

The background features a blue grid pattern. A large, glowing, upward-pointing arrow is positioned on the right side, with a wavy ribbon-like shape extending from the bottom left towards its base. The ribbon has a multi-colored, pixelated texture. A vertical axis with numerical markers (10, 17, 18) is visible on the right side of the grid. A horizontal bar is located at the top right, and a rounded rectangular bar is at the bottom center.

Марганец

LOGO

Содержание

1

Мп в периодической системе химических элементов

2

Химические свойства марганца

3

MnO , $Mn(OH)_2$ – основные свойства

4

Mn^{+2} -восстановитель

5

MnO_2 , $Mn(OH)_4$ - слабо выраженные амфотерные свойства

6

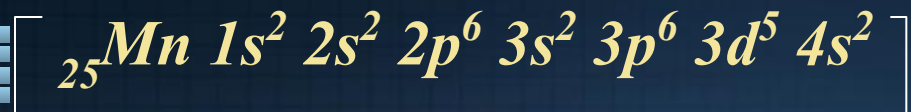
Mn_2O_7 , $HMnO_4$ – сильные окислители

7

Получение. Применение. В природе

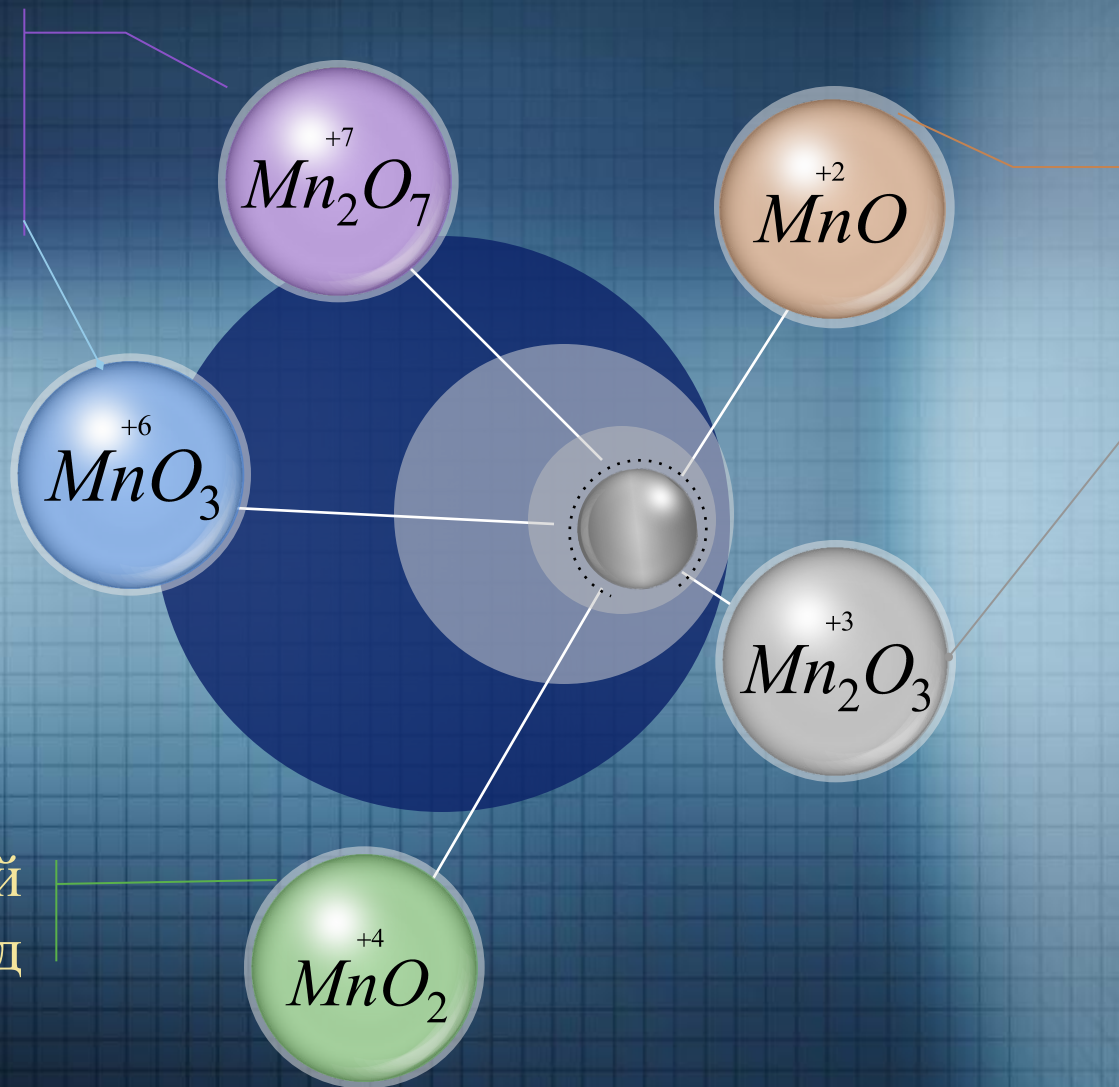
8

Задание



IV период, VII группа, побочная подгруппа

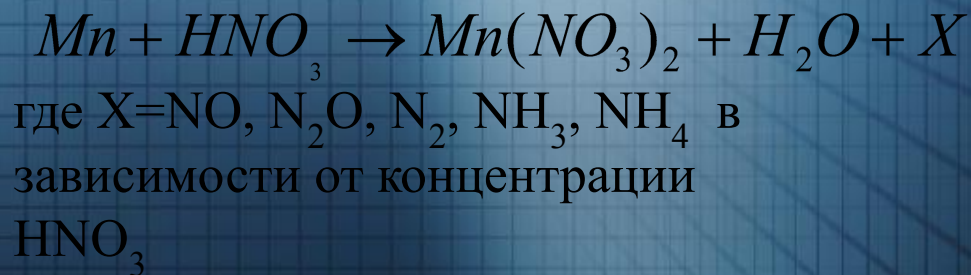
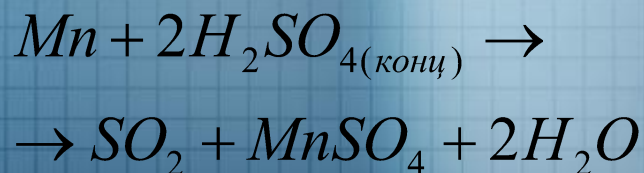
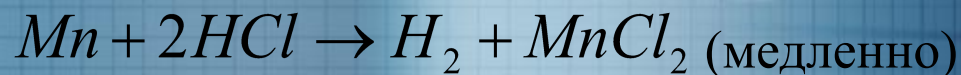
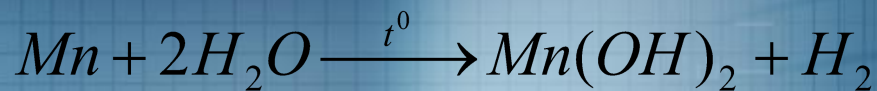
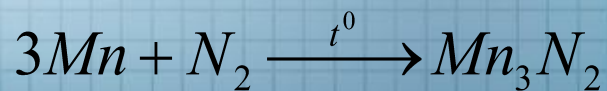
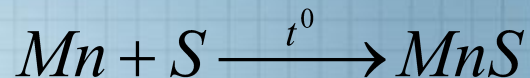
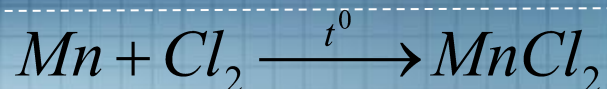
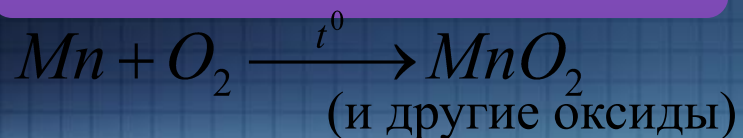
Кислотные
оксиды



