

A level Chemistry A

H432/01 Periodic table, elements and physical chemistry

Question Set 2

- 1 (a) This question is about Group 2 and Group 17 (7).
Barium chloride can be prepared from barium hydroxide in a neutralisation reaction.
Write the equation for this reaction. State symbols are **not** required. [1]
- (b) The reactivity of the Group 2 elements Mg–Ba increases down the group.
Explain why. [3]
- (c) (i) On gently heating, the compound KClO_3 reacts as shown in the equation.
$$4\text{KClO}_3(\text{s}) \longrightarrow \text{KCl}(\text{s}) + 3\text{KClO}_4(\text{s})$$

This reaction is an example of disproportionation.
State what is meant by *disproportionation* and use oxidation numbers to show that disproportionation has taken place. [3]
- (ii) What is the systematic name for KClO_4 ? [1]
- (d) (i) Two changes are described below.
For each change,
 - write an equation, including state symbols,
 - state and explain how the entropy changes.
The reaction of aqueous barium nitrate with aqueous sodium sulfate.
Full equation with state symbols
Explanation of entropy change [2]
- (ii) The change that accompanies the standard enthalpy change of atomisation of iodine.
Equation with state symbols
Explanation of entropy change [2]

Total Marks for Question Set 2: 12

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