

- An atom that has an electron configuration of 2-8-13-2 is classified as
 - an alkali metal
 - an alkaline earth metal
 - a transition element
 - a noble gas element
- In which of the following periods of the Periodic Table are transition elements found?
 - 1
 - 2
 - 3
 - 4
- Which element in Period 5 of the Periodic Table is a transition element?
 - Sr
 - Sb
 - Ag
 - Xe
- Which represents the correct electron distribution of a transition element in the ground state?
 - 2-8-8-1
 - 2-8-8-2
 - 2-8-18-2
 - 2-8-18-3
- Which physical characteristic of a solution may indicate the presence of a transition element?
 - its density
 - its color
 - its effect on litmus
 - the effect on phenolphthalein
- Which set of properties is most characteristic of transition elements?
 - colorless ions in solution, multiple positive oxidation states
 - colorless ions in solution, multiple negative oxidation states
 - colored ions in solution, multiple positive oxidation states
 - colored ions in solution, multiple negative oxidation states
- Which aqueous salt solution has a color?
 - BaSO₄(aq)
 - CuSO₄(aq)
 - SrSO₄(aq)
 - MgSO₄(aq)
- Which atom has multiple oxidation states and forms an ion that is colored when in solution?
 - Cl
 - F
 - Cu
 - Zn
- Which elements form ions that are usually colored in solid compounds and in solution?
 - alkali metals
 - alkaline earth metals
 - transition elements
 - halogen elements
- A chloride dissolves in water to form a colored solution. The chloride could be
 - HCl
 - KCl
 - CaCl₂
 - CuCl₂
- Which salt solution is most likely to be colored?
 - KClO₃(aq)
 - KNO₃(aq)
 - K₂CrO₄(aq)
 - K₂SO₄(aq)
- Which elements contain atoms that form colored ions and have more than one positive oxidation state?
 - alkali metals
 - alkaline earth metals
 - noble gases
 - transition elements
- Which salt forms a colored aqueous solution?
 - Mg(NO₃)₂
 - NaNO₃
 - Ca(NO₃)₂
 - Ni(NO₃)₂
- Which compound forms a colored aqueous solution?
 - CaCl₂
 - CrCl₃
 - NaOH
 - KBr
- A solution of Cu(NO₃)₂ is colored because of the presence of the ion
 - Cu²⁺
 - N⁵⁺
 - O²⁻
 - NO₃¹⁻
- An element that forms colored ions is
 - Na
 - Ca
 - Ti
 - Li
- Which element would most likely form a compound whose water solution is colored?
 - H
 - P
 - Mg
 - Cu
- Which aqueous solution is colored?
 - CuSO₄(aq)
 - BaCl(aq)
 - KCl(aq)
 - MgSO₄(aq)

19. The presence of which ion usually produces a colored solution?

- A) K^+ B) F^- C) Fe^{2+} D) S^{2-}

20. Which salt contains an ion that forms a colored solution?

- A) $Mg(NO_3)_2$ B) $Ca(NO_3)_2$
C) $Ni(NO_3)_3$ D) $Al(NO_3)_3$
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