

## Radian B Muscle Lotion

Summary of Product Characteristics Updated 15-Dec-2020 | Thornton & Ross Ltd

### 1. Name of the medicinal product

Radian B Muscle Lotion

### 2. Qualitative and quantitative composition

Levomenthol	1.4	%w/v
Racemic Camphor	0.6	%w/v
Acetylsalicylic Acid	1.2	%w/v
Equivalent to ammonium salicylate	1.0	%w/v
Methyl Salicylate	0.6	%w/v
Equivalent to salicylic acid (as Methyl and Ethyl Esters)	0.54	%w/v

#### Excipients with known effect:

Citronella Oil (Contains Geraniol, Citronellol, Eugenol, Benzyl benzoate, Citral)	1.00	%w/v
Industrial Methylated Spirit (Contains Ethanol)	80.0%	%w/v

For the full list of excipients, see section 6.1

### 3. Pharmaceutical form

Liniment for topical application to human beings.

### 4. Clinical particulars

#### 4.1 Therapeutic indications

For symptomatic relief of muscular aches and pains, including fibrositis, sciatica, lumbago, sprained ligaments, bruises, muscle stiffness, strains, tennis elbow, golf shoulder.

#### 4.2 Posology and method of administration

Posology: For external application.

For Adults and Children Over 12 Years:

Apply the lotion on the affected part once or twice, leaving 10-15 minutes between applications. Smooth in or massage if preferred. If necessary, repeat application up to three times daily, reducing to morning and evening when acute symptoms subside.

When convenient, use after a warm bath.

Children Under 12: Do not use on children under 12 years of age.

Elderly: The adult dose is appropriate.

#### 4.3 Contraindications

Not to be used on children under 12 years old.

Do not apply to skin abrasions.

Do not apply to irritated skin.

Hypersensitivity to the active substances or to any of the excipients.

Contraindicated where there is known hypersensitivity to aspirin, other salicylates, or other non-steroidal anti-inflammatory drugs (including when taken by mouth) especially where associated with a history of asthma.

If irritation develops, use of the product should be discontinued.

Pregnancy and lactation.

#### 4.4 Special warnings and precautions for use

Keep away from eyes and other sensitive areas. If symptoms persist, consult a doctor.

Wash hands thoroughly after use.

Flammable: Do not use near naked flame. Should not be placed on or used near polished or painted surfaces.

Labels state:

Keep out of sight and reach of children.

For external use only.

Flammable product, do not use on or near painted or polished surfaces; near open flames or hot surfaces and in confined spaces. Avoid inhalation.

Instruct patients not to smoke or go near naked flames – risk of severe burns. Fabric (clothing, bedding, dressings etc) that has been in contact with this product burns more easily and is a serious fire hazard. Washing clothing and bedding may reduce product build-up but not totally remove it.

#### **Excipient warnings:**

This medicine contains fragrance with Geraniol, Citronellol, Benzyl Benzoate, Eugenol and Citral, which may cause allergic reactions.

This medicine contains 76% v/v Ethanol (Contained in Industrial Methylated Spirit) per application. This may cause burning sensation on damaged skin.

#### **4.5 Interaction with other medicinal products and other forms of interaction**

There have been reports that topical salicylates may potentiate the anticoagulant effects of warfarin. Menthol has also been reported to interact with warfarin (when taken orally), decreasing its effectiveness.

#### **4.6 Pregnancy and lactation**

Use of the product during pregnancy and lactation is not recommended.

#### **4.7 Effects on ability to drive and use machines**

Not applicable.

#### **4.8 Undesirable effects**

If used on tender skin do not cover immediately after application. If an adverse reaction occurs, discontinue use immediately. Known side effects of menthol - contact dermatitis or eczema, hypersensitivity reactions characterised by urticaria, flushing and headache.

#### **Reporting of suspected adverse reactions**

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme at [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard) or search for 'MHRA Yellow Card' in the Google Play or Apple App Store.

#### **4.9 Overdose**

When used externally as directed, overdose is unlikely. However, symptoms of systemic salicylate poisoning have been reported after the application of salicylates to large areas of skin or for prolonged periods. Salicylism may also occur in the unlikely event of large quantities being ingested.

#### **Salicylate poisoning**

Common features include vomiting, dehydration, tinnitus, vertigo, deafness, sweating, warm extremities with bounding pulses, increased respiratory rate and hyperventilation. Some degree of acid-base disturbance is present in most cases.

