

## GENERAL INFORMATION

WoodFinishing Enterprises has been supplying specialty and hard to obtain finishing products to amateur and professional woodworkers and musical instrument makers since 1980. Many of our products are not available from local suppliers. We will continue in our efforts to give our customers the finest quality products at competitive prices.

If you need a product you cannot locate or one we should list call us or drop us a note telling us what you need.

We are a small business and are trying to keep our prices low and still make a profit. If you find that you can buy the same product from another supplier at a lower price let us know and we will try and be more competitive.

**ORDERING:** When ordering, please list all names, quantities, prices, and catalog numbers on the order form. When ordering please be sure to give the full seven digit catalog number. For example if ordering the 4 oz. Size of Potassium Dichromate the catalog number would be 01-0160-3. The -3 comes from the number in parentheses after the unit size in the price list. Print or type all information clearly on the order form. Orders should be mailed directly to:

WoodFinishing Enterprises  
1729 North 68th Street  
Wauwatosa, WI 53213  
Phone #: 414-774-1724  
Fax #: 414-774-1724  
E-mail: woodfin@wi.rr.com

Phone or fax orders will be shipped on receipt of payment or sent COD per your instructions. Wisconsin residents must add appropriate sales tax.

**TECHNICAL INFORMATION:** We will be glad to try and answer any questions you may have about any of our products or any other questions you may have on finishing wood or musical instruments. If you wish to talk to someone by phone please call between 8:00 AM and 5:00 PM Central time. If you call and get a recorded message please leave your name and telephone number and we will return your call.

**PRICES:** All prices in this catalog are subject to change without notice. If you want to be sure of the current price please call us or drop us a note and we will be glad to quote you the current price.

**MINIMUM ORDER POLICY:** Unlike many other firms there is NO MINIMUM ORDER.

**PAYMENT:** We would prefer to send all orders COD or on open account to simplify our bookkeeping by avoiding keeping track of small amounts of over or under payments that might arise. Payment must accompany all orders that are not shipped COD or open account. We do not accept credit card orders except through Paypal and payment must be in US funds only. Stamps will not be accepted as payment.

**FOREIGN ORDERS:** Payment for foreign orders must be by postal money order or bank check drawn on a US bank in US funds only. No personal checks will be accepted for payment of foreign orders. Please be sure to include sufficient funds as under payments may cause delays in shipping your order. If requested we will send you a PRO FORMA invoice showing all prices and postage required to ship your order so that you can send the exact payment.

**POSTAGE:** The correct amount of postage can be found by referring to the UPS shipping chart. In order to estimate the correct shipping weight, please total the NET WEIGHTS of all the items ordered and multiply by

1.5. This method will give the estimated GROSS WEIGHT. The shipping weights for all liquid products are as follows: 2 lb/1 pint; 3 lb/1 quart; 9 lb/1 gallon; and 45 lb/5 gallon. The five gallon and 25 lb containers will be shipped separately and the shipping weights are 28 lb. Please figure shipping charges for those items separately.

**SHIPMENTS:** We will normally ship domestic orders by UPS ground service, however, we will ship by UPS Air if you request. All orders marked RUSH will be shipped by UPS 2ND DAY AIR. Please be sure to include your street address as UPS does not deliver to a P.O. Box. If your mailing address is different than your shipping address please give both addresses on the order form.

**HAZARDOUS MATERIALS:** Hazardous materials are marked with an asterisk in the price list. These products cannot be shipped by mail or to a foreign country. When shipping these materials by UPS a hazardous materials charge will be added to the invoice.

**BACK ORDERS:** We try to keep all items in our catalog in stock, however, at times we are temporarily out of stock. When this happens we will advise you and ask that you be patient. We will get the back ordered items to you as quickly as possible.

**C.O.D. ORDERS:** Orders will be shipped COD when specified by you on the order. Special delivery instructions must appear on the order form. Applicable COD charges will be added to the invoice.

**OPEN ACCOUNTS:** Open credit is extended to all accounts with good D&B ratings. To establish credit when not rated please request a credit application.

**TERMS:** Our terms for all open account is NET 10 DAYS from date of invoice. All overdue accounts will be charged interest at 1.5% per month from date of invoice.

**DAMAGED GOODS:** All orders are shipped in good condition. Please inspect packages on arrival for any damage and note any damage on the carriers delivery receipt. Claims for damaged goods must be filed with the carrier to be reimbursed.



## CHEMICALS, DYES AND MORDANTS

### ALUMINUM CHLORIDE HEXAHYDRATE

Aluminum chloride is used in conjunction with calcium chloride to produce an aluminum-calcium rosinate. This is used as a resin for a clear varnish in Joseph Michelmans modernized violin varnish.

### ALUMINUM POTASSIUM SULFATE

Alum is a white mineral that is a component of many types of rocks found in various parts of the world. It is used as a mordant to fix natural dye colors. Do not use the alum found in drug stores (aluminum ammonium sulfate), it will not give satisfactory results.

### BORAX

Borax when mixed with water is used as a neutralizer after bleaching with oxalic acid. It is mixed three ounces to a gallon of water.

### CALCIUM CHLORIDE

Calcium chloride is used with aluminum chloride to make an aluminum-calcium rosinate, which is the basis of a clear varnish in Joseph Michelmans modernized violin varnish.

### CALCIUM HYDROXIDE

Calcium Hydroxide is also known as hydrated lime or slaked lime. It is used as the primary ingredient in milk paint remover. It is also used in antique reproductions. It is a white powder.

### CALCIUM OXIDE

Calcium oxide is also known as quicklime. It has been used to make limed rosin. It is also used to dry linseed oil after it has been washed with water to remove impurities.

### COPPER SULFATE

Copper sulfate is also known as Blue Vitriol and is used as a mordant for the natural dyes to vary the final color produced on wood. Dissolve 2 ounces in a pint of water and use this as a stock solution. Dilute the stock solution with water to use as a mordant. Use with caution as it is very poisonous.

### FERRIC CHLORIDE HEXAHYDRATE

Ferric chloride is used to make red-brown rosins for use in Joseph Michelmans modernized violin varnish.

### FERROUS SULFATE

Ferrous sulfate is also known as Copperas or Green Vitriol. It is light green in color and when dissolved in water, it is used to stain woods. Dissolve 2 ounces in a pint of water and use this as a stock solution. Dilute the stock solution to use as a mordant. It works best on woods that are high in tannin and depending on the amount of tannin present will stain them a gray to steel blue color. It can also be used on woods that are low in tannin by prestaining the wood with a tannic acid solution. It is also used as a mordant for varying the colors of natural dyes when staining wood. Use this chemical with caution as it is moderately poisonous.

### OXALIC ACID

Oxalic acid was used extensively as a bleach before two-part bleaches were developed. It is not as strong as the newer bleaches, but the wood tends to

retain more of its character after bleaching with oxalic acid. To be used as a bleach it must be dissolved in hot water and used hot. Usually a saturated solution is used. It is made by dissolving oxalic acid in hot water until no more will dissolve and some is left undissolved. Apply the hot solution with a nylon brush. When the desired amount bleaching has taken place, wash the area with water. The last step is to wash the area with a solution of three ounces of borax mixed with one gallon of water.

#### CREAM OF TARTER

Cream of tartar is a white powder easily soluble in water. It is used in conjunction with other mordants to vary the color produced when staining using natural dyes and dye extracts.

#### POTASSIUM CARBONATE

Potassium carbonate is used in Joseph Michelmans modernized violin varnish formula to dissolve the rosin. This solution is then used with a solution of metal salts and alizarin to produce colored light fast resins for making violin varnishes.

#### POTASSIUM DICHROMATE

Potassium Dichromate is also known as Potassium Bichromate or Bichromate of Potash. It is a bright orange-red solid that is dissolved in water and used to stain woods. To make a stock solution dissolve 2 ounces in a pint of water. To use as a mordant dilute with water. It is most effective in staining woods that are with high in tannin such as oak, mahogany and walnut. The color it produces depends on the wood, but it is generally red to brown in color. It will also stain woods that are low in tannin by prestaining with tannic acid solution. It is the best known and most used of the common mordants. It is used extensively as a mordant for the natural dyes and to give better penetration to water soluble aniline dyes. Use this chemical with caution as it is poisonous.

#### POTASSIUM HYDROXIDE

Potassium hydroxide is also known as caustic potash. It comes in the form of white flakes. It is similar to sodium hydroxide. It will burn your skin and is poisonous if swallowed. Take precautions when using this material. It is used to make the potassium rosinate solution in Joseph Michelmans modernized violin varnish.

#### POTASSIUM PERMANGANATE

Potassium Permanganate is a dark purple solid. Dissolve 1 ounce in a pint of water to stain woods a pleasant brown. The Potassium Permanganate decomposes on contact with the wood and leaves a brown residue that stains the wood. If the color is too dark it can be lightened by washing the wood with a strong solution of hypo. The brown color imparted to fairly woods will gradually fade when exposed to direct sunlight. Mix only enough solution to do the job at hand as the solution on long standing will lose its effectiveness. Use it with caution as it is a strong oxidizer.

