## RADIATION-INDUCED DERMATITIS SKIN IRRITATION RELIEF

Information for **Health Care Professionals** 



## **IRRITATION • MINOR BURNS • DRYNESS**

*Calendula officinalis* (garden marigold) is a plant native to southern Europe and widely cultivated in North America. Its flowers have been used topically for generations to naturally heal cuts, scrapes, rashes, and burns. We now know Calendula's healing properties are attributed to the presence of flavonoids, carotenoids, alkaloids, and other substances. The extracts of the flowers have been shown to aid skin healing by stimulating re-epithelialization of damaged tissue. Similarly, homeopathic Calendula preparations have been recognized as healing agents.

Boiron offers two noncomedogenic topical forms of Calendula: **a water-based cream and a protective ointment.** The plants used in these formulas are grown without pesticides or fertilizers and are harvested fresh during their flowering period by European growers who follow strict specifications for cultivation. The homeopathic tincture is prepared by hydro-alcoholic maceration at room temperature to ensure the active compounds are present in the medicine. Boiron Calendula topicals are free of **fragrances, dyes, and parabens.** 

Boiron Calendula is available over the counter and health professionals can also purchase direct from Boiron.



RADIATION-INDUCED DERM SKIN IRRITATION REI		ADVANTAGES	SIDE EFFECTS/ DISADVANTAGES
TOPICALS			
<b>Boiron Calendula</b> <b>Topicals</b> (Calendula officinalis or garden marigold)	Healing agent; aids healing of irritation, minor burns, and dryness associated with radiation-induced dermatitis.	Plant-based active ingredient; soothes and moisturizes.	Low potential for sensitization after frequent skin contact with concentrated extracts.
<b>Trolamine /</b> <b>triethanolamine</b> ( <i>Biafine®</i> )	Emulsifier and surfactant.	Promotes skin hydration.	Prescription only; no action on stimulating the production of skin cells.
Hyaluronic acid (Miaderm®)	In vivo, plays a major role in wound healing. Forms a protective gel when mixed with water.	May speed up wound healing when applied.	None.
Aloe vera (Alocane®)	Moisturizing action; may speed up wound healing.	Natural origin.	May cause mild skin irritation.
Steroid cream / spray	Reduces itching and skin scarring.	Quick relief.	Prescription only; must be used only for severe cases.
Lanolin (Aquaphor®)	Protects skin and moisturizes.	Long lasting emollient.	No action on stimulating the production of skin cells; animal-based ingredient; possibility of allergic reaction.
Lidocaine (Alocane, Miaderm)	Local anesthetic.	Rapid onset of action.	Transient effect.



## **BOIRON'S MANUFACTURING PROCESS**

Boiron uses fresh, flowering tops of Calendula officinalis to prepare a tincture according to the Homeopathic Pharmacopoeia of the United States. This method is done with water and alcohol at room temperature to preserve the main active ingredients, especially those sensitive to heat. The plants are cultivated in Europe without the use of fertilizers or pesticides, and are thoroughly controlled before and after extraction as required by pharmaceutical Good Manufacturing Practices (GMPs).

Calendula topicals contain less than 4% alcohol. It is not an added ingredient but originates from the tincture. This small amount of alcohol evaporates immediately once applied to the skin and should not cause irritation.



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# **PHARMAGOLOGY**

The manufacture, labeling, and distribution of **Boiron Calendula** products are regulated by the Food and Drug Administration (FDA) as homeopathic drugs.

In homeopathy, Calendula is used topically as an analgesic and antiseptic.<sup>2</sup> Calendula extracts stimulate the proliferation and migration of fibroblasts and promote formation of granulation tissue during re-epithelialization of damaged skin.<sup>3-4</sup> Extracts of Calendula have been shown to stimulate the formation of new blood vessels (angiogenic properties), as well as to increase fibroblastic activity and anti-inflammatory and antibacterial properties in burns.<sup>5-6</sup> It seems these effects are due to more intensive metabolization of glycoproteins, nucleoproteins, and collagen proteins during the re-epithelialization.<sup>7-8</sup>

Several reviews describe in detail the advantages and limits of Calendula extracts in medically-induced skin irritations.9

## **SAFETY**

Calendula extracts are widely used in cosmetic preparations. Rare cases of sensitization have been reported, especially when used in conjunction with other preparations containing Compositae family plants.<sup>10</sup>

According to Acne.org, none of the inactive ingredients listed in Boiron Calendula topicals are comedogenic.

### The Boiron Calendula line should be used only for its labeled indications.

## EACH FORM OF BOIRON CALENDULA IS DESIGNED FOR SPECIFIC USES

## **CALENDULA CREAM**

Creamy, water-based emollient spreads smoothly to cover large areas, as well as the face.

