

MINI CHEMISTRY

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r Oxidizing and Reducing Agents



1/Hide Sub-topics (O Level)

below shows the common and important **oxidizing agents**:

OXIDIZING AGENT	HALF EQUATION	COLOUR CHANGE WHEN ADDED TO REDUCING AGENT	APPLICATION
potassium manganate (VII) KMnO_4	<i>[Math Processing Error]</i>	Purple to pale pink (or colourless)	Used to test for reducing agent
potassium dichromate(VI) $\text{K}_2\text{Cr}_2\text{O}_7$	<i>[Math Processing Error]</i>	Orange to green	Oxidizes alcohol to acids; used to test for SO_2 gas
chlorine Cl_2	<i>[Math Processing Error]</i>	Greenish yellow to colourless	Oxidizes bromide to bromine and iodide to iodine

or presence of reducing agent:

an oxidising agent, e.g. Aqueous potassium manganate (VII) to the reducing agent
e the mixture

aqueous potassium manganate (VII) is decolourised

below shows the common and important **reducing agents**.

AGENT	HALF EQUATION	COLOUR CHANGE WHEN ADDED TO OXIDIZING AGENT	APPLICATION
Hydrogen sulphide	<i>[Math Processing Error]</i>	Colourless to brown	Used to test for oxidizing agent
Hydrogen sulphate (II)	<i>[Math Processing Error]</i>	Green to brown	-
Iron	-	-	Used to reduce iron oxides to iron in blast furnace
Hydrogen	<i>[Math Processing Error]</i>	-	Reduces copper(II) oxide to copper

Error]

ls

, Na

Displacement of less reactive
metals

or presence of **oxidising agent**:

a reducing agent, e.g. Aqueous potassium iodide to the oxidising agent.


e the mixture.

own solution of iodine is produced.

presence of iodine can be confirmed by adding starch solution.

rk blue coloration is obtained.

ous: Assigning & Calculating Oxidation States

Next: Reversible Reaction 

To Chemical Reactions (O Level)

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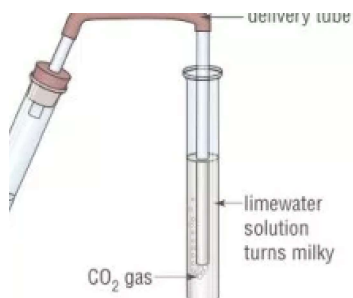
Reducing Agent Test

Physical Properties





er: Chemical Reactions, O Level



hemical Properties of Acids

es & Salts"

Physical & Chemical Properties of Alkalis

Physical Properties of Alkalis Alkalis have the following properties: Alkalis have bitter taste and a slippery soapy feel. Alkaline solutions have pH values greater than 7. (More about pH value in July 27, 2016 In "Acids Bases & Salts"

Redox Reaction

A redox reaction is a reaction where reduction and oxidation take place at the same time. Oxidation reaction involves: Gain of oxygen Loss of hydrogen Loss of electrons Increase in July 4, 2016 In "Chemical Reactions"

About Mini

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rs should also use ammonium sulphate and potassium dicromate

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