# Difflam® Solution

## Product Information

**COMPOSITION**
Difflam® is a pleasant tasting, clear, green solution, containing benzydamine hydrochloride 0.15% w/v.
Benzydamine is 1-Benzyl-3-(3-dimethylaminopropoxy)-1H-indazole.
Benzydamine hydrochloride is a white, odourless, crystalline powder with a bitter taste, soluble in water, ethanol, methanol and chloroform. It is sparingly soluble in ether and petroleum ether.

**PHARMACOLOGY**
Benzydamine is an anti-inflammatory analgesic agent structurally unrelated to the steroid group. Benzydamine differs chemically from other non-steroidal anti-inflammatory agents in that it is a base rather than an acid.
Animal models show that when administered systemically, benzydamine is effective against pain and oedema due to inflammatory conditions. It also inhibits granuloma formation.
At concentrations used for topical treatment, benzydamine possesses local anaesthetic action. Benzydamine does not cause erosion of the gastric mucosa when given orally to rats at doses of up to 100mg/kg.
The analgesic activity of benzydamine was more pronounced in models involving an experimental inflammation rather than in non-inflammatory pain. In common with the aspirin-like drugs, benzydamine possesses an anti-pyretic activity.
Peripheral reflexes were transiently inhibited after intravenous administration to cats.

**Mode of Action**
The mechanism of anti-inflammatory action is not related to stimulation of the pituitary-adrenal axis. Like other non-steroidal anti-inflammatory agents, benzydamine inhibits the biosynthesis of prostaglandins under certain conditions, but its properties in this respect have not been fully elucidated. The stabilising effect on cellular membranes may also be involved in the mechanism of action.

**PHARMACOKINETICS**

**Absorption**
Benzydamine is well absorbed following oral administration.
Following topical administration of Difflam® solution, benzydamine is well absorbed into the inflamed oral mucosa where it exerts anti-inflammatory and local anaesthetic action. Plasma benzydamine levels following use of Difflam® are low and parallel the amount actually ingested.

**Excretion**
Benzydamine and its metabolites are excreted largely in the urine. Metabolism is largely by oxidative pathways, although dealkylation can be shown.
Benzydamine has been detected in blood and urine following gargling with Difflam®. Most of the absorbed dose was eliminated in the first 24 hours. Repeated administration for 7 days did not result in accumulation of benzydamine in plasma.

**INDICATIONS**
Difflam® is indicated for the relief of painful conditions of the oral cavity including: tonsillitis, sore throat, radiation mucositis, aphthous ulcers, post orosurgical and periodontal procedures.

**CONTRAINDICATIONS**
Difflam® is contraindicated in patients with known hypersensitivity to benzydamine or to any of the components of the vehicle.

**PRECAUTIONS**
Difflam® is indicated for use as a rinse or gargle. It should not be swallowed but rather should be expectorated after each use.
The product should generally be used undiluted but if burning or stinging occur, it may be diluted with water.
If a sore throat is either caused or complicated by a bacterial infection, appropriate antibacterial therapy should be considered in addition to the use of Difflam®.
Use with caution in patients with hepatic or renal impairment (See Dosage and Administration).
Difflam® contains methyl hydroxybenzoate as a preservative. This has been known to cause sensitisation. Hypersensitivity reactions due to the product or any of its components may occur in susceptible individuals.

**Drug Interactions**
There are no known drug interactions with benzydamine.

**Use in Pregnancy**
The safety of benzydamine hydrochloride has not been established in pregnant patients. Risk to benefit ratio should be established if Difflam® is to be used in these patients.

**Use in Children**
Because of the lack of sufficient clinical experience, Difflam® is not recommended in children under 6 years of age.

**ADVERSE REACTIONS**
Difflam® is generally well tolerated and side-effects are minor.

**Local Adverse Reactions**
The most commonly reported reaction is oral numbness (2.6%). Occasional burning or stinging sensation may occur and has been reported in 1.4% of treated cases. Other local adverse effects were less common and included dryness or thirst (0.2%), tingling (0.2%), warm feeling in mouth and altered sense of taste (<0.1%).

**Systemic Adverse Reactions**
These were very uncommon and never of a serious nature. They consisted mainly of nausea, vomiting, retching, gastro-intestinal disorders (0.4%), dizziness (0.1%), headache and drowsiness (<0.1%).

Hypersensitivity reactions occur very rarely but may be associated with pruritis, rash, urticaria, photodermatitis and occasionally laryngospasm.

**DOSAGE AND ADMINISTRATION**
Difflam® should generally be used undiluted, but if stinging occurs it may be diluted with water.
The solution should be expelled from the mouth after use.
Uninterrupted treatment should not exceed seven days.

**Dosage in Adults**
When used as a gargle, the usual dose Difflam® is 15 mL (approximately one tablespoon) which should be gargled for at least 30 seconds at $1^1/_2$ to 3 hourly intervals, as needed.
When used as a rinse for oral lesions, the usual dose is again 15 mL (approximately one tablespoon) which should be held in the mouth and swirled around for at least 30 seconds, with repeat use every $1^1/_2$ to 3 hours throughout the day.

**Dosage in Children**
5-15 mL as a gargle if able to do so, or as an oral rinse.

**With Impaired Renal Function**
Since absorbed benzydamine and its metabolites are excreted in the urine, the possibility of systemic effects should be considered in patients with severe renal impairment.

**With Impaired Liver Function**
Since absorbed benzydamine is highly metabolised in the liver, the possibility of systemic effects should be considered in patients with severe hepatic impairment.

**OVERDOSAGE**
There are no known cases of overdosage with benzydamine hydrochloric solution. Difflam® is unlikely to cause adverse systemic effects, even if accidental ingestion should occur. There is no specific antidote for benzydamine and should excessive quantities be ingested the treatment should be symptomatic.

**STORAGE**
Protect from light. Store below 30˚C.

**PRESENTATION**
100 mL, 200 mL, 500mL and 2L

**Manufactured by:**
Ensign Laboratories Pty Ltd
490-500 Wellington Road,
Mulgrave VIC 3170

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