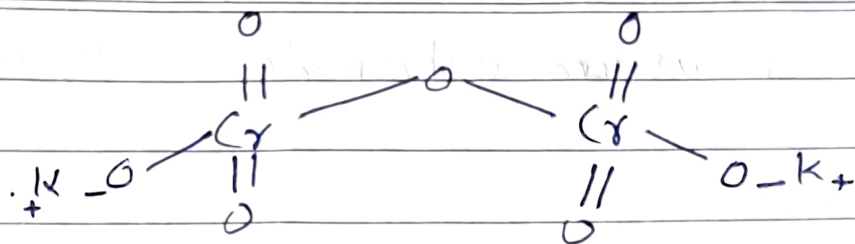


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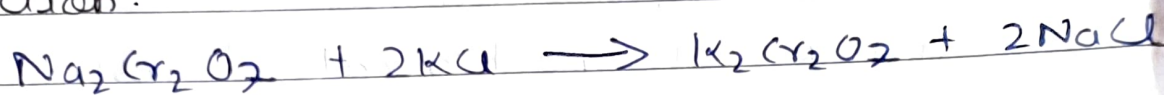
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Methods of Manufacturing

- In the USA it is usually prepared by the reaction potassium chlorate on sodium dichromate.

Reaction:



- In Germany, it is obtained from Potassium chromate produced by roasting the chrome ore with Potassium hydroxide. Potassium dichromate is produced industrially by roasting chrome ore with Potassium carbonate or preferably by reacting sodium dichromate with Potassium Chloride.

Application:

- Drug And Medication Information

Clinical trials

Clinical trials are research studies performed in people that are aimed at evaluating a medical, surgical or behavioural intervention. They are the primary way that

researchers find out if a new treatment like new drug or diet or medical device safe and effective in people.

- Pharmacology / and Biochemistry:
- Food Additives and Ingredients:
FDA Indirect Additives used in Food Contact Substance.
- Agrochemical Information:
Preservative.

Health Hazard Information

- Acute Health Effect
The following acute (short-term) health effect may occur immediately or shortly after exposure to Potassium Dichromate.
 - ⇒ Contact can irritate and burn the skin and eyes with possible eye damage.
 - ⇒ Inhaling Potassium Dichromate can irritate the nose and throat causing coughing and wheezing.
- Chronic Health Effect
The following chronic (long-term) health effect

Can occur at some time after exposure to Potassium dichromate and can last for months or years.

- Cancer Hazard

Potassium dichromate is a carcinogen in humans. There is evidence that Hexavalent chromium or chromium VI compound cause lung cancer in human and animals.

- Reproductive Hazard

There is limited evidence that Potassium dichromate may damage the developing fetus in animals.



hydroxide in presence of air to form potassium manganate, which is a green coloured compound.

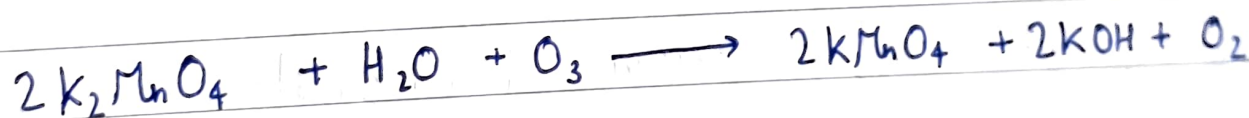


• Oxidation of Potassium Manganate to Potassium Permanganate:

Oxidation can be done in two methods. They are chemical and electrolytic oxidation.

Chemical oxidation process:-

In this process, Potassium manganate is treated with chlorine or ozone to form potassium permanganate.



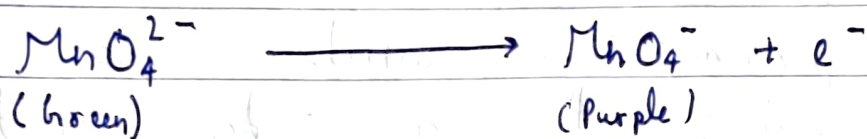
Electrolytic Oxidation Process:-

In this process, potassium manganate solution is electrolyzed.





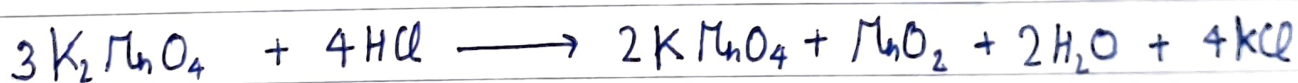
In this process, manganate ions are transformed into permanganate.



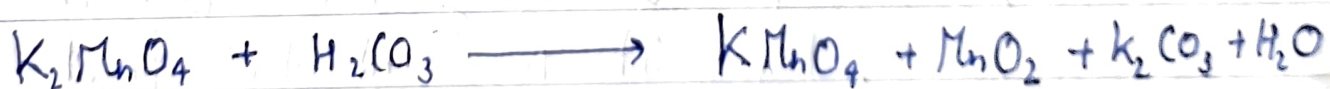
After the oxidation process, the green colour solution transforms into a purple colour solution which is concentrated by evaporation and forms crystals on cooling.

