**** **RISHABH RESINS & CHEMICALS**

**(AN ISO 9001:2008 CERTIFIED COMPANY)**

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**TECHNICAL SPECIFICATIONS OF BNSL OIL & RESINS**

**SILEX 90**

**Introduction of Bhilawan Nut Shell Liquid (BNSL)**



**(Image of BNSL Oil)**

**Bhilawan Nut Shell Liquid (BNSL) is obtained from the Pericarp of the Bhilawan Nut which is popularly known as Marking Nut, which is similar in Taste and Nutrition to Cashew Kernel. Bhilawan or Marking Nut is used in medical precautions and its most useful part is its kernel, which is known as Godambi and used as dry fruit. It is also known as marking nut. It is species of Kaju.**

**Composition:**

**BNSL is Black Corrosive Vesiccant Liquid which causes Painful Blisters on the Skin. It contains about 46% of a Catechol Derivative, Bhilawanol having Long Unsaturated Carbon Side Chain (C15H27) and other High Boiling Phenols. The rest of the Liquid is mostly a Tarry material Composed of High Boiling Phenols and Hydrocarbons. On Hydrogenation of BNSL (Boiling Point: Between 213 - 214), Hydro-Bhilawanol is obtained in the form of Silky – Needles (having Melting Point between 57- 58). The recent study by IICT, Hyderabad, on the Constitutional make up of BNSL by NMR Technique showed that the Diene Concentration of Bhilawanol is about 70 Percent. It can be reacted with Formaldehyde & Hexamine in presence of Catalyst and Heat bodied to obtain suitable Stoving Finishes.**

**Applications:**

**Due to its high Medicinal values medically it is used in curing of Rheumatism, Leprosy, Eczema, and other Skin Diseases under Medical guidance. Industrially it is used for Coating of Baskets, Boat Planks and other Wood work as Preservative, Insulating Varnishes, Core Plate Insulating Varnishes and Water Proofing Composition. It is also used for making Black Stoving Enamels for Cycle Mudguards, Sewing Enamels & Table Fans. It has also got applications similar to that of Cashew Nut Shell Liquid (CNSL).**

**Resin: We are manufacturing BNSL Resin with & without Gilsonite Powder. It is supplied in 80% or 70% solids with MTO Solvent. Colour of these Resins will be Dark Brown without Gilsonite and Blackish with Gilsonite. Specific Gravity will be between 0.980 to 0.990. It will be little high viscous in nature. They are compatible with CNSL, Alkyds, Epoxies, Drying Oils, Bitumen & Coal Tar.**

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**SOME OF THE FORMULATIONS FOR MAKING BLACK STOVING ENAMELS WITH BNSL:**

**1) Under Coat for Cycle Stoving Black Semi Gloss based on BNSL Resin + Gilsonite + Rosin**

**Derivative + CNSL Resin (Part A) :**

**Carbon Black → 1.5**

**China Clay → 10.5**

**Calcium Carbonate → 7.5**

**Nilset → 0.5**

**Aluminium Stearate → 1.0**

**BNSL Resin → 5.0**

**MTO → 15.0**

**CNSL Resin → 10.0**

**MF Resin → 3.0**

**Manganese → 1.0**

**BNSL Resin → 45.0**

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**Total 100.00**

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**Properties:**

**Specific Gravity: 0.990 – 0.995**

**Viscosity: Between 180 – 200 seconds**

**Grinding Gauge: 5**

**Dipping Viscosity: 30-35 seconds**

**Stoving Schedule: 230 Deg C for 12-15 minutes.**

**1) Cycle Stoving Black Semi Gloss based on BNSL Resin + Gilsonite + Rosin**

**Derivative + CNSL Resin (Part B) :**

**Cycle Stoving Low Bake Black Cycle Stoving Finishing Black**

**34.40 ← BNSL Resin → 18.90**

**2.30 ← Asphalt → 4.60**

**3.30 ← Gum Rosin → 1.20**

**3.30 ← Gilsonite → 6.70**

**3.30 ← Stand Oil → 6.70**

**20.00 ← CNSL Resin → 18.30**

**33.10 ← MTO → 43.350**

**0.150 ← Iron Drier → 0.125**

**0.150 ← Manganese Drier → 0.125**

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**Total 100.00**

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