#### POTASSIUM SILICATE

A premade solution of potassium silicate dissolved in water. It is used by violin makers to stiffen the wood they use to make violins to make them sound better.

#### SODIUM HYDROXIDE

Sodium hydroxide is also known as caustic soda. It comes as small white beads. It is similar to potassium hydroxide. It will burn your skin and is poisonous if swallowed. Take precautions when using this material. It is used primarily in antique reproduction or aging wood

#### STEARIC ACID

Stearic acid is used along with Carnauba and Candelilla wax to make George Frank's famous emulsified giving new furniture that dry shine of antique wax for furniture.

#### TIN CHLORIDE

This is another chemical mordant used to produce various colors on wood when used with the natural dye extracts. Use caution when using this chemical as it is poisonous.

#### TRIETHANOLAMINE

Triethanolamine is used by George Frank to make his emulsified wax. It is needed to emulsify the wax with the water as without it they will not mix.

#### TRISODIUM PHOSPHATE

Trisodium phosphate is also known as TSP. It is an excellent cleaner when dissolved in water to remove dirt and grease and oil. It can also be used to clean old paint brushes.

#### ZINC SULFATE

Zinc sulfate is used to make varnish resins for musical instruments.

#### ZINC CHLORIDE

Zinc chloride is used in the Michelmans modernized violin varnish formula to make a red varnish is a zinc-alizarin-rosinate and when dissolved in resin. This turpentine and boiled linseed oil make a very good red varnish for violins. However, the shelf life of the varnish is limited and should be used immediately.

#### ALKANET ROOT

This coloring agent is reported to have been mentioned by Pliny and was known to the ancients. Alkanet Root is a versatile coloring agent, its color being soluble in both alcohol and turpentine. The roots of this plant should be chopped into pieces before using and then soaked. When it is soaked in linseed oil, it imparts a red color which is useful in coloring Mahogany before French Polishing. It gives a gray color when used with alum as a mordant.

#### ANNATTO SEEDS

The annatto *Bixa Orellana* is a small tree native to Mexico and Central America. The Spaniards found the Aztecs using it and its use spread to Europe, Asia, and Africa. It was used for dyeing many different materials. It is fugitive when used alone but less so when combined with other dyes or used in a varnish. It yields golds and oranges with alum, chrome or tin mordants.

#### BLACK WALNUT HULLS

Black walnut hulls produce striking browns and blacks. Colors are better if the hulls are used when fresh and green. Our hulls are dried because we cannot keep them fresh all year. Soak the hulls for 24 hours and then boil to

extract the potent color. To get a very strong color the hulls are allowed to ferment first. The colors are light fast.

#### BRAZILWOOD EXTRACT

Brazilwood Extract is also called "hypernic". It comes from *Caesalpinia Sappan*. The word Brazil comes from the Arabic "braza" meaning bright red. In 1500 A.D. when traders came to the northern part of South America they named the area "Tera de Brazil" due to the dense stands of huge red trees (Brazilwood). Depending on the mordant used Brazilwood produces reds, browns, crimsons and purples. Use 1 ounce of extract in a pint of distilled or tap water. Will fade somewhat but less so when mordants are used.

#### CUTCH EXTRACT

Cutch Extract is derived from *Uncaria Gambier*. Cutch gives various shades of brown with different mordants. Use 1 ounce of extract in a pint of distilled or tap water.

#### COCHINEAL

Cochineal is the body of the female beetle and yields an intense red dye, purple with mordants. Soak them overnight and boil thoroughly to extract the dye. Use 4 ounces per quart of water.

#### FUSTIC EXTRACT

Fustic Extract is prepared from the heartwood of the *Chlorophora Tinctoria* tree. It is a member of the Mulberry/Acacia family and grows in the tropics and Asia. Colors range from yellow to golden to greenish yellow depending on the mordant used and is only slightly fugitive. Dissolve 1 ounce of extract in a pint of water.

#### HENNA POWDER

Pure powdered leaves of the plant *Lawsownia Inermis*; this variety is sometimes called "red henna". Gives red-browns with good colorfastness.

#### INDIGO POWDER

Extract prepared from cultivated plants of *Indigofera Tinctoria*. Quality (dye content) and appearance may vary depending on source and batch.

#### KAMALA POWDER

Kamala powder is derived from the fruit of the kamala or lotus tree, *Mallotus philippinensis*, native to tropical Asia. Gives yellow coloring in alcohol or water.

#### LAC DYE

Lac dye is derived from the processing of sticklac into shellac. When the water used to wash the sticklac is evaporated Lac Dye is obtained. Gives red color in alcohol or water. A lake similar to madder lake can be made from Lac Dye.

#### LOGWOOD EXTRACT

Logwood Extract is prepared from Campeche wood *Haematoxylon Campechianum*. It is used with various chemical mordants to stain wood various colors. It yields beautiful grays, blacks, browns, violets and blues depending on the mordant used. Dissolve 1 ounce of extract in a pint of water, distilled is best but tap water will work.

#### LOGWOOD POWDER

Logwood powder is ground up Campeche wood. It was introduced to Europe in the sixteenth century and was very prized because it could produce a good black with an iron mordant. The color must be extracted from the wood by boiling in hot water. The colors produced are light fast.

#### MADDER ROOT

Madder Root used in dyeing, dates back to Prehistoric times. The coloring matter can be extracted by fermenting the root and then extracting with alcohol. This extract can be used to color spirit varnishes or be converted into an aluminum lake and used to color oil varnishes. It can also be used to stain wood various colors with the use of mordants. For those who do not wish to extract the coloring matter we sell synthetic Alizarin which is the active coloring matter in Madder Root. We stock both the whole and ground root.

#### OSAGE ORANGE

Osage Orange is the heartwood of *Maclura Pomifera*, which is a member of the Mulberry family. It yields rich red-orange to gold colors depending on the mordant used. The colors are more brilliant than Fustic. Simmer in distilled or tap water to extract the color.

#### QUEBRACHO EXTRACT

Quebracho is extracted from the Quebracho tree and is a source of tannin. It can be used in place of tannic acid.

#### RED ALIZARIN

Alizarin is the active component of Madder Root. It is a synthetic material and can be used like Madder Root Extract. When making colored metal rosins, for Michelman varnishes it is used as a 2% dispersion in water.

#### RED SANDALWOOD

Sandalwood, *Pterocarpus Santalinus*, also called sanders wood, is a tree native to India, and the tropical areas of Asia. It produces some striking reds that are unobtainable with other dyes. Because it is an extremely hard wood it does not give up its color without a lot of soaking and heating.

#### RHATTANY ROOT

The root of a small shrub, *Krameria lappacea*, native to Peru. Gives reds in alcohol or water.

#### SUMAC EXTRACT

Sumac comes from various species of the Rhus genus. The extract is high in natural tannin and yields yellow-tan-brown colors.

#### TANNIC ACID

Tannic Acid is a light brown fluffy powder that darkens on exposure to sunlight and air. It is used to pre-stain woods that are low in tannin so that the chemical stains will be more effective. A solution is then applied to the wood with a rag or brush and allowed to dry.

#### WALNUT CRYSTALS

This is a soluble form of van dyke brown, a natural earth pigment. It is dissolved in water, 1 ounce to a pint, and used to stain woods a walnut brown. Darker shades can be obtained by adding ammonia solution or sodium carbonate (washing soda) to the solution.

#### YELLOW ALIZARIN

Yellow alizarin is similar to red alizarin, but is used for making yellow resins for the manufacture of violin oil varnishes.

## WAXES AND POLISHES

### BEESWAX

Beeswax is a wax obtained from bee honeycombs. It is usually yellowish in color, fairly soft and has a honey-like odor. It has a melting point of 62-65°C. and is practically insoluble in water, slightly soluble in alcohol and soluble in turpentine. It is used in conjunction with other waxes to make wood polishes for floors and furniture. White beeswax is obtained by sun bleaching yellow beeswax. It is nearly white in color and is also called Bleached Yellow Wax, White Wax or Bleached Beeswax. Its melting point is 61-69°C. and it has the same properties and uses as yellow beeswax.

### CARNAUBA WAX

Brazil Wax is obtained from the leaves of the Brazilian Wax Palm tree. The hardness and high-polish capability of this wax is well known. It has the highest melting point (83-86°C) of the waxes used in making furniture waxes and polishes. It is usually mixed with other waxes because of its hardness and brittleness. The color varies from light yellow to greenish brown. #1 yellow is a light yellow wax.

### CANDELILLA WAX

Candelilla wax is harvested from the leaves of a plant grown in Mexico. Its melting point is only slightly lower than Carnauba Wax. It has the same desirable properties of hardness and high polish as Carnauba and is used in conjunction with Carnauba to make an emulsified wax described by master wood finisher George Frank.