- Light and moisturizing
- Soothes irritations
- Promotes healing

## **CALENDULA OINTMENT**

Moisturizing emollient, in a base of petrolatum, has a thick and moisturizing texture to adhere longer to the skin.

- Protects skin
- Soothes irritations
- Promotes healing



#### References

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- 3. Fronza M, Heinzmann B, Hamburger M, Laufer S, Merfort I. Determination of the wound healing effect of Calendula extracts using the scratch assay with 3T3 fibroblasts. Journal of Ethnopharmacology. 2009;126(3):463-467. doi:10.1016/j.jep.2009.09.014.
- 4. Preethi KC, Kuttan R. Wound healing activity of flower extract of Calendula officinalis. Journal of Basic and Clinical Physiology and Pharmacology. 2009;20(1):73-79. doi:10.1515/jbcpp.2009.20.1.73.
- 5. Parente LML, Júnior RDSL, Tresvenzol LMF, Vinaud MC, Paula JRD, Paulo NM. Wound healing and anti-inflammatory effect in animal models of Calendula officinalis L. growing in brazil. Evidence-Based Complementary and Alternative Medicine. 2012;2012:1-7. doi:10.1155/2012/375671.
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- 8. Leach M.J. Calendula officinalis and wound healing: a systematic review. *Wounds*. 2008;20(8):236-243.

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10. PDR for Herbal Medicines. 4th ed. Montvale, NJ: Thomson PDR; 2007.



# Calendula



#### **CREAM** 2.5 o7

#### 2 2

### Drug Facts

 Active ingredient
 Purpose

 Calendula officinalis
 Healing agent

 1X HPUS 10%
 The letters "HPUS" indicate that the component in this

product is officially monographed in the Homeopathic Pharmacopoeia of the United States.

#### Uses\*

helps promote healing of:
 cuts scrapes chafing minor burns
 sunburn
 protects skin

#### Warnings

- For external use only. Do not use if you are allergic to Calendula officinalis or to any of this product's inactive ingredients. When using this product do not get into eyes. Ask a doctor before use in case of deep or
- puncture wounds, animal bites, or serious burns. Stop use and ask a doctor if condition persists for
- more than 3 days or worsens.

Keep out of reach of children. If swallowed, get medical help or contact a Poison Control Center right away.

#### **Directions**

- For minor burns, immediately run cool water on the burn for several minutes and pat dry. Then apply a thin layer of Calendula Cream to affected area 3 times a day or as needed.
   For cuts, scrapes, chafed skin, and sunburn, first
- cleanse the area with mild soap, rinse, and pat dry. Then apply a thin layer of Calendula Cream to affected area 3 times a day or as needed.

#### Other information

sorbic acid 1 2-bexanediol

 do not use if glued carton end flaps are open or if the tube seal is broken
 store at 68-77°F (20-25°C)

**Inactive ingredients** alcohol, caprylyl glycol, cetyl palmitate, glycerin, lauroyl macrogolglycerides, pegoxol-7 stearate, purfied water, sodium hydroxide,

Questions or comments? BoironCalendula.com | BoironUSA.com Info@Boiron.com 1-800-BOIRON-1 (1-800-264-7661)

## OINTMENT

P <b>urpose</b> aling agent
nent in this neopathic

#### helps promote healing of:

■ cuts ■ scrapes ■ minor burns ■ temporarily protects and helps relieve chafed,

Chapped, or cracked skin and lips
 Chapped, or

#### Warnings

For external use only. Do not use if you are allergic to Calendula officinalis or to any of this product's inactive ingredients. When using this product do not get into eyes.

Ask a doctor before use in case of deep or puncture wounds, animal bites, or serious burns.

Stop use and ask a doctor if condition persists for more than 3 days or worsens. Keep out of reach of children. If swallowed, get

medical help or contact a Poison Control Center right away.

#### Directions

For minor burns, immediately run cool water on the burn for several minutes and pat dry. Then apply a thin layer of Calendula Ointment to affected area 3 times a day or as needed.

 For cuts, scrapes, chafed skin, and sunburn, first cleanse the area with mild soap, rinse, and pat dry. Then apply a thin layer of Calendula Ointment to affected area 3 times a day or as needed.

#### Other information

 do not use if glued carton end flaps are open or if the tube seal is broken
 store at 68-77°F (20-25°C)

#### Inactive ingredients

alcohol, purified water, white petrolatum USP Questions or comments? BoironCalendula.com | BoironUSA.com

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## WHERE TO BUY

Calendula by Boiron is available over the counter in the First Aid, Homeopathy, or Cancer Care sections of pharmacies and health food stores, and through online retailers.

## ALSO AVAILABLE FROM BOIRON



