

440.0000 PROPERTY USED IN MANUFACTURING—Regulation 1525

See also Fur Dressers and Dyers. "Special tooling," see also United States Contractors. Water additives, see also Gas, Electricity and Water.

(a) MANUFACTURING AIDS

(1) IN GENERAL

440.0010 Application of Tax. If a taxpayer purchases manufacturing aids in a transaction that is subject to sales tax, that taxpayer's subsequent use of the aids to make a finished product is not subject to use tax. There are, however, circumstances in which both the sale and the use of the aids can be subject to tax. If the property is purchased under a resale certificate and the taxpayer makes any use of it other than retention, demonstration or display while holding it for sale in the regular course of business, that use is taxable to the taxpayer. If the taxpayer sells the same property at retail in California after using it, the sale will also be taxable. 3/1/90.

440.0020 Basic Application of Tax. The tax applies to the sale of any manufacturing aid which the manufacturer uses before passing title thereto to his customer.

An important consideration to the taxability of any sale is whether the purchaser of the property sold sells it before he uses it or sells it after he uses it, or purchases it in the capacity of agent. Where property is used before it is sold, the tax applies upon the sale to the user. Where the property is sold before it is used, the sale to the person who sells it before use is not taxable since it is a sale for resale.

Where the person who uses tooling or other manufacturing aids purchases it as agent of another, the sale to the agent is taxable for that is a sale to the principal, but there is no further tax due when following use the agent turns over the tooling or other aid to his principal, since there can be no sale between a true agent and his principal.

If there is more than one retail sale of tooling, the tax applies to each retail sale, unless for some other reason there is an exemption such as the exemption of sales to the United States. 1/31/51.

440.0040 Basic Application of Tax—Purchasing as Agent or for Resale—Evidence. X, a manufacturer of aircraft parts under contract with Y, an aircraft manufacturer, purchased materials to fabricate tooling which it used to manufacture the parts. X paid use tax on the cost of the materials, claiming to have purchased them as agent, and that it did not actually sell the tooling to Y. It was, however, concluded that X actually sold the tooling to Y and was liable for tax on the selling price of the tooling under evidence that: Y depreciated, and took an investment credit on, the tooling; X, under its contract, retained legal title to the tooling as security for payment of the price; X charged for the tooling the charge including fabrication labor, materials, overhead and general administrative costs, and profit. Under the contract Y had all the benefits of ownership in the tooling, and a rigid right of control over its use and disposition by X, who was referred to as contractor and supplier of tooling. 4/7/70.

440.0045 Basic Principles in Determining Purpose for Purchase. In determining the primary purpose of a manufacturer's purchase of chemicals, the fact that the chemicals have a beneficial effect on the manufacturer's finished product is not determinative. Any chemical utilized by a manufacturer during the manufacturing process, regardless of whether it is purchased for use as a manufacturing aid or for incorporation in the final product, will necessarily have some beneficial effect on the final product. Otherwise, the manufacturer would not utilize the chemical at all. In order to prove that the primary purpose is incorporation into the finished product for resale, therefore, it must be shown not only that the chemical has beneficial effects, but also that such effects result from the physical presence of the chemical in the finished product and not merely use of the chemical in the manufacturing process.

For the same reason, proof that a chemical remains in the finished product is also not determinative. If the physical presence of the chemical in the finished product has little or no beneficial effect, there is no basis for concluding that the chemical was purchased for the primary purpose of resale as a component of the

finished product. On the other hand, if use of the chemical during the manufacturing process brings about chemical or physical reactions which benefit the finished product, it is reasonable to conclude that the chemical was purchased for the primary purpose of causing such reactions during the manufacturing process even though the chemical happens to remain in the finished product. 6/28/83.

[440.0046](#) **Drawings of Jewelry Design and Wax Models.** Charges to jewelers for drawings of a jewelry design which the jeweler uses as a visual aid for its customers to decide whether to purchase a piece of specialty manufactured jewelry are sales of tangible personal property and subject to tax. It makes no difference if the drawings are based on ideas of the artist or the jeweler. Likewise, the charges to a jeweler for a wax model sold to a jeweler for use in the lost wax process to manufacture jewelry are subject to tax. 10/28/96.

[440.0046.500](#) **Fungicide Removed During Manufacturing.** A firm applies a fungicide to lumber. It surfaces the lumber and, in the process, it removes all of the fungicide. The shavings from the surfacing process which contain the fungicide are sold. The primary purpose of the fungicide is to protect the lumber during the manufacturing process. The sale of the fungicide to the manufacturer is subject to tax even though the fungicide may remain in shavings which are sold. 5/8/97.

440.0047 Government Royalty Crude. An oil processor acquires crude oil from the United States. The crude is not available at a facility where it is feasible to transport it to the processing plant. The firm exchanges the crude oil for crude from another processor. Subsequently, it burns some of the fuel oil which it produces from the exchanged crude.

The use of the crude oil by the processor is subject to tax. The fact that it initially acquired crude from the United States is immaterial. The oil consumed was that acquired under an exchange agreement with another processor. Thus, the oil consumed was purchased from the processor and not the United States. 1/22/90.

[440.0049](#) **Manufacturing Aids.** Regulation 1525.1 discusses when title to a manufacturing aid passes to the manufacturer's customer. However, before this issue is relevant, it must be determined that title to the manufacturing aid actually passes from the manufacturer to its customer. When possession of the tooling is retained by the manufacturer, this issue often presents a difficult question of fact which must be determined on a case by case basis.

For example, a manufacturer purchases raw materials for resale and fabricates those raw materials at the specific request of its customer into a manufacturing aid. The manufacturing aid is of unique utility to the particular customer for whom the associated production work is being performed and the manufacturer separately itemizes a specific charge for the manufacturing aid to the customer. If (1) the customer's name is put on the pattern and a file maintained for its location, (2) the customer's name and part number is on the pattern or die, (3) the customer makes repeated orders for items to be produced by use of the same aid, (4) the manufacturer insures the manufacturing aid against loss for the benefit of the customer, or (5) the manufacturer establishes that it orally stated that the customer may have the manufacturing aid upon request, the manufacturer will generally be regarded as having sold the manufacturing aid to its customer.