### BUTCHERS WAX

White Diamond the Bowling Alley Paste Wax. The favorite with everyone who loves the rich glow of fine wood. Clear wax in turpentine and other select solvents. Cleans as it waxes. It polishes easily to a deep luster. Also recommended for shoes, boots, leather, copper, brass, autos, fiberglass, marble, sealed brick and flagstone, linoleum and cork floors. Boston Polish is an Amber Paste Wax exactly like White Diamond except for color. Same performance, on the same surfaces. The amber tint makes Boston Polish better at hiding nicks and scratches on wood.

## SHELLAC AND VARNISH RESINS

### SHELLAC

Shellac is made from seedlac by melting and removing the foreign material. The best grades of Indian made orange shellac are made from Kusmi seedlac. Several grades are available ranging from Superior Kusmi, which is the lightest, to T.N. which is the darkest. Bleached shellac is made by dissolving lower grades of orange shellac in water using a base, if dewaxed shellac is desired, it is filtered to remove the wax. The bleaching agent is added to bleach the shellac, it is then precipitated by adding acid, filtered and dried. It is used exactly as orange shellac, but is much lighter in color for use on light woods. Dewaxed shellac when dissolved in alcohol, will give perfectly clear solutions. Dewaxed Extra Light, Dewaxed Golden Orange Shellac and Dewaxed Garnetlac are made by dissolving in alcohol removing the color if necessary with activated charcoal, filtered and the alcohol evaporated to give the shellac. Orange shellac made by this method is of higher quality than that made in India and will not polymerize for several years.

### SEEDLAC

Seedlac is the product of the Lac insect. There are three main grades: Kusmi, Bysaki and Siam. Kusmi is the best grade. It is the lightest in color and contains about 3% foreign matter and about 5% wax. Bysaki is the second lightest and Siam is the darkest. Ammoniac Resin, however, contains 2% less wax than Kusmi or Bysaki. Ammoniac resin is a white resin with a characteristic odor similar to burgundy resin. It is used for making varnishes.

### BALTIC AMBER RESIN

Baltic Amber is the hardest known fossil resin, of great antiquity. The resin must be heated to over 300°C and run in order to make it soluble in oil. The color varies from light yellow to dark red.

### BURGUNDY RESIN

This is the resin from *Picea Abies*. It is a yellowish resin similar to Juniper Gum. It can be used in the production of musical instrument varnishes.

### CRUDE PINE GUM

This is the oleoresin from *Pinus Palustris* and other species of Pinus. It is yellowish to brownish opaque liquid and has the characteristic odor and taste of turpentine. Its main use is the manufacture of gum turpentine and rosin. It can be used to make certain violin varnishes.

### COPAIBA BALSAM

Copaiba Balsam is the oleo-resin obtained from various species of *Copaifera* in South America; it has the same relation to soft copals as Gum Thus has to colophony. It is a viscous, transparent liquid, dark yellow or brown in color, with a peculiar aromatic odor. It is soluble in absolute alcohol, and consists of an essential oil associated with a free resin acid. It is used as a plasticizer, and is largely employed in the restoration of pictures.

### CANADA BALSAM

This is the oleoresin of *Abies Canadensis* and related species. The oleoresin when fresh, is a pale yellow with a faint greenish cast. It dries to a clear transparent film which does not exhibit a crystalline appearance. It is used as a plasticizing resin for varnishes.

### CONGO COPAL

Congo copal is a hard fossil resin from the Congo region of Africa. It has been used for making quality varnishes for many years. The resin must be fused or 'run' first to make it soluble in oil. Our resin has already been run and can be heated with oils directly to make oil varnishes.

### DRAGON'S BLOOD

Use of this resin has almost ceased, due to its general unavailability. The original Dragon's Blood comes from Western Asia and the best still comes from there. It is generally sold in the form of balls, sticks or powdered. It is partially soluble in alcohol and the residue consists of woody plant material and water soluble gums. The alcohol solution is light red and is useful for coloring spirit varnishes.

### ELEMI RESIN

Elemi is a plasticizing resin and can be used to plasticize lacquers and shellac. It is soluble in aromatic hydrocarbons such as toluene and somewhat soluble in alcohol. It is a plastic solid at room temperature with a specific gravity of 1.03.

#### GUM ARABIC

Gum Arabic is also known as Gum acacia. It comes from *Acacia Senegal* and other species. It is a white powder and is used in making mucilage and for making a ground material for sealing the wood.

#### GUM BENZOIN

This is an aromatic balsam obtained from *Styrax benzoin*. The commercial product comes mainly from Siam and Sumatra. Siam benzoin is the finest variety, and is composed almost entirely of benzoic esters. It occurs either in flattened milk white tears or in agglomerations of white masses distributed through an amber-colored, rather translucent matrix. It is brittle, and has a strong, characteristic vanilla like odor. It is readily softened by heat, becoming quite soft at 75° C. and fluid at 100° C. The dust is somewhat irritating to the nose. Sumatra benzoin is rather grayer, and is in the form of an agglomerate mass with white tears distributed through a darker translucent matrix. Its odor is not so agreeable as that of Siam benzoin, and it does not melt so easily. It differs from the Siam product in composition, containing about 30 per cent of cinnamic acid. Benzoin is used chiefly for its fragrant odor. It is readily soluble in alcohol, but sparingly in turpentine and other hydrocarbons. It is used in making spirit varnishes and also for making a spirit glaze for french polishing.

#### GUM FRANKINCENSE

Gum Frankincense has been known since ancient times. It originates mostly in Egypt and Arabia. It contains about 60% alcohol soluble resin and about 20% water soluble gum. It has a characteristic odor and is used to manufacture varnishes.

#### GUM GAMBOGE

The main supply of this yellow resin is from Thailand where the trees are tapped and the resin collected in hollow bamboo's. When the resin has solidified, the bamboo's are cracked open and pipe Gamboge is obtained. The alcohol soluble resin is used to color spirit varnishes and as a ground color for violins.

#### GUM MASTIC

Mastic is a soft resin in the form of pale yellow tears. It is completely soluble in alcohol and spirits of turpentine. It comes Chios. It is used in spirit varnishes, lacquers and in the artists field. The softening point is about 55° C., melting point about 76° C. and specific gravity is 1.04-1.06.

#### GUM MYRRH

Gum Myrrh is a resin known since ancient times. It comes from Arabia. It contains 25-40% alcohol soluble resin and 57-61% of a water soluble gum. It has an aromatic odor and has been used in the manufacture of varnishes.

#### GUM ROSIN

Also known as Colophony. It is the resin that remains after the distillation of gum turpentine spirits. It is graded according to color with WW being the palest. The I grade is a darker grade. It is used for manufacturing varnishes, driers and pigments. The I grade can be used to make bow rosin.

#### KAURI RESIN

Kauri resin comes from New Zealand and is usually brown in color. It has been used extensively to make oil varnishes, but is seldom used now due to unavailability. As it is not very soluble in turpentine in the raw state, it must first be run to make it soluble. Its softening point is 90° C., melting point is 185° C. and a specific gravity of 1.05.

#### LOBA C MANILA COPAL RESIN

Loba C is a good grade being light in color with little insoluble matter. This alcohol soluble resin is used for the same purposes as the above resin. The melting point ranges from 114-130° C. and the specific gravity is 1.06-1.08.

#### EAST INDIA RESIN

Batu and Pale East India are high melting point damar type resins with adhesion, flexibility and color retention. They are also very tough. They are soluble in petroleum hydrocarbons. They are generally heated to be made soluble in oils for the run at high productions of varnishes. Pale East India's softening point is 109-128° C., m.p. 140-156° C. and specific gravity of 1.04-1.05. Batu's softening point is 111-132° C., m.p. is 168-180° C. and specific gravity is 1.00-1.05.

#### PONTIANAK RESIN

Pontianak resin is similar to the alcohol soluble Manilas but has a higher melting point and is therefore used in more exacting specifications, particularly in the specialty coating and adhesive fields. Pontianak has also been popular in certain types of cooked oil vehicles. The softening point is 99-135° C., m p 136-169° C. and a specific gravity of 1.07-1.08.

#### PROPOLIS

Propolis is a resin collected from beehives. It can be used to make both spirit and oil varnishes. It varies in color from brown to yellow brown in color and has a characteristic odor.

#### PURIFIED MANILA COPAL

This purified resin maintains the characteristics of Manila and is recommended for spirit varnishes. It is completely soluble in alcohol's and has a melting point of 100-125° C.

#### SANDARAC RESIN

This is one of the oldest known resins in the artist and coating fields. It is a light yellow resin that comes from Morocco and Australia. It is used in spirit varnishes, lacquers and specialty finishes particularly in the artists field. It gives excellent color retention, stability, adhesion, as well as flexibility. The softening point is 100-130° C. the melting point is 135-150° C. and specific gravity is 1.05-1.09.

#### SINGAPORE DAMAR

Damar is soluble in petroleum hydrocarbons and turpentine. It provides unique depth of gloss, superior color and gloss retention, adhesion and flexibility and resistance to greases, cold checking and general all-around varnish resin for cold cuts, blends scuffing. A or cooked oil vehicles. It is compatible with a wide variety of synthetic resins including phenolics, alkyds, rosin, ester gum, waxes, ethyl and nitrocellulose and others. The softening point is 67-75° C., melting point 99-115° C. and a specific gravity of 1.04-1.06.

