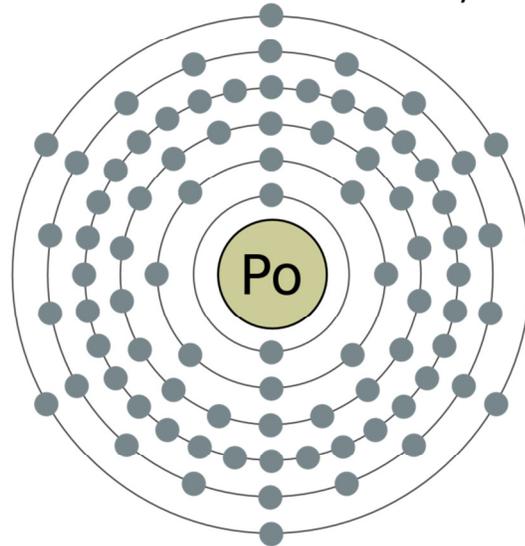
Marina Litvinenko, the widow of former Russian intelligence officer Alexander Litvinenko, speaks to the media as she leaves at the end of a pre-inquest review at Camden Town Hall in London, Thursday, Dec. 13, 2012. A lawyer has told a British inquest into the poisoning death of former Russian agent Alexander Litvinenko that an initial assessment of evidence showed that the Russian state was responsible for his murder. Hugh Davies, the inquest's counsel, told a London hearing that a "high-level assessment" of material provided by the British government "does establish a case for the Russian state's culpability" in the murder of Litvinenko, who died in November 2006 after drinking tea laced with the rare radioactive isotope polonium-210 at a London hotel. They have denied involvement, and Russia has refused to extradite them. The judge leading the inquiry has invited them to give evidence by video-link, but he has no power to compel them.

Lugovoi, a former KGB agent who is now a Russian lawmaker, told The Associated Press that evidence being presented at the inquiry was “nonsense.” “Such evidence simply does not exist because Russia wasn’t involved,” Lugovoi said at his office in Russia’s parliament. Lugovoi also said the inquiry was designed to “whitewash” the involvement of British intelligence agency MI6. Litvinenko’s family says he was working for MI6 when he died.



84: Polonium

2,8,18,
32,18,6



What do you think the difference is between Polonium 209 and Polonium 210 – at the atomic level?

Fast facts on polonium-210

Here are some key points about polonium-210. More detail and supporting information is in the body of this article.

- Polonium-210 is a rare radioactive metal discovered by Marie Curie in the late 19th century.
- It has a half-life of 138 days, decaying to lead.
- During its radioactive decay, polonium-210 emits alpha particles.
- The alpha particles are a very high-energy form of radiation but do not travel far - they can be blocked by a few sheets of paper, and lose all their energy after travelling through a few centimeters of air.
- Polonium-210 is therefore poisonous only once it has entered the body.
- It is powerfully and lethally toxic - by weight of toxin, polonium poisoning is billions of times more potent than cyanide poisoning. Polonium is one of the most toxic substances known.
- It would be very difficult to obtain polonium for poisoning, necessitating access to a nuclear reactor. But once acquired, polonium is relatively safe to transport and hide from detection.
- Polonium-210 as a poison must be breathed in, swallowed, or gain entry to the body through broken skin.
- A high enough dose of polonium by mouth will lead to acute radiation syndrome - the severity of which, and time to illness and death, is related to the size of the radiation dose absorbed.
- The liver, bone marrow and other soft tissues are particularly sensitive to absorption of polonium radiation. The acute radiation syndrome is signaled by vomiting, hair loss, and reductions in white blood cells.
- Specialist radiation detectors are needed to diagnose contamination with polonium-210.
- Treatment is limited to supportive care against the effects of the radiation, and reversing the poisoning is limited - and confined to cases that are identified early enough.
- The outcome between death or recovery is largely down to the size of the radiation dose absorbed by the body.
- Former spy Alexander Litvinenko was assassinated by polonium poisoning in London in 2006. British police identified that the polonium-210 had been introduced via a teapot.
- The UK's Litvinenko Inquiry into the murder is holding public hearings in 2015.

Read through the facts about Polonium-210. Highlight or underline – all scientific terms that you don’t understand.