However, the contract between the two parties must be examined. Generally, if the contract specifically provides that the manufacturer retains title, then it is rebuttably presumed that no sale of the manufacturing aid occurred, regardless of the existence of any of the factors set forth in the previous paragraph. This presumption is rebutted by, among other things, the inclusion of an exclusive use clause (i.e. a clause providing that the manufacturer's customer has the right to exclusive use of the manufacturing aid), if the manufacturing aid is used to fill multiple orders for items produced by the manufacturing aid. 4/3/03. (2004-1).

[440.0052](#) **Methylene Chloride.** The role of methylene chloride in the manufacture of dry ink toner is limited to its use as a source of certain essential ingredients which become incorporated as a component part of the dry ink toner. Therefore, tax does not apply even though a large portion of the methylene is lost

through evaporation, since the portion lost is used only for the purpose of incorporating the remaining property into the end product. 4/6/83.

[440.0054](#) **Passage of Title to Tooling.** Sales Tax General Bulletin 50–24 (appended to Regulation 1525) deals with the time of passage of title to tooling and not with the issue of whether there was passage of title. Whether or not title to tooling passes is a question of fact in each case. The question as to who has title to the tooling is a question as to the terms of the contract for sale of the parts which are produced by the tooling. The fact that tooling was not delivered to the customer and that there is no formal recognition that the manufacturer is the bailee of the tooling is evidence that the tooling was not sold, but rather was used by the manufacturer. 2/17/77.

440.0055 **Potassium Permanganate—Water Treatment Plant.** Potassium Permanganate, which is used in water treatment plants, is removed as part of the plant sludge after serving its purpose. Thus, this product is a manufacturing aid the sale or use of which is subject to tax. 8/14/72.

[440.0055.140](#) **Property Purchased for Resale or Use in Manufacturing.** The following are some guidelines in determining whether property is purchased for resale or for use in manufacturing:

(1) Tangible personal property is regarded as having been purchased for the purpose of use in manufacturing tangible personal property and not for the purpose of being physically incorporated into the manufactured article to be sold, if the property is first utilized as an aid in the manufacturing process prior to being resold as an end product. Independent intervening use of the purchased tangible personal property as a manufacturing aid prior to its resale is subject to tax, notwithstanding the fact that the tangible personal property also was purchased for the purpose of incorporation into an end product which is sold. (For example, see Annotations 440.0840, 440.1260, 440.1460, and 440.3120.)

(2) Tangible personal property is regarded as having been purchased for the purpose of incorporation into the manufactured article to be sold even though a portion of the property is lost or discarded as waste. For example, a manufacturer of furniture purchases wood to be used in the construction of furniture to be sold. A portion of the wood is destroyed or discarded as a result of the manufacturing process and does not actually become a part of the furniture. The purchase of the wood is not subject to tax.

(3) Tangible personal property is not regarded as having been purchased primarily for resale, but primarily for the purpose of use in the manufacturing process, if the property is only incidentally incorporated into the manufactured article, e.g., the property does not become a recognizable and identifiable component which is of some benefit to the end product to be sold. (For example, see Annotations 440.1340 and 440.1820.)

(4) During the manufacturing process, tangible personal property may perform some beneficial use as a manufacturing aid, but may also become incorporated into the product to be resold. When tangible personal property is purchased and used for more than one purpose in the manufacturing process, the application of tax is dependent upon the primary purpose for which the tangible personal property is purchased.

Tangible personal property is regarded as having been purchased primarily for the purpose of incorporation into the manufactured article if the property becomes an essential ingredient or component part with a beneficial purpose in the end product which is sold. Tax does not apply to the sale of tangible personal property which is purchased primarily for the purpose of incorporation into the manufactured article to be resold, even though the property may be used incidentally as an aid while it is being incorporated or attached in the manufacturing process.

(5) Tangible personal property is regarded as having been purchased primarily for the purpose of incorporation into the manufactured article to be sold, even though a component or component parts of the property may be used in the manufacturing process and not resold as an ingredient or component part of the finished article, if the component(s) which are used in the manufacturing process are used only for the purpose of incorporating the remainder of the property into the end product to be sold.

(6) Where a portion of the tangible personal property is purchased for the purpose of use in the manufacture of tangible personal property, and another portion of the tangible personal property is purchased for the sole purpose of incorporation as an essential ingredient or component part of a manufactured article to be sold, tax applies only to the sale of the property purchased for the purpose of use. The purchaser must keep records which establish to the satisfaction of the Board what portion is resold and what portion is used. (For example, see Annotation 440.0640.)

(7) Tax applies to the sale of tangible personal property to manufacturers and refiners who purchase the property for the purpose of use or consumption in the manufacturing or refining process. Where the manufacturer or refiner uses or consumes a byproduct of a joint product which is produced in a manufacturing or refining process, tax applies to that portion of the purchased raw material which comprises the used or consumed byproduct, unless such use or consumption is otherwise exempt from taxation. The measure of tax on self-consumed byproducts shall be determined in accordance with the guidelines as provided under Regulation 1525.5. Tax would apply even though the self-consumed byproduct is subsequently resold by the manufacturer or refiner, since it was purchased for the purpose of use, rather than for resale. 5/22/87.

440.0055.200 **Protective Covers.** Plastic covers installed by an auto manufacturer to protect seats of new vehicles during the manufacturing process are used by the manufacturer notwithstanding that they are ultimately sold to the dealer. They are not purchased for the purpose of being incorporated into the property sold. 5/10/93.

440.0056 **Resold Prior to Use—Resale Certificates.** Special manufacturing aids are sold by a manufacturer to Customer A who will resell the product produced through the use of the special manufacturing aid to Customer B. Tax applies to the manufacturing aids as follows:

(1) A specific resale certificate is given to the manufacturer stating that the special manufacturing aid is purchased by Customer A for resale. Sales of the special manufacturing aids are allowable as sales for resale since Customer A issued a resale certificate for the items. If, however, the items were used for the benefit of A prior to A's sale of the items to B, then A would be liable for payment of use tax measured by its purchase price of the property. The above applies regardless of whether A or B are located outside of California and neither holds a California seller's permit.

