

# Effects of Composition of Ral and Sesame Seed Oil on Burns

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**Abstracts:** *This study was conducted to identify chemical composition of Ral and Sesame seed oil. More particularly this invention relates to an ayurvedic composition for treatment of burns which is not only free from any harm full effects or side effects but which gives very quick noticeable effect without leaving any scar mark within a very short period, that is just within 15-20 days of its two or three application (not to be removed in between) and depend on the degree of burn, further all the ingredients used are quite cheap and readily available in local markets. Many burn ointments and creams are readily available in the market but mostly, these known products are chemical based, thereby having harmful effects or side effects as well as time taking to show the results. Most of them have been found totally un-effective or treats leaving scar mark. Moreover, it has antibacterial and antifungal properties.*

**Keyword:** ral, sesame seed oil, burn ointment

## 1. Introduction

Ral is a resin (*Resina flena*). Resin in the most specific use of the term is a hydrocarbon secretion of many plants, particularly coniferous trees. Resins are valued for their chemical properties and associated uses, such as burn ointment. It is used in traditional medicines since ancient time. Now it is used as the basic component of commercial drugs (Ointments), respectively is highly effective in the treatment of burns, wound and pyoinflammatory process of the skin and subcutaneous tissues. Rosin is a complex mixture that contain resin acids and a little amount of neutral fraction (Wiyono, et.al., 2006). The ethanolic extract of *Resina Draconis* (RDEE) was evaluated for its wound-healing activity using excision and incision wound models in rats (Liu H, 2013). Sesame Seed Oil has been used as healing oil for thousands of years. The oil has been used in the treatment of several chronic disease processes, including hepatitis. Used after exposure to wind or sun it calms the burns. Sesame oil burn ointment decreases pain, helps heal wounds. Moist exposed burn ointment (MEBO) contains sesame oil and herbal extracts. MEBO decreases pain better than conventional medical treatment, so that burn patients need fewer opiates. The sesame oil ointment controls infection as well as the conventional treatment does. Sesame oil ointment helps heal chronic wounds, skin ulcers (Ang. ES, 2001).

Prospective randomized controlled clinical trials have proved that composition of Ral and Sesame seed oil treatment leads to significantly more rapid healing of superficial and partial-thickness burns than that achieved with silver sulphadiazine, polyurethane film and amniotic membrane, Benzocaine, Boric acid and Eucalyptus.

## 2. Materials and Methods

According to the invention there is provided a burn ointment comprising Ral (yellow resin - *Risina flena*) by weight of 85-90% and Sesame seeds oil (*Sesamum*) by weight of 10-15%. Sesame oil, used all by itself, has a reputation in Ayurveda as a burn treatment. It's a lot less expensive, easy to get. For preparing a batch, Ral powder (yellow resin - *Risina flena*), having particles size 50-100mm, is taken. Whip together this powder and Sesame oil (*Sesamum*) to combine. In a mixture, pulse together both ingredients until grind. The mixture is then heated in an iron vessel until a black sticky paste is obtained. It is cooled up to room temperature then pour cold water in the paste, beat in the paste until brown colour disappear. Finally, a yellowish brown colored, thick sticky astringent taste paste is obtained. It is insoluble in water, slightly soluble in chloroform.

## 3. Observations

The nature of product invented will become clearer from the following Infrared Spectra and Mass Spectroscopy experiments. Despite the fact that the absorption and emission of the fundamental stretching vibration is relatively strong, laser -spectroscopic probing of these have been limited by poor availability of proper tunable laser sources and highly sensitive IR- detections. In different wavelength ranges, the molecular spectra reflect different molecular infernos.

This infrared spectra interpretation of ointment, involving the correlation of absorption bands, is shown in the figure 1. The spectrum band shows peak at wave numbers 3445.18 cm<sup>-1</sup> (Alcohol and Phenol), 2926.51cm<sup>-1</sup>, 2855.07 cm<sup>-1</sup> stretch (Carboxylic acid), 2360.07cm<sup>-1</sup> (Si-H), 1743.08 cm<sup>-1</sup> (Ester), 1691.13cm<sup>-1</sup>, 1632.80cm<sup>-1</sup> (Amides), 1461.61cm<sup>-1</sup>, 1383.28cm<sup>-1</sup> scissoring and bending (Alkanes), 1260.09(N-O), 1164.98cm<sup>-1</sup>(P=O), 1094.72cm<sup>-1</sup>, 1045.43cm<sup>-1</sup> strong bands (Si-OR), 799.68cm<sup>-1</sup>, 720.88cm<sup>-1</sup> bend (S-OR)

