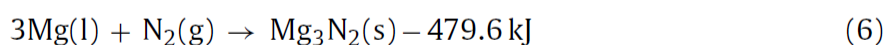
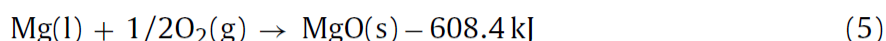
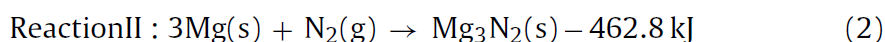
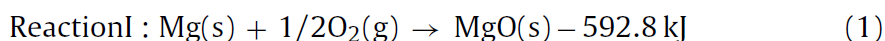


## Is Nitrogen inert enough?

### Not when group 2 metals are concerned

**For Mg – see:** Chunmiao, Y.; Lifu, Y.; Chang, L.; Gang, L.; Shengjun, Z., Thermal Analysis of Magnesium Reactions with Nitrogen/Oxygen Gas Mixtures. *J. Hazard. Mater.* **2013**, 260, 707-714.

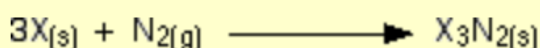


<http://www.chemguide.co.uk/inorganic/group2/reacto2.html>:

#### The reactions with air

The reactions of the Group 2 metals with air rather than oxygen is complicated by the fact that they all react with nitrogen to produce nitrides. In each case, you will get a mixture of the metal oxide and the metal nitride.

The general equation for the Group is:

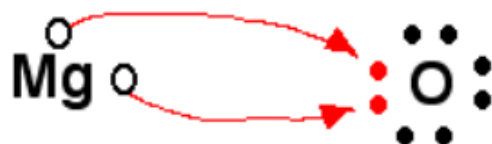


The familiar white ash you get when you burn magnesium ribbon in air is a mixture of magnesium oxide and magnesium nitride (despite what you might have been told when you were first learning Chemistry!).

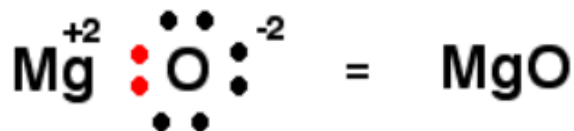
<http://chemistry.elmhurst.edu/vchembook/143Amgoxide.html>:

4
<b>Be</b>
12
<b>Mg</b>
20
<b>Ca</b>
38
<b>Sr</b>
56
<b>Ba</b>
88
<b>Ra</b>

## Magnesium Oxide

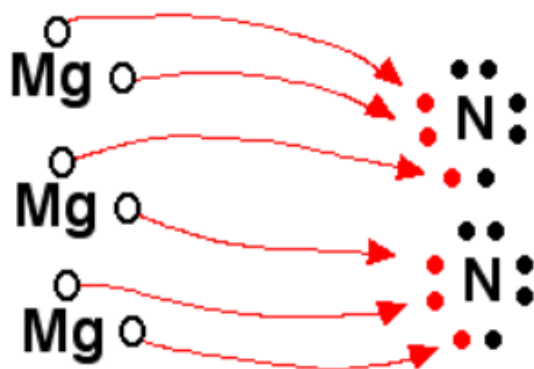


Magnesium loses 2 electrons, and Oxygen gains 2 electrons to have an Octet.

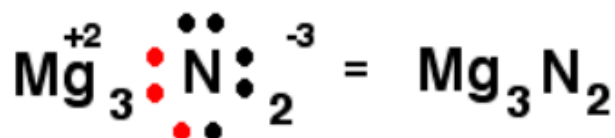


C. Ophardt, c. 2003

## Magnesium Nitride



Magnesium loses 2 electrons, and Nitrogen gains 3 electrons to have an Octet.



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