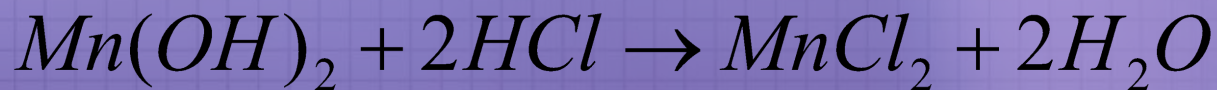
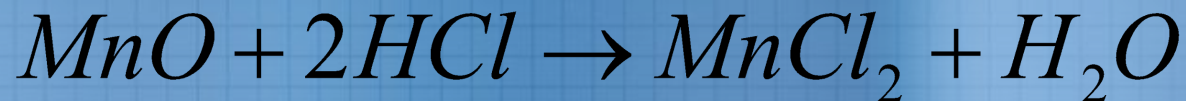
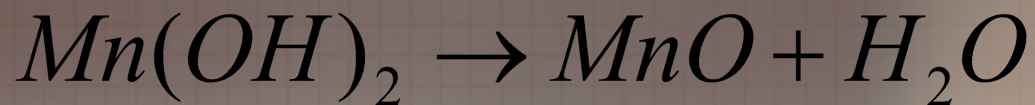
Основные
оксиды

Амфотерный
оксид

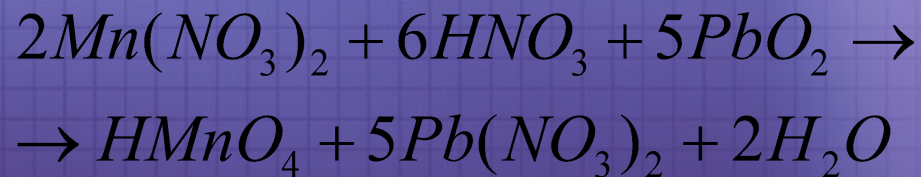
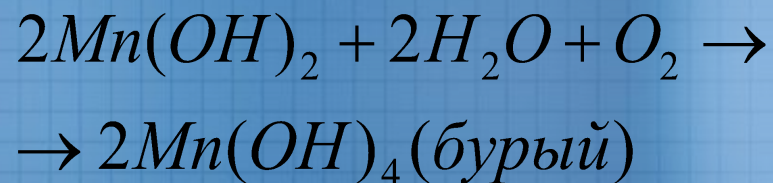
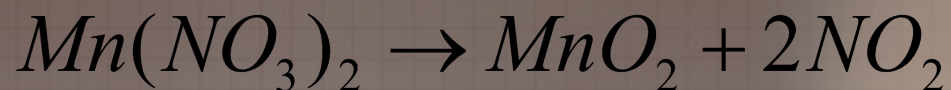
Химические свойства



