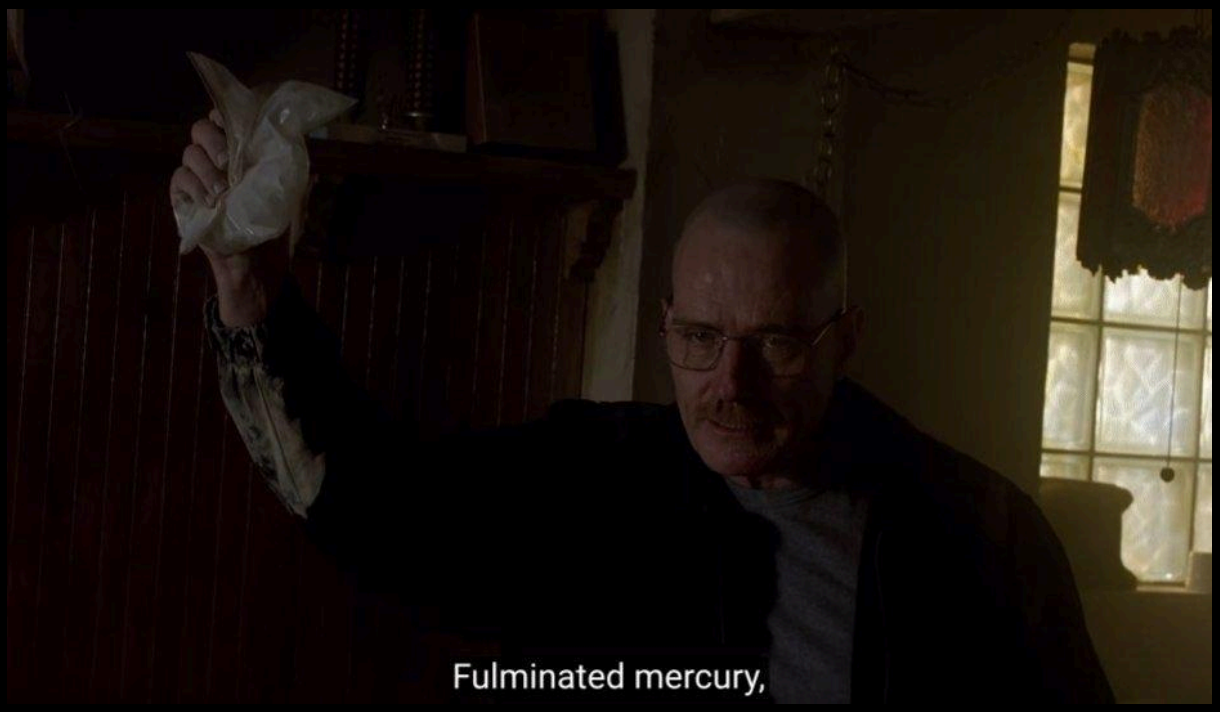
By Apóstolos. You may also know me as The Spectre or The Overlord

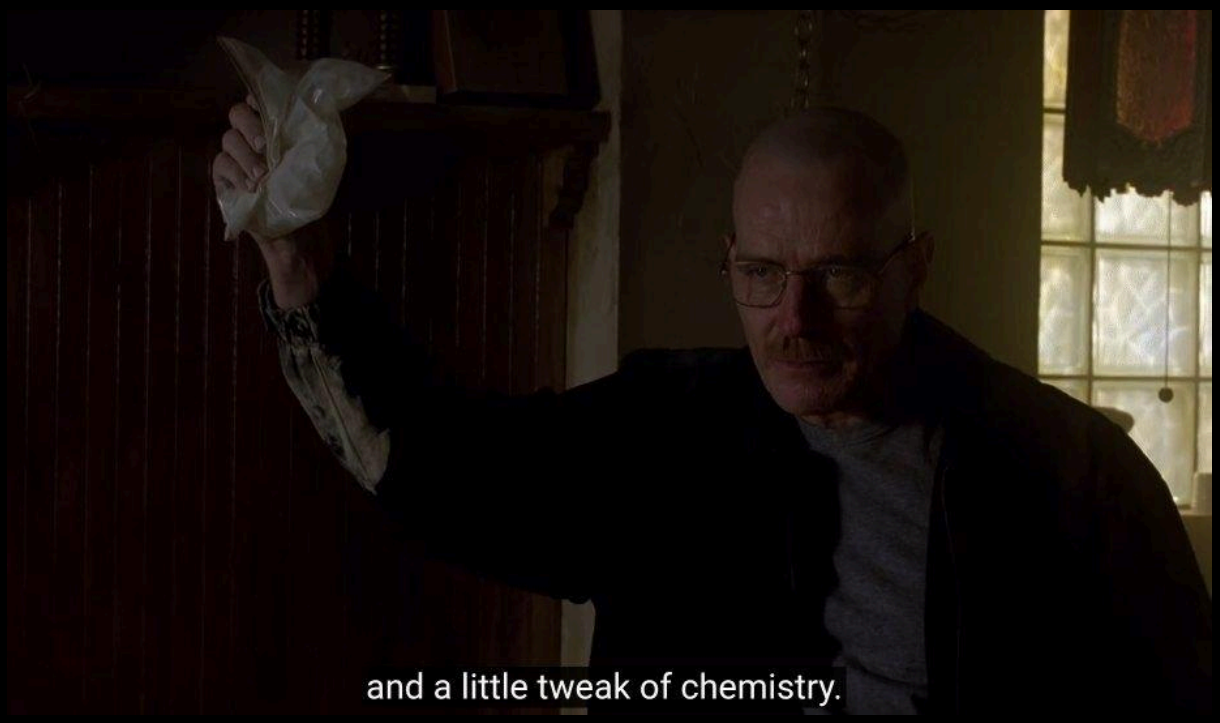
My YT:

