

CHEMISTRY

s-Block Elements

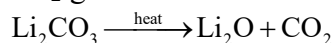
Properties of Group 1 Elements

11. (2)

Commercial common salt commonly becomes slightly damp on keeping because common salt contains some impurity $MgCl_2$ and $CaCl_2$ which is hygroscopic in nature and absorbs moisture from the atmosphere.

12. (4)

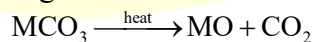
All carbonates evolve CO_2 on treatment with a dilute acid but amongst alkali metal carbonates, only Li_2CO_3 being thermally unstable decomposes to give CO_2 gas



13. (2)

$BaCO_3$ decomposes at highest temperature.

All the carbonates decompose on heating to give CO_2 and metal oxide.



The stability of carbonate towards heat depends upon the stability of the resulting metal oxide.

More is the stability of the resulting metal oxide lesser is the stability of the carbonate towards heat and vice versa.

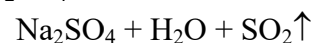
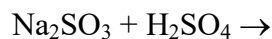
14. (2)

Li^{2+} does not allow its O^{2-} ion to combine with other atom/s to form peroxides and superoxides.

15. (2)

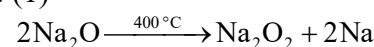
Potassium nitrate gives oxygen on decomposition $2KNO_3 \rightarrow 2KNO_2 + O_2$
All other nitrates give NO_2 (brown vapours) and oxygen.

16. (1)



Also, SO_3^{2-} is reductant and oxidises Br_2 water.

17. (1)



18. (2)

H^+ ions are discharged at a higher potential when Hg cathode is used than that using Pt cathode.

19. (1)

Cs^+ emits light of very high frequency or energy which corresponds to violet colour.

20. (1)

$LiCl$ and $LiBr$ are covalent and hence their melting points are low. Amongst $NaCl$ and NaI , $NaCl$ has higher ionic character (because Cl^- is smaller than I^- ion) and hence has higher lattice energy than NaI .

Therefore, $NaCl$ has the highest m.p.