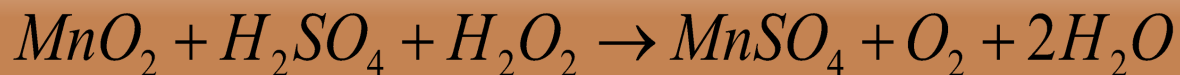
*$MnO, Mn(OH)_2$ –
основные свойства*



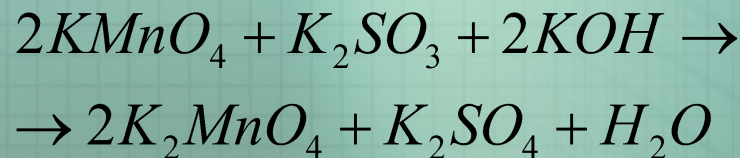
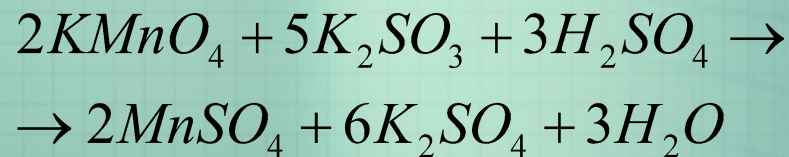
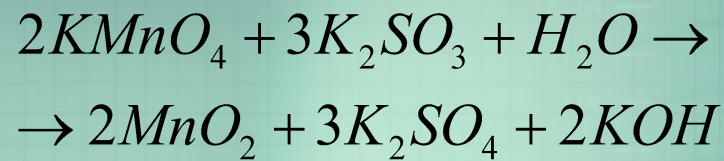
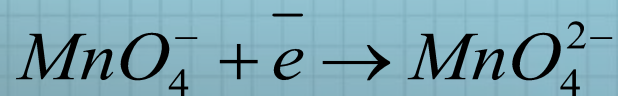
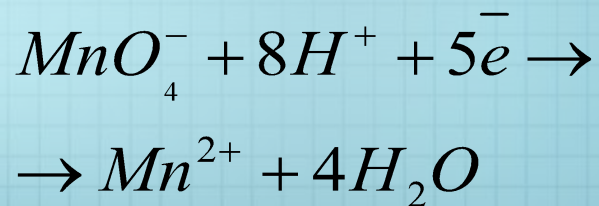
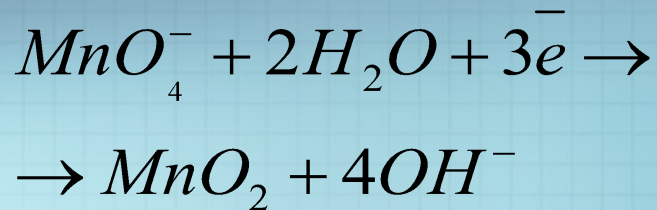
Mn^{+2} - восстановитель



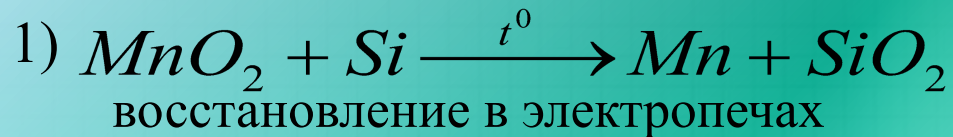
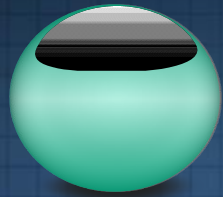
MnO_2 , $Mn(OH)_4$ или H_2MnO_3
слабо выраженные
амфотерные свойства



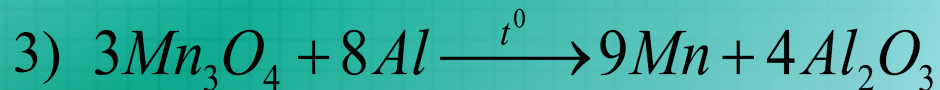
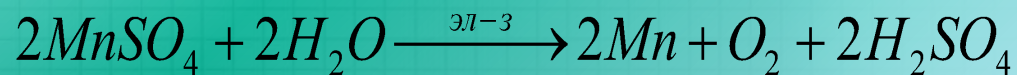
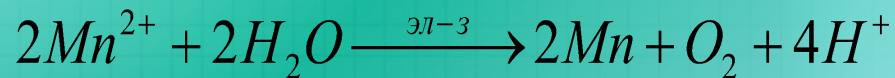
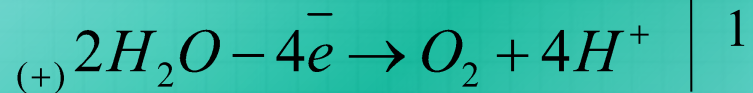
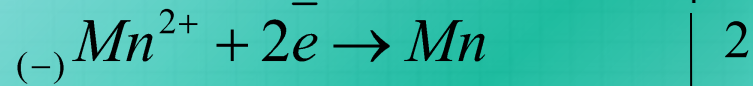
Mn_2O_7 , $HMnO_4$ –
сильные окислители