#### LARCH TURPENTINE

This is the pure resin of the European Larch Tree. It is a plasticizing resin for spirit and oil varnishes. It is very thick and viscous like honey and is a golden yellow color. It can be heated with other resins and combined with linseed oil and turpentine to make an oil varnish.

## VENICE TURPENTINE

Venice turpentine is the resin of the European Larch tree that has been mixed with gum rosin and turpentine spirits to make it less expensive. It is a plasticizing resin for use in both spirit and oil varnishes. It is very thick and viscous like honey and is a golden yellow color. It can be heated with other resins and combined with linseed oil and turpentine to make an oil varnish.

## YACCA RESIN

It is also known as Red Gum and Gum Accroides. It is soluble in alcohol. This resin is inclined to be brittle and not always soluble according to usual rules. The resin does not run in the molten state, but is heat reactive and at elevated temperatures, sets and becomes completely insoluble. Yacca is highly resistant to oils and has excellent insulation qualities. The attractive red color has not been bleached or removed from and is recommended as a dye for lacquers and the resin spirit varnishes. The softening point is about 75° C., melting point is 110-128° C. The specific gravity is 1.34.

## CEDARWOOD OIL

Cedarwood oil is a volatile oil with a characteristic odor and light yellow color. It can be used in varnish making.

## LEMON OIL

Lemon oil is obtained from the peels of lemons and is used in making polishes for furniture.

## SIBERIAN FIR NEEDLE OIL

An clear colorless oil with an odor of pine.

## OIL OF ROSEMARY AND SPIKE LAVENDER

These are both essential oils distilled from the plants and are used for the production of oil varnishes and spirit varnishes.

## COATING AND FINISHING MATERIALS

### LINSEED OIL

Linseed oil is extracted from Flax seeds. In the raw state it does not dry very well if used as a finish for wood. It is however, an essential ingredient for French Polishing and for making Boiled Linseed Oil. Boiled Linseed oil is a well known oil used in finishing wood. It is made by heating refined Linseed oil and adding driers to improve its drying properties. It can be used alone or with varnish to give an oil varnish finish. It is also used in the revised Michelman varnish formula. Varnish makers linseed oil has been refined to remove the "break" so that it will not become cloudy on heating to make varnish.

### PURE TUNG OIL

Tung oil is also known as Chinawood oil. It is extracted from the nuts of the Tung tree. It is a fast drying oil that dries to a hard tough moisture resistant film. Its only drawback is that when it dries, the film is wrinkled. Our Tung oil is a refined grade that is light yellow in color and does not contain any added solvents or driers. When diluted with mineral spirits to aid penetration and application, it can be used as a nontoxic finish for salad bowls, butcher blocks, etc.

### PURE POLYMERIZED TUNG OIL

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Polymerized tung oil is pure tung oil that has been heated under pressure at 600-650° F. until partially polymerized. It does not contain any driers or solvents and is used to manufacture oil finishes, paints and varnishes.

### WALNUT OIL

Walnut oil is extracted from walnuts and refined by removing the water soluble components. It can then be used in varnish making. It can be applied to wood as is to protect it. It can be used to protect salad bowls and such as it will harden to a tough non-toxic film.

### RUBBING OIL

A light mineral oil useful for rubbing out finishes with pumice or rotten stone. Also used as a lubricant in French polishing.

### PASTE WOOD FILLERS

This is mixtures of Silex, pigments and a suitable vehicle in paste form which when reduced with Naphtha is applied to wood to fill the pores. The filler provides a smooth glasslike surface for subsequent finishing materials. It is generally used on woods with large open pores like oak, ash, walnut and mahogany. If lacquer is to be used as a finishing coat over filled wood the filler should be thoroughly dry and a sealer coat should be used to prevent later problems.

### GOLD SIZE

Gold size is used to attach gold leaf to wood and other surfaces. It is available in three different types: 1) clear quick dry; 2) clear slow dry; and 3) yellow slow dry. The quick dry will hold its tack for about four hours and is used for glass gilding as well as picture frame gilding. The slow oil size will hold its tack overnight and is used for Dutch metal and Aluminum Leaf. The yellow oil size is a pigmented size for gilding with gold leaf. It will hold its tack for about 24 hours. It is considered the best for genuine gold leaf work.

### BURNISHING CLAY

This is a finely ground mixture of colored clays, water and glue in paste form. It is used as an adhesive and base for leaf gilding operations. It is offered in three colors-red, blue and yellow.

### VARNISH DRIERS

Our varnish driers are solutions of the metal salts of organic acids dissolved in mineral spirits. They are used in paints and varnishes to help the oils dry. They are sold based on the metal content of the solution, i.e. the cobalt drier contains 6% cobalt metal. The varnish driers we stock are cobalt, calcium, manganese, zirconium. We also carry liquid japan drier.

### ABRASIVE POWDERS

Pumice is an abrasive powder available in several grades, the finest being FFFF or 4F. To obtain that "hand rubbed" semi-gloss effect on varnish or lacquer, rubbing the surface with pumice and water or oil will give a smoother surface quicker and easier. As shellac is not will give a waterproof, oil and pumice are used.

Rottenstone is a very fine abrasive powder used to obtain a high gloss on finishes by rubbing the surface with rotten stone and water or oil. To obtain the highest gloss on varnish, lacquer or shellac finishes, it is recommended the surface first be rubbed with pumice and water or oil.

Tripoli is a very fine abrasive powder used to obtain a high gloss on finishes by rubbing the surface with water or oil. To obtain the highest gloss on varnish, lacquer or shellac finishes, it is recommended the surface first be rubbed with pumice.

Lycopodium is a fine powder used in finishing musical instruments.

### LACQUER BURN IN STICKS

A burn in stick for filling defects. They will accept any finish and will not lift. They have good shelf life, will not shrink and flow freely. It is a special chemical formula and can be used on virtually any surface. Available in the following colors:

Number	Number
65-0051- Brown Acorn Dark	65-0003- Tan Light
65-0249- Brown Perfect	65-0119- Tan Extra Dark
65-0930- Fruitwood Medium	65-0008- Transparent Dark
65-0007- Transparent Light	65-0004- Black
65-0115- Mahogany Medium	65-0141- Transparent Maple
65-0105- Mahogany Medium Light	65-0075- Trans. Walnut Med
65-0246- Mahogany Red	65-0043- Walnut Brown Dark
65-0038- Maple Brown Dark	65-0014- Walnut Dark
65-A015- Maple Brown Light	65-0044- Walnut Dark Oiled
65-0360- Maple Brown Medium	65-0006- Walnut Extra
65-0077- Maple Brown Red	65-0564- Maple Modern
65-0101- Maple Medium	65-0510- Walnut Modern Lt.
65-0026- Maple Extra Light	65-0017- Walnut Natural
65-0045- Maple Light Medium	65-0015- Walnut Red Dark
65-0516- Maple Provincial	65-0039- Walnut Red Light
65-0205- Walnut Medium Light	65-0162- Pine Tavern Old
65-0001- Water Clear Synthetic	65-0005- White
65-0010- Mahogany Brown Medium	

### LEAF

Leaf is made from metals which have been hand or machine hammered to an extreme degree of thinness. Leaf is cut to a standard size and packed in books of 25 leaves. Twenty books make up one full pack of 500 leaves. Imitation gold leaf or composition leaf is cut to a size 5 1/2" x 5 1/2".

### CLOTHS

Tack cloths are prepared cloths folded in layers to a standard size usually 4 1/2" x 4 1/2". Tack cloths are used for picking up dust and lint from surfaces. The tack is created by treating the cloth with a special varnish oil preparation. We sell only Bond Chemicals premium grade of tack cloth. The finest tack cloth anywhere.

Nylon filter cloth is a 100 mesh nylon cloth cut into convenient size squares for filtering various solutions such as varnishes, shellacs, and polishes. The very small mesh size insures that even very small particles are filtered out of your solutions.

### MICRO-MESH

MICRO-MESH is a unique cushioned abrasive capable of giving very fine and very controlled scratch patterns. The nine grits range from 1500 to 12,000. The 1500 is slightly coarser than a conventional 600 sandpaper, and the 12000 will leave a scratch pattern that cannot be detected by the human eye. MICRO-MESH abrasives can polish to an optically clear, reflective state or, through the use of a coarser grit, leave a matte or satin finish. For the best finish a foam block should be used with MICRO-MESH. Finish MICRO-MESH application with antistatic cream. Rub thin coating on surface with fingers. Wipe clean with tissue or flannel. The antistatic cream must be used to remove the abraded particles held to the surface by static. The following are the grits available and their

corresponding catalog numbers:

Catalog Grit Number Size	Catalog Grit Number Size	Catalog Grit Number Size
50-3500- 1500	50-3530- 3200	50-3560- 6000
50-3510- 1800	50-3540- 3600	50-3570- 8000
50-3520- 2400	50-3550- 4000	50-3580- 12000

### MICRO-MESH KITS

The MICRO-MESH kit contains one 3" x 6" cut piece of 2400, 3200, 3600, 4000, 6000, 8000, 12000, a 2 oz bottle of antistatic cream, foam block and industrial wiping tissue. The Woodworkers kit contains two each 3" x 6" sheets of 1500 to 12000.

