

# Elon Musk rocket explosion caused masses of dangerous chemicals to pollute atmosphere

SpaceX's seventh test flight that was destroyed less than ten minutes after launch may have rained a significant amount of metallic dust down into the atmosphere

Scientists have revealed that the rapid 'disassembly' – or explosion – of [Elon Musk's SpaceX's Starship](#) rocket in mid-January may have released significant amounts of harmful [air-pollution](#) into the Earth's atmosphere. The [rocket's](#) upper stage blew up at an altitude of around 90 miles and rained scorching fragments of metal across the Caribbean.

This was SpaceX's seventh test flight as Elon Musk continues his quest to reach [Mars](#). The uncrewed test flight was destroyed less than ten minutes after its launch from [Texas](#) on January 16.

It was intended to soar across the Gulf of Mexico on a near loop around the world. However, instead it plunged back to Earth through the atmosphere and may have generated 45 metric tons of metal oxides and 40 metric tons of nitrogen oxides.

In particular, nitrogen oxides are known for their potential to damage Earth's protective ozone layer. University College London atmospheric chemistry researcher Connor Barker, who recently published an inventory of rocket emissions and pollutants from satellite re-entries in the journal Nature, posted the estimates on his LinkedIn profile but stressed the numbers were a rough, preliminary estimate.

Exactly how much pollution the Starship mishap produced in the higher atmosphere is hard to tell and scientists are not sure how much of the megarocket's mass burned up and how much of it fell to Earth.

It's likely that many tons splashed down into the ocean. Fortunately, the Starship upper stage is made of stainless steel and not aluminium like satellites and upper stages of

many other rockets including [SpaceX](#)'s Falcon 9 – advertised as the first orbital class rocket capable of reflight.

The incineration of aluminium is what worries many scientists. When aluminium burns at high temperatures during a satellite re-entry, it produces aluminium oxides, or alumina, a white powdery substance known for its potential to damage ozone and change the reflectiveness of Earth's atmosphere.

The SpaceX mishap in January also caused widespread disruptions to air traffic. At Miami international airport, some flights were reportedly grounded and dozens of commercial flights were diverted to other airports or altered course to avoid potential debris.