(2) The resale certificate issued by Customer A refers to each purchase order for guidance as to the tax status on items being purchased. The purchase order calls for a manufactured product and also for tooling. The order is merely marked "resale" without distinguishing between manufactured products and manufacturing aids. In this situation, the receipts from the sale of the manufacturing aids to Customer A are subject to tax unless the manufacturer establishes that A resold the special manufacturing aids prior to their use in the manufacturing process. The blanket resale certificate is ineffective for purposes of relieving the manufacturer from the burden of establishing that the sale of the manufacturing aid was not a sale at retail. 6/24/75.

[440.0058](#) **Title to Tooling.** A manufacturer of door knobs designs and fabricates the tooling to be used in the manufacturing process when a customer orders a new style of door knob. The customer's purchase order typically includes language to the effect that the customer has both title and a right to possession in the tooling, but the manufacturer shall retain possession for use in performing the job. The customer insists on these provisions to ensure that the designs will not become available for use by its competitors. The customer is billed separately for the tooling.

The manufacturer contends that, despite any contrary language in the sale document, it did not intend to pass title in the tooling to the customer since the tooling may contain clues to the manufacturer's manufacturing process, which the manufacturer considers a trade secret and does not want to reveal to its customers. Therefore, the manufacturer has never transferred possession of the tooling to any customer and would never do so even if the customer demanded possession.

Under the above circumstances, there is a sale of tooling from the manufacturer to the customer since the sale documents expressly provided that title in tooling would pass to the customer. Only when the terms of the contract are uncertain and ambiguous is it proper to look at extrinsic evidence to ascertain the parties' intent. 4/4/89.

440.0059 Tooling. A company is in the business of designing and manufacturing door knobs. The major customers are lock manufacturers who apparently incorporate the knobs into lock sets for sale under their own brand names. Each time a customer orders a new style of door knob, the company must design and fabricate the tooling to be used in the manufacturing process. The customer's purchase orders typically include language to the effect that the customer has both title and right to possession to the tooling, but that the company shall retain possession for use in performing the job. The company has never transferred possession of the tooling to any customer. The company bills the customers for tooling in two distinct ways: (1) a lump-sum charge for the material cost which is labeled a "gage charge" or "tooling charge," and (2) the charge for design and fabrication of the tooling is billed under the label "knob development charge" or "development service charge."

The sales documents expressly provide that title in the tooling passes to the customers. Since the contracts expressly provide that title in the tooling passes to the customers, title does pass and tax is due on not only the gage share or tooling charge (material costs) but also on the charges for the knob development charge or the development service charge (design and fabrication of the tooling). 4/4/89.

440.0060 Total Manufacturing Process—Gasoline Distillate. Where, during the process of refining petroleum products, gasoline distillate is derived from the process, run through pipes to pick up wax, and is later refined and sold (as is the recovered wax), the purchase of the distillate or the products from which it is refined is not subject to tax as self-consumed. The process of running the distillate through the pipes is part of the total manufacturing process. 7/16/64.

(2) THINNERS, SOLVENTS, REDUCERS, CARRIERS

440.0075 Acetone. Acetone, as used in the ceramic industry, is generally a solvent and its sales are subject to tax. 7/17/56.

440.0080 Alcohol. Anhydrous Solox (denatured alcohol) sold for purposes of use as an ingredient of ink, is primarily a carrier for the ink during printing process, and is a manufacturing aid the sale of which is subject to sales tax. 2/17/54.

440.0100 Anhydrous Filmcol (alcohol) used in thinning white ink which is applied to the back of carbon paper which evaporates soon after the ink is applied to the paper is regarded as consumed rather than resold with the carbon paper. 3/26/52.

440.0103 Benzol. Benzol, as used in the ceramic industry, is generally a solvent and its sales are subject to tax. 7/17/56.

440.0109 Cyanides. Silver cyanide, copper cyanide, zinc cyanide and similar metal salts are used in electroplating. The ions in the metallic salt become plated on the finished product to be sold, and, thus, may be purchased for resale. 7/17/56.

440.0110 Cyclohexanon. Cyclohexanon is utilized in the manufacture of magnetic recording tape. The chemical is added in a batch mix prepared to manufacture the coating applied to raw magnetic tape. The chemical functions as a solvent in the mix and also as a reaction tool for certain other mix components. Additionally, it serves to make the end product, the magnetic tape, softer and of higher quality, but there is no indication that this is the result of the incorporation of the cyclohexanon into the magnetic tape.

Approximately three percent of the chemical added to the batch mix remains with the end product in a combination of residual solvent and in the reaction product. The manufacturing residue or "runoff" of the chemical is recycled and repeatedly reused until the chemical substance is depleted.

For the manufacture of magnetic recording tape, Cyclohexanon is used repeatedly as a solvent in the manufacturing process. This utilization of the property is for a purpose other than incorporation into the end product. Property which is purchased for the purpose of use in the manufacturing process is not thereby exempt from the tax by reason of some part remaining in the end product (*American Distilling Company v. SBE*, 55 Cal.App.2d 799). Thus, the purchase of Cyclohexanon for use in the manufacturing of magnetic recording tape is taxable. 10/26/73.

440.0120 **Ink Thinner.** Sale of ink thinner to printers is subject to sales tax if the thinner evaporates from the paper and is therefore not resold with the paper. 10/19/53.

440.0134 **Light Crude Oil—Diluting Medium.** Light crude oil which is placed in oil wells to act as a diluting medium so that the heavy crude can be handled by well pumps is not purchased for resale. Even though the light crude remains in the product ultimately refined, the primary purpose of purchasing the light crude was completely fulfilled as soon as it served its purpose of facilitating the pumping of the heavier crude from the well. Thus, the purchase price paid for the light crude oil is subject to sales or use tax. 11/29/50.

[440.0140](#) **Methyl Ethyl and Methyl Isobutyl Ketones and Trichlorethane.** Methyl Ethyl and Methyl Isobutyl ketones are flammable solvents used in applying oxide coating to magnetic tape and Trichlorethane, a non-flammable solvent used for thinning the lubricant which is applied to the oxide coating, are taxable manufacturing aids. 11/15/66.

[440.0160](#) **Methyl Ethyl and Methyl Isobutyl Ketones and Trichlorethane.** When the solvents methyl ethyl ketone and isopropyl alcohol are used in the production of phenolic resin, they do not become part of the finished product and are taxable manufacturing aids. 12/16/69.