https://youtube.com/@empathicphantom?si=Ixxt8GABtFvAlZeG

My cord: ozimandiazz

BASE PREMISE OF THE FEAT:





Walter creates a special modifier for fulminate of mercury that increases its destructive capacity and effectiveness. This modifier:

- massively increases the destructive potential of a fulminate of mercury explosion compared to standard fulminate of mercury.

- reduces the amount of impulse required to be transmitted to the object to trigger the explosion.

To evaluate how much the explosive capacity of the modified mercury fulminate has increased, we should compare it with the standard version:

WW throws a crystal containing approximately 50 grams of modified mercury fulminate. Ordinary mercury fulminate has a relative efficiency of around 40 per cent compared to its TNT equivalent. This means that 50 grams of the chemical contains a blast equivalent to approximately 20 grams of TNT, which is similar to the explosive power of a large firecracker.







However, this (modified) crystal destroys all the windows in an office, shatters the furniture and blows apart a reinforced concrete room. In reality, the explosion of 20 grams of TNT can cause serious localised injuries or hand injuries, but it cannot structurally damage a building or blow out distant windows.
To destroy the internal structure of the building, it would have taken an explosion of between 1 and 5 kilograms in TNT equivalent inside a standard-sized room.

Low ball: 1,000/20 = 50 times

High ball: 5,000/20 = 250 times

Therefore, the modifier created by Walter increases the destructive potential of mercury fulminate from 50 to 250 times.





These SSs show, that WW only needed to impart the minimum possible impulse to the object by throwing it into the air, without it coming into contact with any fixed object, as the mercury exploded in mid-air without touching the floor.
To trigger the explosive effect of mercury, the object must be given an impulse of approximately 0.73–0.90 kg·m/s (which corresponds to an impact energy of approximately 0.38–0.58 J); this is the minimum mechanical impulse required to detonate explosive mercury. However, the modified mercury required a much smaller impulse, equivalent to a normal throw. Mercury fulminate ($Hg(CNO)_2$) is an extremely sensitive primary explosive; but air resistance and the slight

acceleration generated by a person throwing it do not create sufficient friction, heat or impact to exceed the low activation energy barrier required for detonation.

The impressiveness of the feat:

The classical chemistry of mercury fulminate ($Hg(CNO)_2$) is strictly limited by thermodynamic constants. Activation energy and specific detonation energy are the fundamental parameters that make 50 grams of the substance equivalent to a ‘large firecracker’. Walter, however, performs the seemingly impossible: he transforms the very ‘energy density’ of the molecular structure by integrating a certain modifier. The creation of a modifier that increases the brisant effect of fulminate of mercury by 50-250 times implies that WW has carried out a synthesis that transforms the primary explosive into a highly efficient energetic compound.

Detonation activation without contact with a surface.
->
Detonation of conventional fulminate requires an impulse of around 0.5 J. WW creates a substance whose sensitivity lies on the threshold of a ‘critical state’. WW probably added sensitisers to the composition, which transition the substance into a metastable state, where the air resistance upon being thrown becomes sufficient to exceed the activation threshold. This requires precision calculations: the substance must be stable enough not to explode in the creator’s hands, yet critically sensitive to the slightest change in pressure caused by aerodynamic drag.

Such modifiers, which multiply the destructive potential whilst maintaining mass, are the subject of hypothetical research in the field of high-energy-density materials (HEDM). WW is basically achieving what academic science will only reach after decades of research.

No such modifier has yet been discovered in our reality. WW basically creates a substance whose characteristics and properties are decades or even centuries ahead of modern standards in materials science, representing a huge epistemological leap.

Big appreciation to MythBusters for conducting a detailed experiment to check the realism of the scenes in Breaking Bad:

https://www.scienceabc.com/pure-sciences/what-is-fulminated-mercury-breaking-bad-scientific-accuracy

https://share.google/Zw1UiLhiAof1SnWj5