Получение



2) электролиз раствора $MnSO_4$



Применение

твёрдость

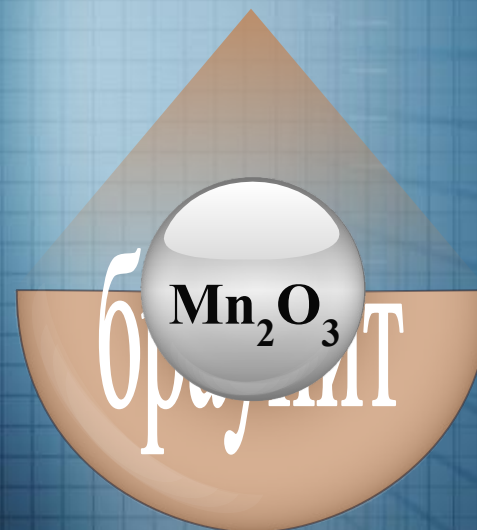
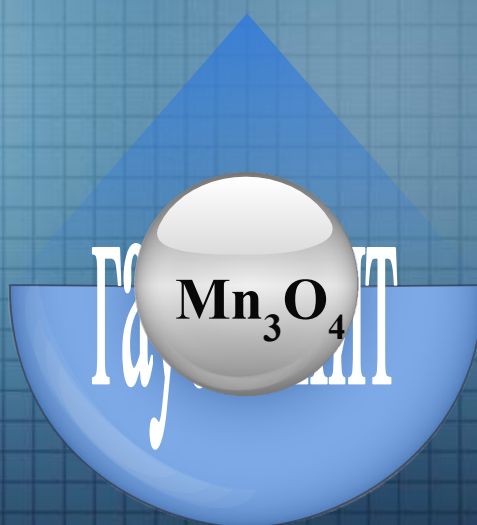
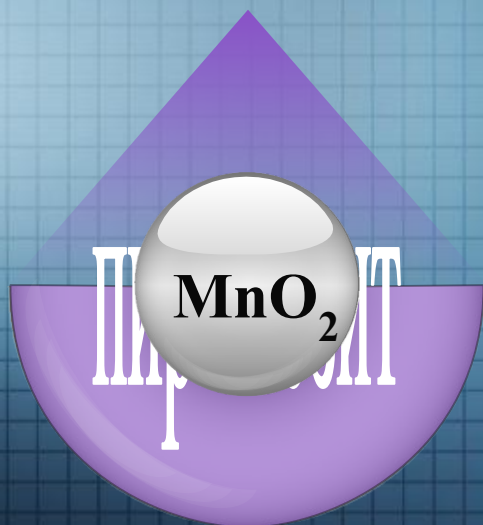
прочность