440.0163 **Normal Methyl Pyrrolidine (NMP).** In connection with a “solvent extraction” plant, a corporation purchases Normal Methyl Pyrrolidine (NMP) solution ex-tax from out-of-state retailers. Feed stock, a form of crude oil which has been refined somewhat through other separation processes, is termed “vacuum gas oil.” The feed stock is combined with the NMP solution with the intention that the solution will assist in the removal of impurities from the oil and assist in the separation of the aromatic and nonaromatic oils. The primary intent is to use the NMP solution as a separation of the two types of oils and also as an agent for removal of impurities.

The NMP solution is being purchased with the dominate consideration being to make a use of the solution as a separator, not to incorporate the chemicals into the final product. The fact that the NMP solution may indirectly enhance the final product does not have any influence in making the decision to purchase the solution. The fact that 99.6% of the NMP solution is potentially recoverable for reuse and the fact that the corporation is constantly seeking to reduce the amount of solution which is absorbed into the final product lend support that the solution is purchased as a manufacturing catalyst, not to be incorporated into the final product. The major significance is the fact that the corporation purchases and uses the NMP solution for its separation qualities and its abilities to remove impurities from the feed stock oils. The corporation is thus the consumer of the NMP solution purchased for use in its refining processes and the use tax is due on the cost of the chemicals. 1/14/91.

[440.0165](#) **Packing Material—Title Passage.** When a moving and storage company has a contract with a customer which includes a notation “Customer agrees that title to all packing material passes to customer before any use of such material is made,” “title” is considered to pass to the customer prior to any use. This is true without regard to whether or not the charge for the packing materials is separately stated. 6/29/95.

440.0180 **Paint Thinner.** Sales of paint thinner to manufacturers who mix the same with paint solids and apply to articles being manufactured, are not sales for resale and are taxable. The thinner is generally lost by evaporation before the painted article is sold. 3/30/53.

440.0200 **Paint Thinner, Abrasives, Cleaning Compounds, and Masking Tapes**, sales to persons who paint automobiles to be sold are regarded as sales at retail and subject to tax. 7/25/50.

[440.0225](#) **Rubber Cement**. If a manufacturer purchases solvent to manufacture rubber cement and in turn uses the rubber cement to manufacture tires, the solvent is not purchased for resale since it evaporates before the tires are sold. On the other hand, if the tire manufacturer purchases rubber cement which includes solvent, it is the rubber cement that is purchased, not the solvent. The rubber cement may be purchased for resale even though the solvent contained therein may evaporate. 2/4/47.

440.0240 **Thinner**. Lacquer thinner utilized for thinning the lacquer applied to picture frames evaporated soon after application and hence does not become a permanent part of the picture frame. Accordingly, sale thereof to a manufacturer of picture frames is not for resale and is a taxable retail sale. 1/11/55.

440.0241 **Thinning Solvent—Photoplate Manufacturing**. Thinning solvent purchased to dilute a photoresist compound used in the manufacturing of photoplates used by integrated circuit manufacturers is virtually entirely dissipated during the baking process. Approximately two to ten percent of thinner remains on the photoplate. The photoresist compound purchased consists of from 60 to 80 percent thinner.

The thinning solvent, which is purchased separately, is added so that the compound will be spun on the glass plates in the proper thickness. While a minute quantity of thinner remains on the finished product, that is not the “principal purpose” for which the thinning solvent was purchased. Accordingly, the purchase of the thinner is taxable. 8/27/84.

440.0243 **Tooling Supplied by Customer**. An out-of-state customer furnishes tooling to a California manufacturer for use by the manufacturer in producing goods for the customer. The California manufacturer has no liability for any tax that may be due with respect to the tooling, provided the manufacturer did not fabricate or purchase the tooling. 5/27/88.

(3) MATRICES, MOLDS, MODELS

440.0260 **Lace**. A manufacturer of ceramics purchases lace for use as a framework or pattern for the porcelain and glaze from which figurines are made. During the firing process, the lace is reduced to gas (there may be a small ash residue). The lace does not perform any useful function except as a pattern for the formation of the porcelain lace during the firing process. The figurine is sold clothed in a gown of porcelain lace which results from the manufacturing process, and there is no trace of the cloth lace remaining as a component part. The manufacturer is purchasing the lace for use, and not for resale. 9/27/50.

440.0270 **Markers**. A clothing manufacturer provides a person with a cardboard pattern of a clothing design (hardcard). Using the hardcard, the person devises a pattern or “layout” for cutting material that will minimize waste. The “layout” is drawn or traced on heavy paper (marker) which is transferred back to the manufacturer. The “marker” is then used by the manufacturer to make a tissue copy (flimsy) of the pattern. The marker is reusable and can be used to make as many flimsies as necessary. The flimsy is placed directly on the material and used as a template to guide the cutting. The true object of the contract between the manufacturer and the person is the property acquired, i.e. the “marker.” Therefore, the entire charge for fabricating the marker is subject to tax. 11/30/90.

440.0280 **Matrix Material and Resin Powder**. “Matrix Material” and “Phenolic Resin Powder,” used in conjunction with a rubber compound and canvas backing in the production of rubber printing plates and box-die molds, do not become part of the finished product, and the sale of these items to the user is subject to tax. 9/28/55.

[440.0300](#) **Mold for Castings**. A foundry receives an order for a mold and for castings to be produced from the mold, certifying that both items are for resale. After making the mold, a sample casting is poured as proof to the customer that the mold is satisfactory. Foundry then invoices the customer for the mold and thereafter uses the mold to produce the castings.

The sale of the mold to the customer is a taxable sale and not a sale for resale as the customer uses the mold prior to any resale thereof by permitting the foundry to use the mold to produce castings. The customer's resale certificate is applicable only to the castings. 8/24/55.

[440.0340](#) **Molds and Dies—Title.** In the instance of molds and dies used in the manufacture of oil seals it has been ruled that even though a purchase order and invoice are exchanged, which typically form part of the sales contract, no sale has taken place if the tooling only is used in the production of the product and not turned over to the customer at the end of the run. In this case the invoice is only a pricing arrangement and not evidence of sale. Thus, the only sale is the sale of the oil seals. If that sale is in interstate commerce, the manufacturer's charge is exempt from sales tax. If the title provision for the tooling appears on the purchase order or invoice, then the manufacturer sells the tooling. If title passes before the manufacturer's use, sales tax applies to the sale. If title passes after the manufacturer's use, the manufacturer may not purchase the tooling for resale, but the sale by the manufacturer will be an exempt sale in interstate commerce if it meets the specific requirements of the exemption. 5/27/64; 11/21/89.