Other Methods :-

Acid-induced disproportionation reaction



A weak acid such as carbonic acid can also form Per-Manganate.



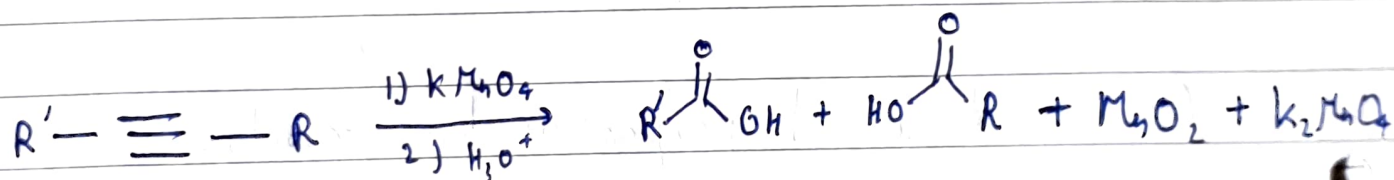
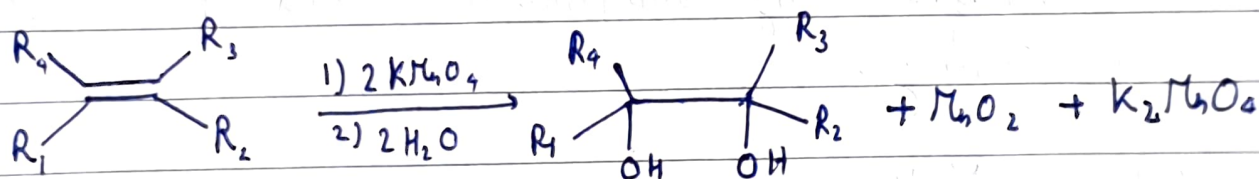


Uses of Potassium Permanganate :-

Synthesis of Organic compounds :-

Baeyer's reagent is an alkaline solution of cold potassium permanganate, which is a powerful oxidant making this a redox reaction.

Reaction with double or triple bonds in an organic material causes the color to fade from purplish-pink to brown.



Medical uses of Potassium Permanganate :-

Potassium permanganate sounds more like a confection that a highly caustic chemical used to treat infections. It is used to treat skin condition, fungal infections and ulcers.



Skin Infections :-

$KMnO_4$ treats a lot of skin infections including canker sores, dermatitis, acne etc. Only a very dilute amount required for it.

Wound cleaning :-

Potassium permanganate wet dip treat blistering wounds such as ulcers and abscesses. The severe action dries out blisters, preparing them for further treatment. The broad antimicrobial properties kill bacteria, algae and viruses at varying concentration, decreasing the likelihood for secondary wound infections.

Drinking Water treatment of potassium permanganate in a well.

1) Potassium permanganate oxidizes iron, manganese, hydrogen sulphide into particles. The particles are then filtered with a multimedia filter.

It can also be used to control iron bacteria growth in water.

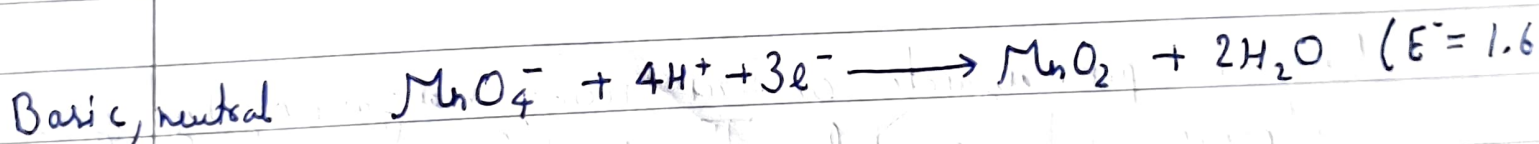
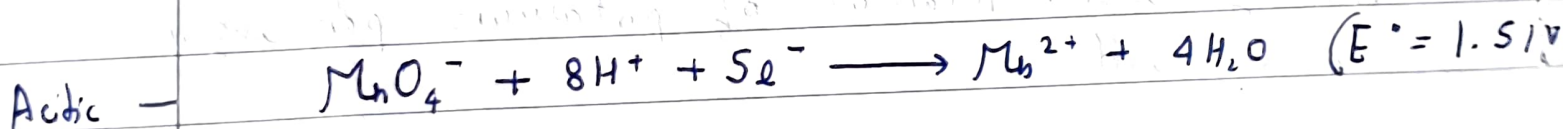


Hazardousness of Potassium Permanganate:

- It can affect the breath when inhaled in, can also severely irritate nose and throat.
- It stains skin and clothing and should be handled with care.
- It may decrease fertility

Other miscellaneous uses of Potassium permanganate:

- Solution of KMnO_4 are used together with 80% hydrogen peroxide to propel a rocket.
- It is employed to treat some parasite disease in fishes.
- treatment of drinking water, as well as an antidote in phosphorous poisoning.
- It is used in survival kits along with glycerine & a glucose tablet for making fire.



Very strong alkaline solution:

