

# CAIE Chemistry A-level

## Topic 27- Group 2

(A level only)

Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



What is the trend in thermal stability of  
Group 2 nitrates?



What is the trend in thermal stability of Group 2 nitrates?

Thermal stability increases down the group. This is because as you go down the group, charge density of the ion decreases. This means that the ability of the Group 2 ion to polarise a nitrate ion decreases.



What is the trend in thermal stability of  
Group 2 carbonates?



# What is the trend in thermal stability of Group 2 carbonates?

Thermal stability increases down the group. This is because as you go down the group, charge density of the ion decreases. This means that the ability of a Group 2 ion to polarise a carbonate ion decreases.



# Explain the trend in the solubility of Group 2 hydroxides



## Explain the trend in the solubility of Group 2 hydroxides

The solubility of Group 2 hydroxides increases down the group. Lattice dissociation enthalpy and enthalpy change of hydration both decrease down the group, but lattice dissociation enthalpy decreases more. This means enthalpy change of solution is more exothermic further down the group.



Explain the trend in solubility of Group 2 sulfates





## Explain the trend in solubility of Group 2 sulfates

As you go down the group, the solubility of Group 2 sulfates decreases. This is because lattice dissociation enthalpy and the enthalpy change of hydration both decrease as you go down the group but hydration enthalpy decreases more. This leads to the enthalpy change of solution becoming more endothermic.