[440.0360](#) **Wax Models** sold to a manufacturer for use in making metal casts are manufacturing aids and subject to sales tax. 2/16/54.

(4) PAPER PRODUCTS; EXPLOSIVES—CHEMICALS USED IN MANUFACTURE OF

440.0380 **Explosives.** "A" purchases concentrated sulphuric acid from "B," a California supplier, ex-tax and makes the following uses thereof:

(1) Mixes the acid with other acid and sells the mixture to its customers, "C" and "D," who use it as a dehydrating agent.

(2) Uses the acid in its own manufacture of nitroglycerine, or other processes, as a dehydrating agent.

(3) After use of acid in (2) above, "A" sells the diluted acid back to "B" for reconcentration and resale to the trade, or

(4) Uses diluted acid in manufacturing fertilizer, or

(5) Reconcentrates the acid and again uses it as in (2). No taxable use is made of the acid in (1), it being incorporated into a product being resold, but the sales to "C" and "D" are not sales for resale.

The use in (2) as a dehydrating agent is a taxable use even though the acid may be later resold.

The sale back to "B" in (3) is an exempt sale for resale.

Where "C" and "D" sell diluted acid back to "A" who resells it directly to "B" the sale to "A" is exempt.

Where "C" and "D" sell diluted acid back to "A" for use as in (4), the use is exempt since the acid is added solely for the purpose of adding sulphate ions as a component part of the fertilizer (ammonium sulphate) to be manufactured and sold. But if "A's" use is as in (5), it is a taxable use. 3/3/53.

[440.0395](#) **Newsprint Manufacture.** Sodium tripoly phosphate and sodium hydrosulfite (V-Brite) impart beneficial qualities to finished newsprint by their presence in the finished product. Accordingly, they may be purchased for resale by manufacturers of newsprint.

Sulfur dioxide, liquid sodium bisulfate and sodium borohydrate are purchased primarily for use in the process of manufacturing newsprint. Although some amount of these chemicals may incidentally remain in the final product, they are not purchased for resale as part of the finished product. 8/7/86.

[440.0400](#) **Paper Products.** The following chemicals and compounds are taxable manufacturing aids:

(1) Busan 90—a bromohydroxy acetophenone product which is injected into wood pulp slurries, processing water and paper coatings to prevent the growth of bacteria and formation of slime in pulp and on finished paper.

(2) Sodium Hydroxide (Caustic Soda), Calcium Carbonate (Limestone) and Sodium Sulphate—used to charge an alkaline cooking liquor which digests wood chips, leaving cellulose pulp.

(3) Chlorine and Sodium Hydroxide—combined to make Sodium Hypochlorite which is used to bleach kraft pulp.

(4) Chlorine—used in multi-stage bleaching of kraft pulp; combines with lignin, rendering it reactive for subsequent bleaching operations.

(5) Sodium Silicate, Magnesium Sulphate, Trisodium Phosphate and Versenek 80 (Diethylenetriamine—Penta-Acetic Acid)—combined to make a bleaching solution for ground wood pulp. These chemicals act as stabilizers, preventing premature disassociation by pulp impurities.

(6) Sodium Hydroxide—used in caustic-extraction stage of kraft bleaching operations; serves in removal of water-soluble chlorinated lignin material.

(7) Sulphuric Acid, Sodium Chlorate and Sulphur Dioxide—combined to make a chlorine dioxide compound used for bleaching kraft pulp.

(8) Vanzak 112—liquid used as dispersant for pitch in kraft and ground wood pulps. Most of it is eventually washed out of the pulp.

(9) Defoamers (NOPCO DF-120, DF-160 and DF-303)—detergent compounds which are used to inhibit foaming in the process of manufacturing paper. They also serve as aids in the retention of fine pulp particles. The major portion of such defoamers is flushed away with other process effluents.

The following chemicals and compounds, or their constituents, become components of pulp and finished paper products, and thus may be purchased ex-tax for resale by a paper manufacturer.

(1) Mistron Talc—a Magnesium Silicate compound, which is added to wood pulp to control deposition of pitch and remains as a desirable component of finished paper.

(2) Ammonium Hydroxide—used as a mineral dispersant; becomes a component of the waterproof surface coating of finished paper.

(3) Sodium Hydroxide and Sulphur Dioxide—used to control reaction rates in peroxide bleaching of ground wood pulp. No washing of the pulp is done after introduction of these compounds and Sodium and Sulphur therefrom remain in the pulp and finished paper products. 3/10/65.

(5) TEXTILES—CHEMICALS USED IN DYEING OF

See also Fur Dressers and Dyers.

440.0415 **Chemical Consumed in Fabric Dyeing.** The following chemicals are consumed during the fabric dyeing process and do not become incorporated in the finished product.

Sodium Silicate is used as a stabilizer and does not become a component part of the finished product.

Caustic Soda (sodium hydroxide) is used to aid in the bleaching process. Bleaches used in bleaching material are consumed.

Sodium Perborate is used mainly for bleaching.

Hydrogen Peroxide. Its major use is to bleach the material and does not remain in the finished product to make the cotton stronger or more resilient. 4/29/80.

440.0425 **Chemkar 211F.** Chemkar 211F is used as a manufacturing aid in the dyeing of polyester carpet, and its sale is taxable. 8/30/74

440.0430 **Cleaning Agents Purchased by Textile Processors.** The purchase by textile processors of water softeners, wetting agents, stripping agents, bleaching agents, and detergents are purchased for some purpose other than resale. The mere fact that some portion of the products purchased may remain in the finished product is immaterial. (*American Distilling Company v. State Board of Equalization*, 55 Cal.App.2d 799.) 4/1/53.

[440.0440](#) **Dyeing of Cloth.** In the dyeing of cloth, the chemicals Emulphor, Katanol, Orthodichlorobenzene and Triton 770 Concentrate are used primarily as solvents and emulsifiers and do not become a part of the dyed cloth. Therefore, the sale of such items to dyers is taxable. 5/31/57.