The Micro-gloss Kit contains 8 oz. of MICRO-GLOSS (a plastic polish formulated to remove superficial scratches and other light surface damage), Antistatic Cream, and flannel cloth.

## MISCELLANEOUS FINISHING SUPPLIES

### HIDE GLUE

We stock several kinds of hide glues, including dry ground hide glue, liquid hide glue, dry ground Rabbitskin glue and imported French Rabbitskin glue. Dry hide glue is a proven commodity that has long been used successfully in the woodworking trade. Just mix with water and heat.

Liquid hide glue is ready to use and requires no heating. An excellent general purpose wood glue Rabbitskin glue is used in gilding and as sealer for wood before applying wood stains to give more even penetration.

### BOOKS

Working Green Wood with PEG by Patrick Spielman describes how to turn inexpensive green wood into clocks, tables, bowls, table legs, and more. PEG is an easy-to-use and readily obtainable chemical with a long name: polyethylene glycol 1000. Once you treat your green wood with PEG, it will no longer shrink, warp, swell, check or crack--ever, no matter where or how you use it! Spielman tells you everything you need to know about using PEG: sources of supply, what wood to use, how to mix the solution, and how to treat, dry, and finish the wood.

Wood Finishers Handbook by Sam Allen gives information from the newest advances in finishing to traditional techniques that are unsurpassed, this state-of-the-art book tells you clearly and completely how to finish all kinds of wood, whether previously finished, dented and imperfect, or new. With 150 action photos and drawings, Allen reveals the advantages and disadvantages of each product, inexpensive substitutes for expensive commercial products and excellent little-known techniques, including how to make a new piece look as if it came from a museum. Whether you're a novice or expert, this benchmark book will save you time and money.

Italian Violin Varnish by George Fry: This book describes the manufacture of oil violin varnish by oxidizing mixtures of rosin and turpentine and combining this with linseed oil to make a varnish.

### ANILINE DYE POWDERS

These are available in a wide variety of colors in three separate solubility's: water, alcohol and oil or lacquer. Primarily used on hardwoods to produce an excellent clarity of color and accentuate the grain. Anilines of the same solubility's may be mixed to produce a wide variety of shades. Please specify shade and number when ordering. Use 4 to 8 ounces of dye per gallon of solvent.

### LIGHT FAST WOODSTAIN POWDERS

These wood stains are alcohol soluble powders that will not fade on exposure to sunlight as will ordinary alcohol soluble dyes. They are generally dissolved in methyl alcohol and then used to stain whatever wood

you desire. They can also be added to lacquer to color it by dissolving it in a mixture of ethyl alcohol and diacetone alcohol.

### EARTH COLOR PIGMENTS

These are extra fine ground dry pigments for coloring, mixing and tinting. They can be used to tint paint, enamel, fillers, shellacs, lacquers or any type liquid requiring color. They are also used for spot color replacement on all types of furniture. Because of fineness, they mix readily with any of the above mentioned mediums to produce smooth opaque finishes. Make a smooth paste with the proper thinner before adding the heavier bodied liquid.

### BRONZE AND ALUMINUM POWDERS

These metallic pigments are flat thin particles of polished metal made from mixtures of copper, zinc, tin, and antimony. Red, green, blue and amaranth shades are produced by adding dyes.

Copper and aluminum powders are made from pure copper and pure aluminum. They are used for decorative effects with lacquers and varnishes. One to two pounds per gallon of vehicle are necessary to produce good coatings. Mix only enough for the job at hand as gelation may occur on prolonged standing. After mixing, the vehicle can be brushed or sprayed. The powder should be mixed with the thinner first to prevent lumping then the vehicle is added. A color card is available upon request.

### OIL COLORS

Oil colors are made from basic pigments ground in pure linseed oil. They are finely ground on roller mills and used primarily for tinting paints. Other uses include staining, touch up and antiquing. They can also be used to tint paste wood fillers.

### JAPAN COLORS

Japan colors are made from basic pigments plus a varnish like vehicle with drier known as Japan. These colors are finely ground and are used for tinting paints, making stains, antiquing, and touch up. Japan colors should be reduced with turpentine or mineral spirits.

### CHEMICALS DYES AND MORDANTS CHEMICALS DYES AND MORDANTS

CAT. NO.	DESCRIPTION	5gm(1)	1oz(2)	4oz(3)	8oz(4)	1lb(5)	5lb(6)
01-0055-	ALUMINUM CHLORIDE HEXAHYDRATE		4.20	11.60	19.30	32.10	107.00
01-0075-	ALUMINUM POTASSIUM SULFATE			2.80	4.70	7.90	26.30
01-0081-	BORAX			2.80	4.60	7.70	25.70
01-0090-	CALCIUM CHLORIDE			3.20	4.90	8.20	27.30
01-0093-	CALCIUM HYDROXIDE			4.60	7.60	12.70	42.30
01-0095-	CALCIUM OXIDE			4.60	7.60	12.70	42.30
01-0100-	COPPER SULFATE			3.10	5.10	8.50	28.30
01-0110-	FERRIC CHLORIDE HEXAHYDRATE			11.30	18.90	31.40	104.80
01-0125-	FERROUS SULFATE			2.50	4.10	6.80	22.70
01-0130-	OXALIC ACID			3.30	5.50	9.10	30.30
01-0140-	CREAM OF TARTER			2.70	4.50	7.50	25.00
01-0150-	POTASSIUM CARBONATE			3.30	5.50	9.10	30.50
01-0160-	POTASSIUM DICHROMATE			3.70	6.10	10.20	34.10
01-0170-	POTASSIUM HYDROXIDE			4.40	7.30	12.10	40.30
01-0190-	POTASSIUM PERMANGANATE			4.30	7.10	11.90	39.50
01-0210-	POTASSIUM SILICATE			3.30	5.50	9.20	30.70
01-0215-	STEARIC ACID			2.90	4.80	8.00	26.60
01-0220-	SODIUM HYDROXIDE			2.80	4.70	7.80	25.90
01-0240-	TIN CHLORIDE	3.70		10.40	17.40	28.90	96.40
01-0260-	TRIETHANOLAMINE			2.80	4.60	7.70	25.50
01-0265-	TRISODIUM PHOSPHATE			2.80	4.60	7.70	25.70
01-0270-	ZINC CHLORIDE	5.10		9.20	15.30	25.50	84.80
01-0275-	ZINC SULFATE	3.40		6.10	10.20	17.00	56.70
02-0520-	ALKANET ROOT			4.00	6.70	11.10	42.20
02-0530-	ALOE SOCOTRINE	3.70		10.40	17.30	28.80	96.10
02-0540-	ANNATTO SEEDS			4.00	6.70	11.10	42.70
02-0545-	BLACK WALNUT HULLS			3.70	6.20	10.30	46.40
02-0560-	BRAZILWOOD EXTRACT	4.40		12.30	20.50	34.20	159.40
02-0570-	CUTCH EXTRACT	2.10		5.70	9.50	15.90	74.10
02-0585-	COCHINEAL	8.70		24.20	40.30	67.10	
02-0595-	FUSTIC EXTRACT LIQUID	4.60		12.80	21.40	35.60	166.00
02-0596-	FUSTIC EXTRACT POWDER	7.50		21.00	35.00	58.30	271.80
02-0599-	HENNA POWDER			3.80	6.30	10.50	49.00
02-0600-	INDIGO	7.50		20.90	34.90	58.10	
02-0604-	KAMALA POWDER			6.90	11.40	19.10	
02-0605-	LOGWOOD EXTRACT	4.40		8.70	14.50	24.20	115.00
02-0610-	LAC DYE	6.20	15.60	43.20	72.00	120.00	
02-0620-	LOGWOOD POWDER	2.90		5.20	8.70	14.50	67.60
02-0630-	MADDER ROOT			3.70	6.20	10.40	40.00
02-0631-	MADDER ROOT GROUND			4.50	7.50	12.50	48.10
02-0641-	OSAGE ORANGE SAWDUST			4.40	7.30	12.20	46.90
02-0650-	QUEBRACHO EXTRACT	2.20		4.00	6.60	11.00	42.30
02-0660-	RHATTANY ROOT			8.10	13.40	22.40	99.00
02-0665-	RED ALIZARIN	4.10	10.20	28.40	47.40	79.00	349.20
02-0675-	RED SANDALWOOD	3.40		6.10	10.20	17.10	57.00
02-0685-	SUMAC EXTRACT	3.00		5.40	9.10	15.10	
02-0690-	TANNIC ACID	2.80		5.00	8.30	13.80	64.30
02-0695-	WALNUT CRYSTALS			3.60	6.00	10.00	40.20
02-0705-	YELLOW ALIZARIN	5.80		10.40	17.30	28.80	115.70