A mixed respiratory alkalosis and metabolic acidosis with normal or high arterial pH (normal or reduced hydrogen ion concentration) is usual in adults and children over the age of four years. In children aged four years or less, a dominant metabolic acidosis with low arterial pH (raised hydrogen ion concentration) is common. Acidosis may increase salicylate transfer across the blood brain barrier.

Uncommon features include haematemesis, hyperpyrexia, hypoglycaemia, hypokalaemia, thrombocytopenia, increased INR/PTR, intravascular coagulation, renal failure and non-cardiac pulmonary oedema.

Central nervous system features including confusion, disorientation, coma and convulsions are less common in adults than in children.

#### **Management**

Activated charcoal may be administered if significant quantities have been ingested within an hour of presentation. The plasma salicylate concentration should be measured, although the severity of poisoning cannot be determined from this alone and the clinical and biochemical features must be taken into account. Elimination is increased by urinary

alkalinisation, which is achieved by the administration of 1.26% sodium bicarbonate. The urine pH should be monitored. Correct metabolic acidosis with intravenous 8.4% sodium bicarbonate (first check serum potassium). Forced diuresis should not be used since it does not enhance salicylate excretion and may cause pulmonary oedema.

Haemodialysis is the treatment of choice for severe poisoning and should be considered in patients with plasma salicylate concentrations >700mg/L (5.1mmol/L), or lower concentrations associated with severe clinical or metabolic features. Patients under ten years or over 70 have increased risk of salicylate toxicity and may require dialysis at an earlier stage.

### **Camphor and Menthol**

Ingestion of the product or excessive use may also lead to camphor poisoning, the symptoms of which include nausea, vomiting, epigastric pain, headache, dizziness, oropharyngeal burning, delirium, muscle twitching, epileptiform convulsions, CNS depression and coma. Breathing is difficult and the breath has a characteristic odour; anuria may occur. Death from respiratory failure or status epilepticus may occur; fatalities in children have been recorded from 1 g. Supportive care, including anticonvulsant therapy, is the mainstay of treatment of camphor intoxication. Gastric lavage may be considered if the patient presents within 1 hour of ingestion; any convulsions must be controlled first. Activated charcoal may be given orally.

Ingestion of significant quantities of menthol is reported to cause symptoms similar to those seen after ingestion of camphor, including severe abdominal pain, nausea, vomiting, vertigo, ataxia, drowsiness, and coma; they may be managed similarly.

## **5. Pharmacological properties**

### **5.1 Pharmacodynamic properties**

Radian B is manufactured using the following active ingredients; Menthol, camphor, aspirin and methyl salicylate. The finished product contains menthol, camphor, ammonium salicylate and a mixture of methyl and ethyl esters of salicylic acid. The product provides salicylate ions which have analgesic properties. Methyl and ethyl salicylate are readily absorbed through the skin and have counter-irritant properties. Menthol relieves itching, dilates the vessels causing a sensation of coldness followed by an analgesic effect. Camphor acts as a rubefacient and mild analgesic and is employed as a counter-irritant.

### **5.2 Pharmacokinetic properties**

The active ingredients are well-documented pharmacopoeial ingredients. The extent of percutaneous absorption in human volunteers of (14C) acetyl salicylic acid from Radian B was studied and estimated by measurement of blood and urinary concentrations of radioactivity. Significant absorption through the skin was indicated by the excretion of almost 10% of the applied radioactivity in the urine within 5 days with approximately 5.5% in the first 24 hours.

### **5.3 Preclinical safety data**

None

## **6. Pharmaceutical particulars**

### **6.1 List of excipients**

Industrial Methylated Spirit 95 (Contains Ethanol)

Glycerol (E 422)

Citronella oil (Contains Geraniol, Citronellol, Eugenol, Benzyl benzoate, Citral)

Ammonia '880'

Water (purified)

### **6.2 Incompatibilities**

None known

### **6.3 Shelf life**

60 months

### **6.4 Special precautions for storage**

Store below 25° C

### **6.5 Nature and contents of container**

HDPE bottle with LDPE plug insert and spigot seal polypropylene cap.

Pack sizes: 125ml and 250ml oval bottle.

### **6.6 Special precautions for disposal and other handling**

No special precautions necessary

**7. Marketing authorisation holder**

Thornton & Ross Limited

Linthwaite

Huddersfield

West Yorkshire

HD7 5QH

United Kingdom

**8. Marketing authorisation number(s)**

PL 00240/0359

**9. Date of first authorisation/renewal of the authorisation**

30 April 2002

**10. Date of revision of the text**

09/12/2020

**Company Contact Details**

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