[440.0460](#) **Wetting Agents.** The sale of wetting agents to textile dyers for use in enabling the fabric to absorb more of the dye, is a manufacturing aid which does not become a component part of either the fabric or the dye, and is taxable as a retail sale. 5/29/53.

(6) FOOD AND BEVERAGE PROCESSING

Bakery and pan oils, see also Food Products.

[440.0480](#) **Aluminum Foil Potato Wrap.** Aluminum foil “potato wrap” is sold to restaurants and used as a wrap in which potatoes, with foil intact, are served with meals. If the foil is purchased primarily for use as a wrapper for baking potatoes and not for use as a container for serving baked potatoes, sales of aluminum foil to restaurants for such purposes are taxable retail sales. If the foil is purchased specifically for use as a container for serving baked potatoes, the foil may be purchased for resale.

The use of aluminum foil as a container for serving baked potatoes would be where the foil is used to cover discolored or unsightly potatoes or in some instances, to cover boiling potatoes which are substituted for baking potatoes. 11/3/78.

440.0484 **Aluminum Sulfate—Processing Sugar Pulp.** Aluminum sulfate used in processing sugar pulp and molasses is a manufacturing aid even though some of it remains in the final product. The amount of aluminum sulfate in the final product is an incidental result of the manufacturing process. Therefore, sales of aluminum sulfate to sugar manufacturers are subject to tax. 12/11/91.

[440.0500](#) **Charred Oak Barrels** purchased by distillers of whiskey and used in the aging of whiskey, not only impart certain chemical compounds but are used to store the whiskey and to aid in certain chemical reactions the end result of which produces a matured beverage. This being the primary use of the barrels they are, accordingly, manufacturing aids the sale of which is subject to sales tax. 6/7/54.

440.0520 **CO₂ Gas** for use in the sale of draft beer is taxable, since the purchaser buys the gas for use in forcing the draft beer through the pipes rather than for the purpose of reselling the gas. 8/7/52.

440.0521 **CO₂ Gas.** Purchases of CO₂ Gas used as a freezing agent in preparing frozen strawberries are taxable since the gas is not purchased for the purpose of becoming an ingredient or component part of the product even though some portion of the gas may remain with the packaged frozen strawberries. Similarly, the CO₂ cannot be considered as nonreturnable packaging material since it does not prevent physical damage nor contain the strawberries during shipment. 10/6/93.

440.0522 **CO₂ Gas.** CO₂ gas is used to freeze chicken cubes to prevent them from sticking together when packed. The CO₂ does not become a component part of the article sold, but is instead an item used in the processing of the property. As such, the CO₂ is subject to sales tax. 2/19/82.

[440.0523](#) **CO₂ Gas.** CO₂ gas is purchased for use in lowering the pH level of olives during the manufacturing process. The CO₂ gas neutralizes a solution of sodium hydroxide leaving salt in the olives as a result. No CO₂ remains in the olives after the processing. Since the CO₂ is not purchased for the purpose of becoming an ingredient or component part of the finished olives, the CO₂ falls into the category of a manufacturing aid and purchases of the gas for this purpose are subject to tax. 11/29/00. (2001–2).

440.0540 **Corn Starch.** Molding starch, composed principally of corn starch and used in the manufacture of candy, does not become an ingredient of the candy and is a manufacturing aid subject to tax. 7/26/55.

[440.0550](#) **Fruit Processing—Calcium Hydroxide and Calcium Chloride.** These chemicals are purchased for the purpose of providing calcium which unites with the pectic acid in fruit to form calcium pectate, which “sets” or “firms” the fruit. One half remains with the fruit with the remainder being discarded with the brine. The primary purpose of the calcium hydroxide and calcium chloride is to form calcium pectate. Accordingly, it may be purchased for resale. 7/30/42.

440.0560 **Ice, Used in Manufacturing Luncheon Meat.** If the ice is used for any purpose other than to become an ingredient or component part of the finished product it is purchased for a purpose other than resale and that the tax accordingly is applicable. 9/4/51.

440.0580 **Nitrogen.** Nitrogen, in gaseous form, used in the manufacture of salad dressing is primarily used to prevent spoilage before, during and after the manufacturing process, is a manufacturing aid subject to tax. Where a small amount of such gas is placed in the neck of the bottles just before capping, a resale occurs which portion would be exempt. 5/8/56.

440.0600 **“Pectinol.”** “Pectinol” used in a manufacturing process involving fruit juices is a manufacturing aid consumed in such manufacturing process, and is subject to tax. 10/30/56.

440.0620 **Petroleum Sulfonates.** Petroleum sulfonates used to hydrolyze fats are used as a manufacturing aid and their sale is subject to tax. 10/25/55.

[440.0626](#) **Potato Sprout Inhibitors.** Isopropyl-M-Chlorocabanilate, also known as choropropham or CIPC, is applied to potatoes after they have been harvested to prohibit sprouting while in storage.

If the chemical is used during storage to prevent potatoes from sprouting, with the inhibition of sprouting to continue after the treatment even though the CIPC is physically removed after treatment, the CIPC cannot be purchased for resale and sales tax would apply to the sale of the chemical. The chemical in this situation would be considered used as a catalyst or to produce a chemical or physical reaction. (*Kaiser Steel Corp. v. State Board of Equalization* (1979) 24 Cal.3d 188.)

On the other hand, if the CIPC must be physically present on the potatoes at the time of sale in order to continue inhibiting sprout growth and if this is the grower’s reason for applying the chemical, then the growers may issue a resale certificate to their vendors. 7/19/95.

440.0630 **“Produce Wash.”** “Produce Wash” is applied to produce and then completely rinsed off with water so as to facilitate removal of the dirt and chemicals on the produce. It is not incorporated into the produce and its sale to grocery stores or food processors is a taxable retail sale. 5/30/90.

[440.0640](#) **Salt and Lye.** The sale or use of salt used for preserving olives before processing and the sale or use of lye used in processing olives are taxable. The sale or use of the final salt brine is exempt if the brine remains with the olives when they are sold. 11/9/55. (Am. 2005–2).