### WAXES

07-1010-	WHITE BEESWAX			3.90	6.50	10.80	50.10
07-1020-	YELLOW BEESWAX			3.80	6.30	10.50	48.70
07-1030-	REFINED CANDELILLA WAX			3.60	6.00	9.90	33.00

07-1040-	#1 YELLOW CARNAUBA WAX		3.80	6.30	10.50	35.00								14-1850-	VENETIAN TURPENTINE		6.10	10.20	17.00	56.50	
07-1050-	BUTCHERS BOSTON POLISH				7.10									14-1860-	YACCA RESIN		2.60	4.30	7.20	23.80	
07-1060-	BUTCHERS WHITE DIAMOND				7.10									15-1930-	CEDARWOOD OIL	3.50	9.90	16.40	27.40	91.30	
														15-1940-	PURE LEMON OIL	5.10	14.10	23.50	39.20		
	SHELLAC AND VARNISH RESINS													15-1950-	OIL OF ROSEMARY	4.30	11.90	19.80	33.00	141.90	
														15-1970-	SIBERIAN FIR NEEDLE OIL	7.30	20.30	33.80	56.30		
														15-1980-	OIL OF SPIKE LAVENDER	5.30	14.80	24.60	41.00	136.60	
12-1300-	DEWAXED EXTRA LIGHT SHELLAC (GERMAN)		5.40	9.00	14.90	71.00															
12-1301-	DEWAXED SUPER LIGHT SHELLAC (GERMAN)		6.10	10.10	16.90	80.50									COATING AND FINISHING MATERIALS						
12-1310-	DEWAXED GOLDEN ORANGE SHELLAC (GERMAN)		5.70	9.40	15.70	74.60															
12-1311-	DEWAXED PLATINA SHELLAC (INDIAN)		6.10	10.10	16.90	80.30									CAT. NO.DESCRPTION		1pt(4)	1qt(5)	1ga(6)		
12-1312-	DEWAXED SUPER BLONDE SHELLAC (INDIAN)		5.70	9.60	15.90	75.60									20-2000-	BOILED LINSEED OIL	3.20	5.40	15.00		
12-1313-	DEWAXED BLONDE SHELLAC (INDIAN)		5.00	8.40	13.90	66.10									20-2010-	RAW LINSEED OIL	3.20	5.40	15.00		
12-1320-	DEWAXED GARNETLAC		5.00	8.40	13.90	66.10									20-2015-	VARNISH MAKERS LINSEED OIL	4.80	8.00	22.30		
12-1330-	SUPERIOR KUSMI ORANGE SHELLAC		5.00	8.30	13.90	66.10									20-2020-	PURE TUNG OIL	6.40	10.70	29.60		
	CAT. NO.DESCRPTION	5gm(1)	1oz(2)	4oz(3)	8oz(4)	1lb(5)	5lb(6)								20-2030-	PURE POLYMERIZED TUNG OIL	8.00	13.40	37.20		
12-1340-	#1 ORANGE LEMON SHELLAC			4.40	7.30	12.20	58.00								20-2040-	PURE WALNUT OIL	7.10	11.90	33.00		
12-1360-	SUPERFINE ORANGE SHELLAC			3.90	6.50	10.90	51.80								52-3900-	RUBBING OIL	4.20	6.90	19.30		
12-1370-	BUTTONLAC			4.30	7.10	11.90	56.60								30-3040-	CLEAR SLOW DRY OIL SIZE	6.40	10.70	29.70		
12-1380-	T. N. ORANGE SHELLAC			3.70	6.20	10.30	49.00								30-3050-	YELLOW SLOW DRY OIL SIZE	8.60	14.30	39.60		
25-2880-	DEWAXED EXTRA LIGHT FRENCH POLISH DRY MIX			10.30	17.20	28.60	135.90								CAT. NO.DESCRPTION		1pt(4)	1qt(5)	1ga(6)		
25-2890-	FRENCH POLISH DRY MIX			9.80	16.30	27.20	129.30								30-3060-	CLEAR QUICK DRY SYNTHETIC SIZE	6.50	10.90	30.30		
13-1500-	BYSAKI SEEDLAC			3.80	6.30	10.40	49.40								40-3400-	NATURAL PASTE WOODFILLER	8.50	14.20	39.40		
13-1510-	KUSMI SEEDLAC			3.90	6.60	10.90	51.80								40-3410-	MEDIUM MAHOGANY PASTE WOOD FILLER	8.50	14.20	39.40		
13-1520-	SIAM SEEDLAC			3.60	5.90	9.90	47.10								40-3420-	GOLDEN OAK PASTE WOODFILLER	8.50	14.20	39.40		
13-1530-	STICKLAC			9.40	15.60	26.00	123.60								40-3430-	MEDIUM DARK WALNUT PASTE WOODFILLER	8.50	14.20	39.40		
14-1590-	BALTIC AMBER RESIN	11.10	30.90	51.40	85.70	407.30									40-3450-	VERY DARK WALNUT PASTE WOODFILLER	8.50	14.20	39.40		
14-1595-	AMMONIAC RESIN	2.90	8.10	13.50	22.60	107.40															
14-1600-	AUSTRALIAN SANDARAC RESIN	3.20	8.80	14.70	24.50	116.10															
14-1610-	#2 NORTH AFRICAN SANDARAC RESIN	4.10	11.40	19.00	31.60	143.60											1oz(2)	4oz(3)	8oz(4)	1lb(5)	5lb(6)
14-1620-	SANDARAC DUST	3.40	9.30	15.60	26.00	118.20									30-3000-	BLUE BURNISHING CLAY				6.00	
14-1630-	CONGO COPAL FUSED			5.70	9.50	15.80	71.80								30-3010-	RED BURNISHING CLAY				6.00	
14-1640-	CRUDE PINE GUM	2.50	6.90	11.60	19.30	71.80									30-3020-	YELLOW BURNISHING CLAY				6.00	
14-1645-	COPAIBA BALSAM			9.90	16.50	27.50									CAT. NO.DESCRPTION		1oz(2)	4oz(3)	8oz(4)	1lb(5)	5lb(6)
14-1650-	CANADIAN BALSAM	7.10	19.70	32.80	54.60										45-3400-	6% CALCIUM VARNISH DRIER	2.20	3.80	6.30	10.50	
14-1660-	DRAGON'S BLOOD	7.90	22.00	36.70	61.10										45-3410-	6% COBALT VARNISH DRIER	2.20	4.10	6.90	11.50	
14-1665-	BURGUNDY RESIN	2.70	7.40	12.40	20.60										45-3420-	6% MANGANESE VARNISH DRIER	2.20	3.80	6.30	10.50	
14-1670-	ELEMI RESIN			3.70	6.20	10.40	39.40								45-3440-	6% ZIRCONIUM VARNISH DRIER	2.20	3.80	6.40	10.70	
14-1680-	GUM ARABIC	2.40	4.40	7.30	12.10	57.60									45-3450-	JAPAN VARNISH DRIER	4.30	7.10	19.90		
14-1700-	GUM BENZOIN, SUMATRA	2.80	4.40	7.30	12.10	40.30									51-3710-	PUMICE FFFF				2.60	8.70
14-1705-	GUM BENZOIN RESIN	5.70	15.90	26.60	44.30	208.90									51-3720-	ROTTENSTONE				2.70	9.00
14-1710-	GUM FRANKINCENSE	2.30	4.50	7.60	12.60	275.80									51-3730-	TRIPOLI POWDER				5.60	18.70
14-1720-	GUM GAMBOGE	7.40	20.70	34.40	57.40	275.80									40-3460-	LYCOPodium POWDER	6.90	19.10	31.80	53.00	
14-1730-	GUM MASTIC	10.30	28.70	47.90	79.80	376.90															
14-1740-	GUM MYRRH	2.30	4.30	7.10	11.80	55.70									CAT. NO.DESCRPTION		1ea(1)	6ea(2)	12ea(3)	1bk(4)	1pk(5)
14-1750-	GUM ROSIN WW GRADE			2.80	4.60	7.70	25.60								35-3205-	IMITATION GOLD LEAF				4.90	64.80
14-1752-	GUM ROSIN FF GRADE			2.40	4.00	6.60	22.00								-55.38	TACK CLOTHS	1.10	6.00	10.00		
14-1760-	KAURI COPAL	2.30	6.40	10.60	17.70	59.00									55-3810-	NYLON FILTER CLOTH 11X11 100 MESH	1.90	10.40	17.30		
14-1761-	KAURI COPAL POWDER	2.20	6.00	10.00	16.70	55.60									55-3811-	NYLON FILTER CLOTH 22X22 100 MESH	4.10	22.40	37.30		
14-1770-	LOBA C MANILA COPAL			3.10	5.20	8.60	28.80														
14-1790-	PALE EAST INDIA RESIN			3.30	5.50	9.20	30.70														
14-1800-	BATU EAST INDIA RESIN			2.60	4.30	7.20	24.10														
14-1810-	PONTIANAK RESIN			2.70	4.50	7.40	24.80														
14-1820-	PROPOLIS	2.70	7.50	12.50	20.80	98.20															
14-1830-	PURIFIED MANILA COPAL			3.70	6.10	10.20	33.90								50-3590-	MICRO GLOSS 8oz	11.60				
14-1840-	SINGAPORE DAMAR			2.70	4.50	7.50	25.10								50-3600-	ANTI-STATIC CREAM 2oz.	2.10				
14-1845-	LARCH TURPENTINE			19.10	31.80	53.00	176.70								50-3608-	FOAM BLOCK 2"X3"	1.00				
															50-3609-	FOAM BLOCK 3"X3"	1.60				



