

# WHAT ARE NOVICHOK NERVE AGENTS?

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Novichok agents are organophosphate nerve agents. They were reportedly developed in Russia from the 1970s onwards. Novichok agents are supposedly 5 to 8 times more deadly than VX, another deadly nerve agent.



1970s–1990s

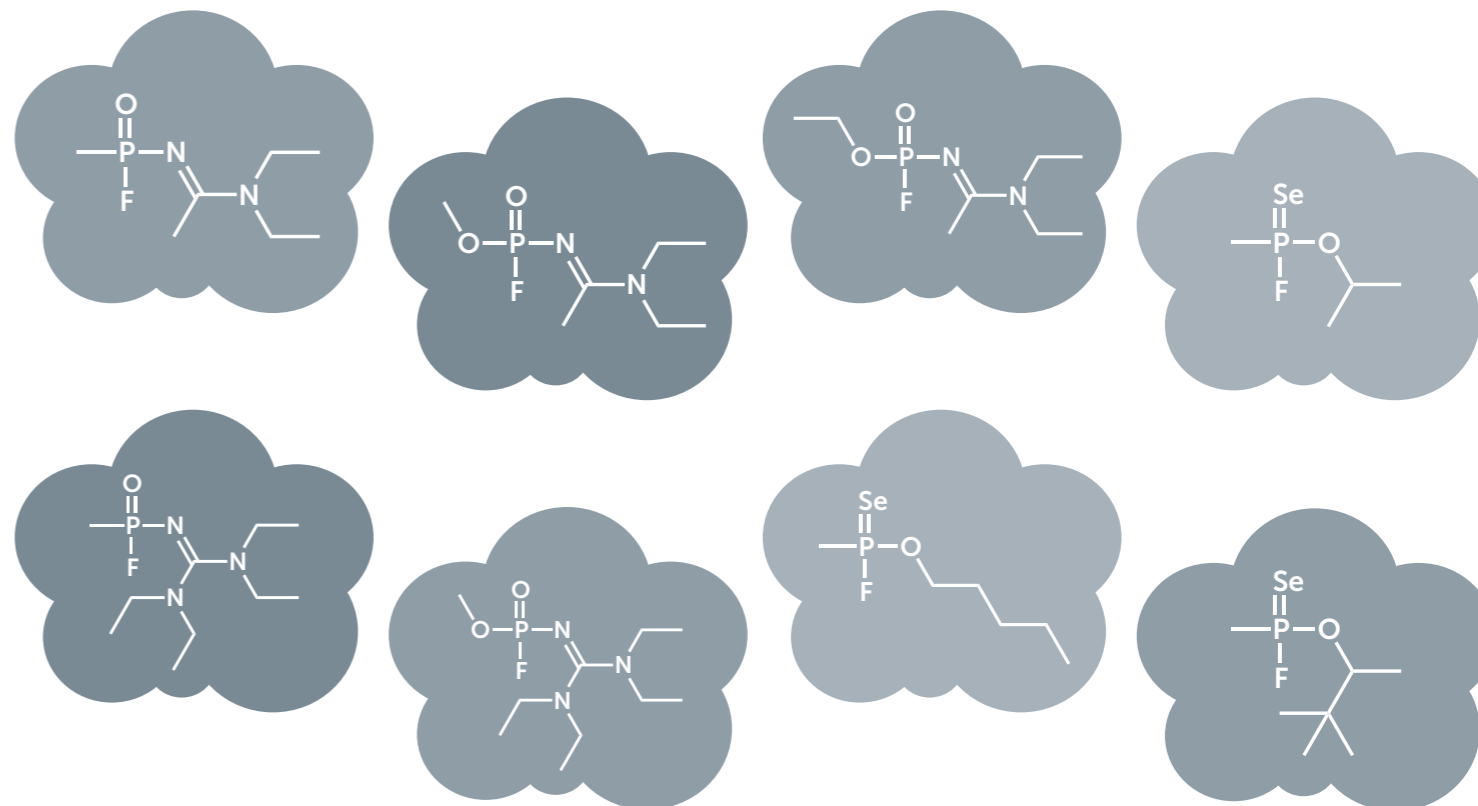


**VX**

median lethal dose  
**10**  
milligrams per person  
(skin exposure)

Novichok agents can be delivered as a liquid, fine powder, or gas. It has been claimed that safer precursors can be mixed to make them on demand, though this has been refuted by other sources.

## POTENTIAL STRUCTURES OF NOVICHOK AGENTS



Exact structures of Novichok agents are unknown. The structures above are those suggested by Vil Mirzayanov, the Russian chemical weapons scientist who exposed their development. Nerve agent exposure is usually treated with atropine and pralidoxime.

## EFFECTS OF NOVICHOK AGENTS



Stop breakdown of acetylcholine



Cause contraction of the pupils



Excessive mucus, tears, saliva & sweat



Nausea, gastrointestinal pain & vomiting



Bronchoconstriction & chest tightness



Spasms, convulsions & loss of bowel control



Coma & eventual death