440.0660 **Salt Used for Cooling Fruit.** Salt used in cooling fruit during shipment in interstate commerce may not be purchased under a resale certificate as ice may in similar circumstances, since the exemption afforded ice used in shipping or packing is statutory. 7/3/62.

440.0680 **Salt Used in Grading Vegetables.** Salt used in the business of grading peas and beans for food processing and packing is a manufacturing aid and subject to tax. 3/16/55.

440.0700 **Soda Ash, Borax, Fungicides.** All of these products are used by packing companies in the preparation of fruits and vegetables for sale:

Soda ash or borax which is sold to fruit packing companies is not purchased for the purpose of physically incorporating them into the manufactured article to be sold. Soda ash is added at the packing house to act as a cleansing agent which cleanses the fruit of impurities found on the fruit at the packing house, not being added for the purpose of incorporation.

Borax is used primarily as a fungicide to destroy fungus spores which have accumulated on the fruit prior to its arrival at the packing house. While some borax remains on the fruit to protect it after its departure from the packing house, most of the borax performs the function of removing existing spores and during the process goes off into a bath rather than permanently becoming a part of the fruit . . . The sale of borax to the packing house constitutes a taxable retail sale. 9/26/52.

440.0710 **Sprout—Nip A and Sprout Nip Emulsifiable Concentrate.** These products are herbicides which prevent sprouting of potatoes and do not become incorporated into the potatoes. Therefore, the sales of these products to growers and dealers, who apply it to the potatoes, are taxable. 9/20/93.

440.0720 **Sulphur** used in drying and curing fruit is regarded as used by manufacturer, not as incorporated and resold. 9/13/51.

440.0735 **Transfer Paper.** Transfer paper is used in the textile manufacturing process. According to the taxpayer, it is paper which is treated with a special chemical. According to the supplier of the transfer paper, the chemical's role is purely that of a catalyst. The taxpayer maintains that the chemical adds a sheen to the fabric and it also helps prevent snagging of certain sheer polyester.

Mere physical presence in a finished product is an insufficient basis for exemption. The available evidence is that the primary purpose of the transfer paper is as a manufacturing aid to facilitate the transfer of a design from a silk screen to the fabric. After the process is completed the paper is discarded. There is no evidence that the chemical contained in the paper is in the fabric or the paper which is discarded. Even if some of the chemical appears in the fabric, it appears that it is incidental and the transfer paper is a necessary element in the heat transfer process. 4/30/90.

440.0760 **Wax.** The sale of wax used to preserve olives while fermenting is taxable. 9/13/50.

440.0770 **Wine Making—Chemicals Used in.** The following percentages have been established as standard reporting figures for the amount of the specified chemicals which are incorporated into the finished wine and are resold. The remaining percentage is taxable as a manufacturing aid.

liquefied sulfur dioxide gas55 percent

potassium meta-bisulfite35 percent

sodium meta-bisulfite35 percent 4/15/71.

440.0775 **Wood Used in Curing Meats.** The primary purpose for burning wood in the processing and curing meats is to produce smoke which becomes a component part of the meat product to be sold. The wood may be purchased for resale. 7/24/40.

440.0780 **Yeast Used in Wine.** Since yeast is used in the manufacture of wine in order to bring about the fermentation process and is not used for the purpose of physically incorporating it into the wine, the sale to manufacturers is taxable notwithstanding that during the fermentation process some yeast cells do in fact

become part of the wine through disintegration, this being only an incidental factor in the production of wine. 5/2/61.

(7) MISCELLANEOUS SPECIFIC AIDS

Coke, carbon, etc., used by Foundries, see also Foundries.

[440.0798](#) **Abrasive Pads—Ophthalmic.** Abrasive pads used to grind lenses are consumed by the ophthalmic lens laboratory. Since the laboratory is the consumer, tax applies to the sale of the pads to it. 2/18/92.

440.0800 **Activated Charcoal Used in Rectifying Grain Alcohol.** Activated charcoal, sold to rectifiers for purifying grain alcohol, is used to absorb impurities from the alcohol and is then discarded. Activated charcoal used for such purpose is a manufacturing aid. Accordingly, the sale to the rectifier is subject to sales tax. 4/4/66.

440.0820 **Activating Solution Used in Shoe Manufacturing** which completely evaporates in process, tax applies on sale to shoe manufacturer. 4/16/51.

440.0840 **Aluminum.** Where aluminum is sold for the purpose of removing oxygen from the molten steel and the greater part thereof is skimmed from the top of the ladle as slag, it is not sold for resale and sales tax applies. 12/29/54.

440.0860 **Aluminum—Used in Steel Manufacture.** Aluminum purchased by manufacturers of steel is placed in ladles and covered with molten steel, preventing the formation of pinholes in the finished steel. The aluminum oxide is skimmed off the surface of the molten steel. The aluminum is purchased for use as a manufacturing aid and not for the purpose of resale. Accordingly, it is subject to sales or use tax notwithstanding the fact that a portion of the aluminum remains in the finished steel. 8/9/65.

[440.0866](#) **Ammonia, Sulfuric Acid and Caustic Soda Used to Manufacture Cracking Catalysts for the Petroleum Industry.** Ammonia, sulfuric acid and caustic soda are used in the manufacture of cracking catalysts which are sold to the petroleum industry. Only two percent of the ammonia and sulfuric acid remain in the finished catalyst, but their presence is necessary for the catalyst to be effective. These chemicals may be purchased for resale even though ninety-eight percent is washed out or dumped during the manufacturing process. The caustic soda detracts from the stability and activity of the catalyst. The caustic soda is therefore regarded as a manufacturing aid even though some portion remains in the catalyst. 9/6/77.

440.0880 **Ansol PR Used to Achieve an Adhesive Seal.** Sales of Ansol PR are taxable when made to a company which purchases it for the purpose of achieving an adhesive seal on a cellophane overwrap around a box rather than for incorporation into the cellophane wrap. Due to the evaporation of the chemical during the process, it is consumed rather than resold. 4/12/62.