86-0086- BRIGHT YELLOW GOLDEN	3.50	9.80	16.40	27.30	88-0843- NATURAL RED CHERRY	3.60	10.00	16.70	27.80
86-0087- LIGHT GOLDEN BROWN	3.50	9.70	16.20	27.00	88-1144- BRIGHT RED CHERRY	2.70	7.40	12.30	20.50
86-0094- FUMED	3.00	8.30	13.80	23.00					
86-0172- EARLY AMERICAN MAPLE YELLOW TONE	3.50	9.70	16.20	27.00	MIXING COLORS				
86-0173- EARLY AMERICAN MAPLE MEDIUM	3.50	9.70	16.20	27.00					
86-0174- EARLY AMERICAN MAPLE REDDISH TONE	3.60	10.00	16.70	27.80	WATER SOLUBLE:				
86-0176- DARK ANTIQUE CHERRY	3.70	10.40	17.40	28.90	89-1085- DEEP BLACK	3.70	10.30	17.20	28.60
CAT. NO.DESCRPTION	1oz(2)	4oz(3)	8oz(4)	1lb(5)	89-1206- NIGROSINE BLUISH-BLACK	2.40	5.40	9.00	14.90
86-0179- NATURAL RED CHERRY	3.90	10.80	18.00	30.00	89-1207- NIGROSINE JET BLACK	2.00	4.70	7.80	13.10
86-0188- ROSEWOOD	5.50	15.20	25.30	42.20	89-1094- ROYAL BLUE	2.70	7.40	12.30	20.50
86-1204- BISMARK BROWN	2.10	5.90	9.90	16.40	89-1211- BLUISH GREEN	2.90	8.20	13.60	22.70
86-1205- SEAL BROWN	3.10	7.50	12.50	20.90	89-5320- DARK FOREST GREEN	3.40	9.50	15.80	26.30
					89-1129- REDDISH ORANGE	2.80	7.70	12.90	21.40
WATER & ALCOHOL SOLUBLE					89-1212- ORANGE	2.00	4.10	6.80	11.30
87-1096- VICTORIA BLUE	2.50	6.90	11.40	19.10	89-1136- SCARLET	3.60	9.90	16.40	27.40
87-1101- GOLDEN BROWN	2.00	5.10	8.50	14.10	89-1146- LAVENDER	2.70	7.50	12.60	21.00
87-1110- RED MAPLE	4.00	11.00	18.30	30.50	89-1151- GOLDEN YELLOW	2.70	7.60	12.60	21.00
87-1126- GOLDEN ORANGE	2.00	5.40	9.00	14.90	89-1153- LEMON YELLOW	2.70	7.40	12.30	20.50
87-1137- CHRISTMAS RED	2.70	7.40	12.30	20.50	89-1154- AMBER YELLOW	4.80	13.30	22.20	37.00
87-1138- BLOOD RED	2.90	8.00	13.30	22.10	89-1155- REDDISH YELLOW	2.60	7.30	12.10	20.20
87-1152- CITRON YELLOW	2.70	7.40	12.30	20.50					
					ALCOHOL SOLUBLE:				
WOODSTAIN POWDERS - OIL SOLUBLE					90-1089- NIGROSINE BLUISH-BLACK	2.00	4.00	6.70	11.10
					90-1208- NIGROSINE JET BLACK	2.00	4.60	7.70	12.80
WALNUT STAINS:					90-1217- DARK BLUE	4.20	11.70	19.50	32.60
88-0305- REDDISH BROWN	3.40	9.50	15.80	26.40	90-1218- BLUISH GREEN	2.60	7.20	12.00	20.10
88-0429- LIGHT GOLDEN BROWN	3.30	9.20	15.30	25.50	90-0061- FOREST GREEN	3.90	11.00	18.30	30.50
88-0444- STANDARD BROWN	3.30	9.20	15.30	25.50	90-1213- ORANGE	6.40	17.90	29.80	49.70
88-0451- LIGHT BROWN	3.30	9.20	15.30	25.50	90-1215- PURPLE	3.40	9.60	15.90	26.60
88-0740- MEDIUM BROWN	3.30	9.20	15.30	25.50	CAT. NO.DESCRPTION	1oz(2)	4oz(3)	8oz(4)	1lb(5)
88-0741- YELLOW BROWN	3.30	9.20	15.30	25.50	90-1216- LEMON YELLOW	2.50	7.00	11.60	19.30
88-0749- GRAY BROWN	3.30	9.20	15.30	25.50					
88-1115- DARK BROWN	2.70	7.40	12.30	20.50	OIL SOLUBLE:				
					91-1091- DEEP BLACK	2.80	7.70	12.90	21.50
MAHOGANY STAINS:					91-1092- NIGROSINE JET BLACK	2.80	7.70	12.90	21.50
88-0289- REDDISH BROWN	3.50	9.60	16.00	26.70	91-1099- VICTORIA BLUE	2.10	5.90	9.80	16.30
88-0290- DARK RED	3.70	10.40	17.30	28.80	91-1125- MOSS GREEN	2.70	7.40	12.30	20.50
88-0295- RED	3.90	10.70	17.90	29.80	91-1130- BRILLIANT ORANGE	2.00	4.30	7.20	12.00
88-0525- ADAM BROWN	3.40	9.40	15.70	26.10	91-1132- REDDISH-ORANGE	4.00	11.10	18.60	30.90
88-0551- ENGLISH BROWN	3.30	9.20	15.30	25.50	91-1142- SCARLET	3.00	8.30	13.80	23.00
88-1116- BROWN	2.80	7.90	13.20	22.00	91-1143- BRILLIANT RED	2.50	6.90	11.40	19.00
					91-1150- PURPLE	1.60	4.30	7.20	12.00
MISCELLANEOUS SHADES:					91-1156- LEMON YELLOW	2.70	7.40	12.40	20.60
88-0375- ENGLISH BROWN	3.30	9.20	15.30	25.50	91-1157- BRILLIANT YELLOW	2.80	7.80	12.90	21.60
88-0501- BLACK FLEMISH	3.30	9.20	15.30	25.50					
88-0502- WEATHERED	3.30	9.20	15.30	25.50	LIGHTFAST WOODSTAIN COLORS - ALCOHOL SOLUBLE				
88-0509- GOLDEN BROWN	3.40	9.40	15.70	26.10	92-0130- YELLOW	9.70	16.90	47.00	78.30
88-0517- DARK GOLDEN	3.40	9.40	15.70	26.10	92-0131- ORANGE	11.80	20.60	57.20	95.40
88-0519- GOLDEN YELLOW	3.30	9.20	15.30	25.50	92-0132- RED	12.50	21.70	60.40	100.70
88-0534- SEAL BROWN	3.40	9.40	15.70	26.10	92-0133- BLUE	9.10	15.80	44.00	73.30
88-0562- DARK FUMED	3.30	9.20	15.30	25.50	92-0134- BROWN	7.70	13.50	37.50	62.40
88-0607- EXTRA DARK GOLDEN	3.40	9.40	15.70	26.10	92-0135- GRASS GREEN	10.40	18.10	50.30	83.90
88-0845- ROSEWOOD	3.60	10.00	16.70	27.80	92-0136- BLACK	5.30	9.20	25.70	42.80
88-0841- EARLY AMERICAN MAPLE YELLOW	3.50	9.60	16.00	26.70	92-0137- WALNUT BROWN	9.90	17.20	47.70	79.60
88-0914- EARLY AMERICAN MAPLE BROWN	3.50	9.60	16.00	26.70	92-0138- AMBER YELLOW	10.10	17.60	48.90	81.50
88-0930- EARLY AMERICAN MAPLE REDDISH	3.60	10.00	16.70	27.80	92-0139- RED BROWN	8.00	14.00	38.90	64.80
88-1117- BROWN MAPLE	2.50	7.00	11.70	19.50					
88-0842- DARK ANTIQUE CHERRY	3.40	9.50	15.80	26.30	PIGMENTS				