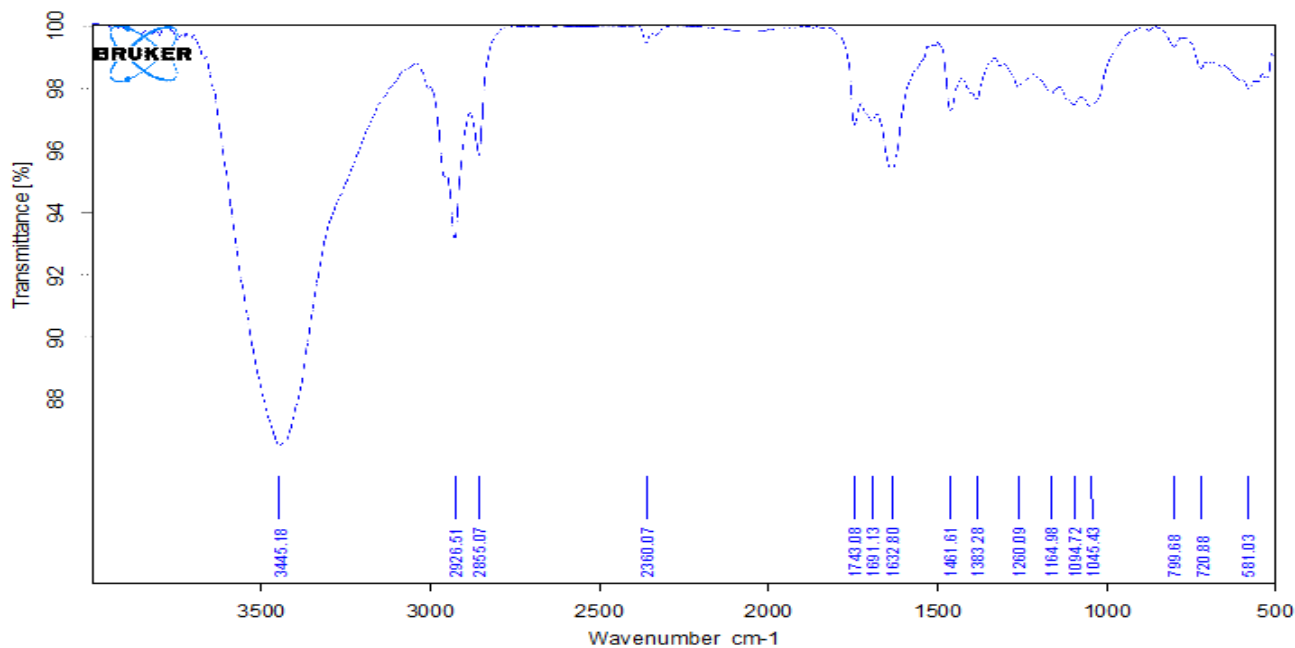


Figure 1: Mass Spectroscopy of chemical components in burn ointment fraction. Peaks are shown at 275.14, 377.2553, 507.2584, 641.4900, 710.2766, of target compounds.

