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Potassium permanganate

Potassium permanganate is an oxidising agent with disinfectant, deodorising and astringent properties. Its chemical formula is $KMnO_4$ and it is sometimes called by its common name Condly's crystals.

In its raw state potassium permanganate is an odourless dark purple or almost black crystal or granular powder. The main form of use is a potassium permanganate solution that is made by dissolving crystals or powder in water. There is also a more convenient tablet form of potassium permanganate available to prepare topical solutions. Crystals and tablets are available from the pharmacy.

Potassium permanganate



Crystals



Concentrated solution



Therapeutic solution

What is potassium permanganate used for?

Potassium permanganate is useful in the following dermatological conditions:

- Infected [eczema](#) and [blistering skin conditions](#)
- Wound cleansing, especially weeping [ulcers](#) or abscesses
- [Fungal infections](#) such as [athlete's foot](#)

Potassium permanganate baths are effective for the treatment of infected eczema when there are blisters, pus and/or oozing. A potassium permanganate concentration of 1:10000 should be used (pink colour). If using 400mg tablets add one to each 4L of water. The tablets should be dissolved in hot water before pouring into the bath. Twice daily baths for two days help to dry out the weeping sores and soothe the eczema.

A potassium permanganate solution of 1 in 1000 may be used as wet soaks to blistering wounds such as ulcers and abscesses. Strips of cotton or gauze should be soaked in the solution and wrapped around the affected area for 20–30 minutes. The astringent action of potassium permanganate helps to dry out the blister and prepare the wound for other treatment.

A 1% solution is used to treat fungal infections such as athlete's foot.

Precautions

Potassium permanganate crystals and concentrated solutions are caustic and can burn the skin. Even fairly dilute solutions can irritate skin and repeated use may cause burns. If redness or irritation continues, notify your doctor. When preparing solutions make sure that the crystals or tablets are fully dissolved in water before using.

Potassium permanganate soaks are not suitable for dry skin conditions.

Note that potassium permanganate may leave a brown stain on skin and nails as well as the bath or vessel holding the solution.

Related information

References:

- Book: Textbook of Dermatology. Ed Rook A, Wilkinson DS, Ebling FJB, Champion RH, Burton JL. Fourth edition. Blackwell Scientific Publications.
- [Eczema](#). Starship Children's Health Clinical Guideline

On DermNet NZ:

- [Antiseptics](#)

Other websites:

Books about skin diseases:

See the [DermNet NZ bookstore](#)

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DermNet does not provide an on-line consultation service.

If you have any concerns with your skin or its treatment, see a [dermatologist](#) for advice.

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