устойчивость к коррозии

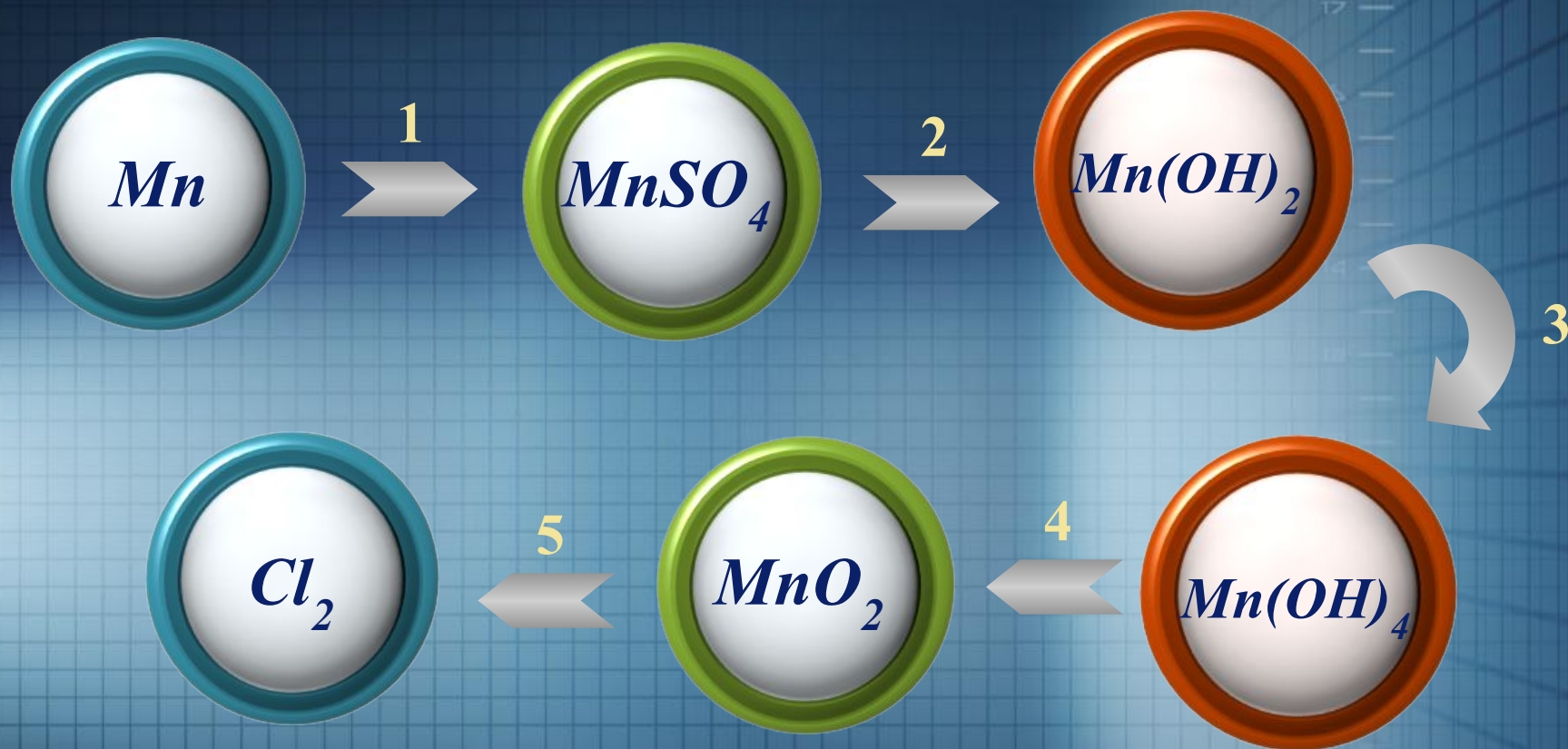
Производство
легированных сталей

В природе

$\omega(\text{Mn}) = 0,09\%$



Задание

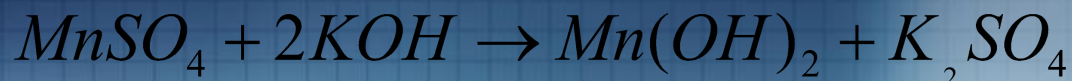


Ответ

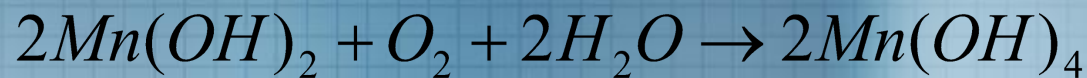
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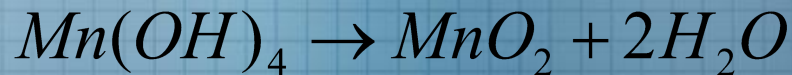
2



3



4



5





Спасибо за внимание!

LOGO