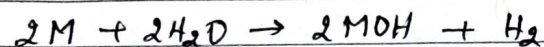


Reaction with water

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- * Alkali metals react vigorously with water forming hydroxides with liberation of H_2 .



- * Reactivity with water increases from Li to Cs.

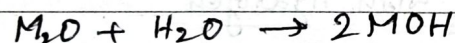
Li $\rightarrow$ least reactive towards water

Na $\rightarrow$ reacts vigorously

K $\rightarrow$ reacts producing a flame

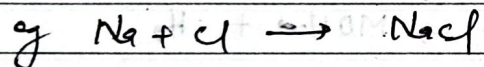
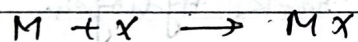
Rb, Cs $\rightarrow$ reacts explosively

- * Monoxides gives strongly alkaline solution with water.



Reaction with Halides

- * Alkali metals reacts directly with halogen to form MX .



- * Ionic nature of MX increases from top to bottom in p.f.

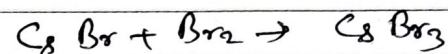
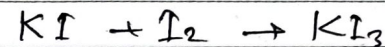
LiCl to CsCl

v.v.I

- * LiCl is covalent in nature (due to Polarisation of Cl^- ion by small Li^+ ion). Hence its tendency of hydrolysis is more.

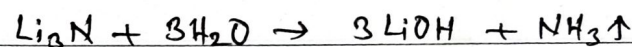
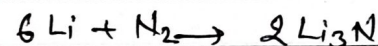
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- * K, Rb and Cs halides reacts with more halogens to gives polyhalides.



- * Reaction with Nitrides $\rightarrow$

- (i) only Li reacts directly with N_2 to form nitride which gives NH_3 on reacting with water.



- * Formation of amalgam $\rightarrow$

- (i) Alkali metals gives amalgam with Hg.
- (ii) These metals reacts with other metals to give mixed metals (alloys).

- * Solubility in liquid ammonia $\rightarrow$

- (i) All the alkali metals dissolves in NH_3 (liq.) and produces blue coloured solution.

- (ii) The blue colour and reducing nature of solⁿ is due to presence of ammoniated electron.
- (iii) This solⁿ is Paramagnetic in nature.