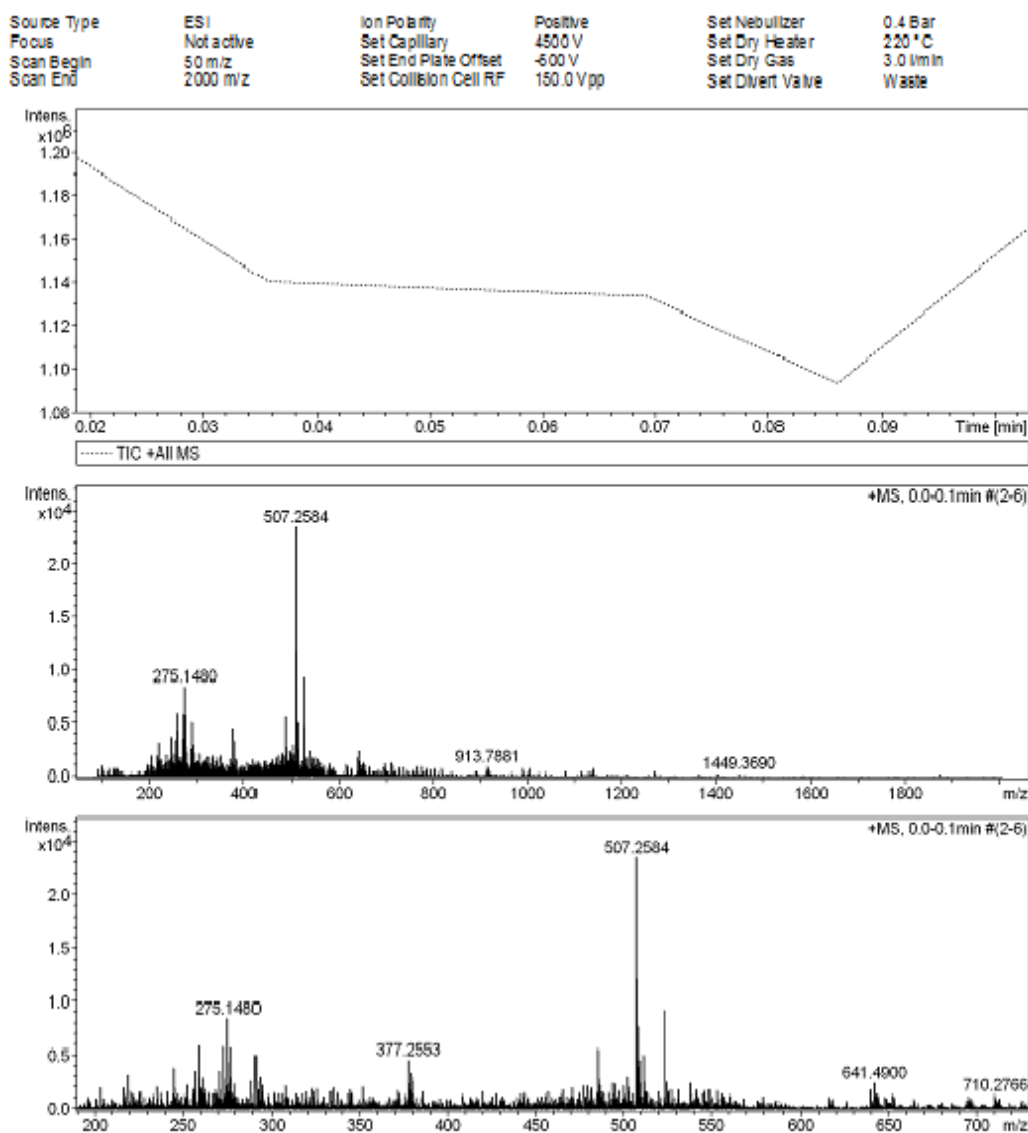


Figure 2: Showing the Chemical composition of burn ointment in Mass Spectroscopy

## 4. Discussions and Results

### 4.1 Object of the Invention

Our study was conducted with conventional management (C) with respect to the rate of burn wound healing, antibacterial and analgesic effect, and hospital costs. An object of the invention is to provide a burn ointment for treatment of first degree, deep partial thickness (Second degree) and third degree burns without leaving any scar mark. Another object of the invention is to provide a burn ointment which is easy and convenient to apply on burn skin. It is to provide a burn ointment which is economical and without side effects and is safe. The process of preparing a burn ointment is easy and convenient to apply on wounds. To provide a method of treatment of burns by applying topically the above burn ointment, which have antibacterial and antifungal properties.

### 4.2 Patients

We randomly assigned more than 100 consecutive patients between the ages of 15 to 60 who had partial-thickness thermal burns covering less than 40% of body surface area (BSA) to receive either ointment. Forty eight patients were assigned to first degree burnt remaining second and third degree burnt.

### 4.3 Main Outcome Measures

Patients were hospitalized until 30 to 60% BSA had healed. BSA was determined by visual. Wound healing rate, bacterial infection rate, pain score, and hospitalization costs were recorded.

## 5. Results

The median time to 75% healing was 12.0 and 20.0 days with burn ointment.

## 6. Conclusion with Future Scope

More particularly this invention relates to an ayurvedic composition for treatment of burns which is not only free from any harm full effects or side effects but which gives very quick noticeable effect without leaving any scar mark within a very short period, that is just within 15-20 days of its two or three application (not to be removed in between) and depend on degree of the burn, further all the ingredients used are quite cheap and readily available in local markets.

Many burn ointments and creams are readily available in the market but mostly, these known products are chemical based, thereby having harmful effects or side effects as well as time taking to show the results. Most of them have been found totally un-effective or treats leaving scar mark. Thus, it is better than other burn ointments. In addition, it has antibacterial and antifungal properties too.

## References

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## Author Profile



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