94-6495-	DROP BLACK	2.10	4.30	7.10	11.90	98-0017-	SUPERFINE PALEGOLD LIGHT	3.60	9.90	16.50	27.50
94-6500-	LAMPBLACK	2.10	3.10	5.20	8.60	98-0018-	ORANGE	3.80	10.50	17.50	29.20
94-6505-	PARIS BLUE	2.80	7.80	13.00	21.60	98-0019-	AMARANTH	6.80	19.00	31.70	52.80
94-6510-	PRUSSIAN BLUE	3.60	10.00	16.70	27.90	98-0020-	LIGHT BROWN	4.30	11.90	19.80	33.00
94-6515-	ULTRAMARINE BLUE	2.10	4.70	7.80	12.90	98-0021-	DARK BROWN	4.30	11.90	19.80	33.00
94-6520-	MILORI BLUE	2.80	7.90	13.10	21.80	98-0024-	SUPERFINE PALEGOLD LEAF	3.60	9.90	16.50	27.50
94-6525-	BURNT SIENNA	2.10	2.80	4.60	7.60	98-0025-	ANTIQUÉ CHOCOLATE	4.00	11.10	18.50	30.80
94-6530-	BURNT UMBER	2.10	2.80	4.70	7.80	98-0026-	GREENGOLD LINING	3.80	10.50	17.50	29.20
94-6535-	MARS BROWN	2.40	6.80	11.30	18.90	98-0027-	FIRE LINING	3.60	9.90	16.50	27.50
94-6540-	RAW SIENNA	2.10	2.70	4.50	7.60	98-0028-	CHOCOLATE	4.20	11.70	19.50	32.50
94-6545-	RAW UMBER	2.10	2.70	4.50	7.50	98-0031-	DEEP PALEGOLD	3.80	10.50	17.50	29.20
94-6550-	VAN DYKE BROWN	2.10	2.70	4.50	7.60	98-0033-	CHAMPAGNE	3.60	9.90	16.50	27.50
94-6555-	GREEN CHROME OXIDE	2.10	4.80	8.10	13.40	98-0034-	DEEPGOLD LINING	3.80	10.50	17.50	29.20
94-6560-	ORANGE MINERAL	2.10	3.60	6.00	10.00	98-0035-	ROMANGOLD LINING	3.80	10.50	17.50	29.20
94-6565-	ENGLISH RED	2.10	4.70	7.90	13.10	98-0040-	SUPERFINE RICHGOLD LEAF	3.60	9.90	16.50	27.50
94-6570-	INDIAN RED	2.10	5.30	8.90	14.90	98-0044-	TIFFANY GOLD	3.60	9.90	16.50	27.50
94-6575-	MARS RED	2.10	5.40	9.00	15.00	98-0059-	PALEGOLD LEAF LINING	3.60	9.90	16.50	27.50
94-6580-	POZZUOLI RED	2.10	4.60	7.60	12.70	98-0064-	COPPER LINING	3.60	9.90	16.50	27.50
94-6584-	RED LEAD	2.10	3.80	6.30	10.50	98-0069-	TANTONE	4.30	11.90	19.80	33.00
94-6585-	RED OCHRE	2.10	3.80	6.30	10.50	98-0070-	IMPERIAL VENETIAN	4.30	11.90	19.80	33.00
94-6586-	ALIZARIN CRIMSON	5.50	15.30	25.50	42.50	98-0077-	SUPERFINE RICH PALEGOLD LEAF	3.60	9.90	16.50	27.50
94-6587-	ROSE MADDER	3.40	9.40	15.70	26.10	98-0081-	STEELGRAY	4.30	11.90	19.80	33.00
94-6590-	TERRA ROSA	2.10	5.70	9.60	15.90	98-0083-	LIGHT ANTIQUE	4.00	11.10	18.50	30.80
94-6595-	VENETIAN RED	2.10	5.20	8.70	14.50	98-0093-	SILVER BLUE	6.80	19.00	31.70	52.80
94-6600-	VIOLET OXIDE B	2.10	4.10	6.80	11.40	98-0104-	COPPER BRILLIANT	3.60	9.90	16.50	27.50
94-6605-	TITANIUM DIOXIDE	2.10	5.50	9.10	15.20	98-0105-	ROSEGOLD	3.60	9.90	16.50	27.50
94-6610-	WHITING	2.10	4.90	8.10	13.60	98-0106-	ANTIQUÉ GOLD	4.30	11.90	19.80	33.00
94-6615-	WHITE ZINC OXIDE	2.10	3.70	6.20	10.40	98-0109-	PALEGOLD LINING	3.60	9.90	16.50	27.50
94-6620-	LIGHT CHROME YELLOW	2.10	4.30	7.20	11.90	98-0113-	PALEGOLD LINING	3.60	9.90	16.50	27.50
94-6625-	MEDIUM CHROME YELLOW	2.10	4.30	7.20	11.90	98-0115-	GUN METAL	4.30	11.90	19.80	33.00
94-6630-	DEEP CHROME YELLOW	2.10	5.00	8.40	14.00	98-0118-	KARATGOLD LINING	3.80	10.50	17.50	29.20
94-6635-	LIGHT FRENCH YELLOW OCHRE	2.10	5.40	9.10	15.10	98-0202-	FRENCH RICHGOLD LEAF	3.60	9.90	16.50	27.50
94-6640-	MEDIUM FRENCH YELLOW OCHRE	2.10	5.40	9.10	15.10	98-0224-	SUPERFINE COPPER LEAF	3.60	9.90	16.50	27.50
94-6645-	DEEP FRENCH YELLOW OCHRE	2.10	4.50	7.50	12.50	98-0242-	EXTRA BRILLIANT ALUMINUM	4.00	11.10	18.50	30.80
94-6650-	LITHARGE	2.10	3.10	5.10	8.50	98-0251-	EXTRA BRILLIANT PALEGOLD	3.60	9.90	16.50	27.50
94-6655-	MARS YELLOW	2.10	5.40	9.00	15.10	98-0252-	EXTRA BRILLIANT RICHGOLD	3.60	9.90	16.50	27.50
94-6660-	TRANSPARENT GOLDEN OCHRE	2.10	5.90	9.80	16.30	98-0253-	EXTRA BRILLIANT COPPER	3.60	9.90	16.50	27.50
94-6665-	ZINC YELLOW	2.50	6.90	11.40	19.10	98-0254-	EXTRA BRILLIANT RICH PALEGOLD	3.60	9.90	16.50	27.50
94-6670-	GOLDEN YELLOW	2.20	6.00	10.10	16.80	98-0255-	EXTRA BRILLIANT DEEPGOLD	3.80	10.50	17.50	29.20
BRONZE AND ALUMINUM POWDERS						98-0271-	FINE BRILLIANT PALEGOLD	3.60	9.90	16.50	27.50
98-0001-	BLUE	6.80	19.00	31.70	52.80	98-0420-	COPPERTONE	3.60	9.90	16.50	27.50
98-0002-	PALE PINK	4.30	11.90	19.80	33.00	98-0711-	COLONIAL BUFF	3.60	9.90	16.50	27.50
98-0003-	GRAPE	6.80	19.00	31.70	52.80	98-2025-	SILVERTONE	4.30	11.90	19.80	33.00
98-0004-	PURPLE	6.80	19.00	31.70	52.80	98-8000-	PALEGOLD BRILLIANT	3.60	9.90	16.50	27.50
98-0005-	GREEN	6.80	19.00	31.70	52.80	CAT. NO.DESCRPTION					
98-0006-	APPLE GREEN	6.80	19.00	31.70	52.80	95-7000-	DROP BLACK	6.30	96-7000-	5.50	
CAT. NO.DESCRPTION						95-7005-	LAMPBLACK	7.50	96-7005-	5.70	
98-0007-	BRILLIANT ALUMINUM	4.00	11.10	18.50	30.80	95-7010-	PRUSSIAN BLUE	7.50	96-7010-	6.80	
98-0008-	OLIVE	6.80	19.00	31.70	52.80	95-7015-	ULTRAMARINE BLUE	8.60	96-7015-	6.80	
98-0009-	TURQUOISE GREEN	6.80	19.00	31.70	52.80	95-7020-	BURNT SIENNA	6.40	96-7020-	5.90	
98-0010-	AQUA BLUE	12.30	34.20	56.90	94.90	95-7025-	BURNT UMBER	6.30	96-7025-	6.80	
98-0011-	RICH PALEGOLD LINING	3.60	9.90	16.50	27.50	95-7030-	RAW SIENNA	6.40	96-7030-	6.40	
98-0012-	GOLDTONE	3.60	9.90	16.50	27.50	95-7035-	RAW UMBER	6.30	96-7035-	6.80	
98-0014-	BRUSH BRASS	3.60	9.90	16.50	27.50	95-7040-	VAN DYKE BROWN	6.30	96-7040-	5.70	
98-0015-	RED	6.80	19.00	31.70	52.80	95-7045-	MEDIUM CHROME GREEN	8.10	96-7045-	7.60	
98-0016-	RED FIRE BRILLIANT	6.80	19.00	31.70	52.80	95-7050-	VENETIAN RED	6.80	96-7050-	5.60	
						95-7055-	WHITE ZINC OXIDE	7.10	96-7055-	6.70	

95-7060- MEDIUM CHROME YELLOW	10.30	96-7060-	7.10
95-7065- FRENCH YELLOW OCHRE	6.30	96-7065-	5.80