440.0887 **Artwork for Silk Screening.** A taxpayer sold custom T-shirts and other printed items. The taxpayer created the art to the customer's specifications or found a suitable piece in his archives. He retained title to the artwork, but made a separate charge for camera work and the silk screens. The charge for the camera work and silk screens is a part of the gross receipts which are subject to tax. Gross receipts include the total amount of the sale price without deduction on account of labor or service cost. It is immaterial that the taxpayer separately stated his labor charges. 2/22/94.

440.0900 **Bleaches** used in bleaching materials, regarded as consumed and not incorporated and resold. 7/2/51.

440.0920 **Bleaches.** Caustic soda, soda ash, liquid chlorine, sulphuric acid, oxalic acid and other similar chemicals used as bleaching agents in the manufacture of shellac are considered as consumed manufacturing aids and the tax is applicable. 12/22/52.

440.0940 **Blowing Agents and Catalysts** which alter the cell structure of components used in the manufacture of flexible polyurethane foam and dissipate substantially in the process are used primarily as manufacturing aids to produce a chemical reaction, rather than as components of the finished product and sold with it and so are subject to sales tax. 5/27/69.

440.0950 **Celluloid Tapes and Reels as Containers.** In manufacturing printed circuit boards, integrated circuits and other components placed on the board are placed between two layers of celluloid tape and wound around a reel. The placement machinery then separates the two layers of celluloid tape and places the components on the board at the desired location. The celluloid tapes are discarded. The reels may be recycled or scrapped.

When the entire package of the celluloid tapes and reels are purchased together with the components from the supplier of the components in a completed form, the celluloid tapes and reels are containers and the package may be purchased by the manufacturer of the circuit boards for resale. However, when the components are purchased from one supplier and the manufacturer separately purchases the celluloid tapes and reels, the manufacturer is the consumer of the tapes and reels and may not purchase them for resale. Further, if the insertion of the components into the celluloid tape and the mounting of the reels is sub-contracted to a third party, the charges represent fabrication of a manufacturing aid and as such are subject to tax.

If the manufacturer retains title to the tapes and reels, a separate charge for mounting the integrated circuits on the reels and tapes to their customers is not taxable if the circuit boards are sold for resale. If the circuit boards are sold at retail, such charges are includible in the taxable gross receipts. 8/30/93.

440.0960 **Chaplets.** Chaplets, a metal device used in foundries for holding a core or section of a mold in place, are used as manufacturing aids and are, accordingly, purchased for use rather than for resale and sales thereof to manufacturers are subject to sales tax. 12/14/54.

440.0980 **Chaplets and Cleaners, Nails.** The following have been held to be consumed by the manufacturer rather than resold as an ingredient or component part of the manufactured article: Chaplets used to support core proper distance from mold, nails inserted in casting to regulate rate of cooling, cleansers used to prepare surfaces to be painted. 3/24/50; 4/20/50; 4/21/50.

440.0988 **Chemicals Used in Conversion Coatings for Steel.** Conversion coatings are coatings formed on metals by treatment with suitable combinations of acids and metallic salts in dilute solutions. The coating is the result of converting the exterior metallic molecules into another chemical compound with different physical and chemical properties. Tax applies as follows to chemicals used in the process.

Leeder 374-H—Leeder 374-H is a cleaner and iron phosphating compound and is used at about 1½ ounce per gallon of water at 140°–160° F. Under these conditions, the phosphate portion which is about 80% of the formula reacts with the outer layer of iron, forming a complex iron phosphate. This coating imparts a color, increases paint adhesion and increases corrosion resistance. Leeder 374-H may be purchased for resale since its primary purpose is to form a nonmetallic coating on the metal being treated through a chemical conversion of the surface metal, notwithstanding that it may to some extent perform a cleaning function prior to the actual disposition of the coating on the metal.

Leeder 272-H—Leeder 272-H is used with Leeder 374-H to control the pH in the proper range to get good disposition and improved corrosion resistance. Therefore, it is in the nature of a catalyst. It is used for purposes other than incorporation into the finished product. Under such circumstances, Leeder 272-H is regarded as a taxable manufacturing aid.

Leeder 771-H—Leeder 771-H is used in the final rinse stage to “stabilize and seal” the phosphate coating by depositing in the capillaries of the coatings itself. Since Leeder 771-H is being incorporated into the finished product, it may be purchased for resale. 5/10/71.

440.1000 **Cleaners**, purchased for use in preparing metal parts surfaces prior to rust-proofing, do not become incorporated in product; tax therefore applies to sale of cleaner to user. 4/25/51.

[440.1015](#) **Coal (Fly Ash) Used in Manufacturing of Cement.** In one of the stages in the manufacturing of cement, coal is crushed into powder, blown into the kiln and ignited. The coal is used to produce heat in the kiln. Most of the coal is consumed or evaporates in the process but the inorganic elements, primarily silica, alumina and ferric oxide, remain in the form of ash called “fly ash.” Approximately 98 percent of the fly ash is absorbed by and remains in the clinker (a lava-like substance which is mixed with gypsum to form the cement), while the remainder escapes in the kiln mixed with the various gasses. About 10 percent of the coal, measured by weight, is composed of the fly ash elements that remain in the cement. The fly ash in the amount that remains is a necessary and desired element of the finished cement.

Under this process, there is a dual purpose for purchasing coal, namely, the organic elements to provide heat while the inorganic elements or fly ash to be incorporated into the finished product. Therefore, the portion of the coal (fly ash) that is incorporated into the final product is not subject to tax.

Since the coal is purchased for a lump-sum price, the price must be allocated between the fly ash and the other elements of the coal. The amount of fly ash incorporated into the final product is derived from 10 percent of the coal. However, since fly ash normally sells for about one half the price of coal, the nontaxable portion should be computed based upon the fair market value of the amount of fly ash obtained from 10 percent of the coal purchased. 9/13/72.

[440.1020](#) **Coke** used for melting minerals which are then converted to wool insulation fibers in the manufacture of rock wool, does not become an ingredient of the finished product and hence is taxable as a manufacturing aid. 10/8/54.

440.1040 **Crude Oil.** Ethylene oxide, propylene oxide and propylene sulfonate used in manufacturing demulsifying agents which are used for removing water from crude oil are taxable as manufacturing aids, even though they may incidentally become physically incorporated into the crude oil. 4/7/67.

[440.1045](#) **Crude Oil—Chemical E-4161.** Chemical E-4161 is added to crude oil where it functions as an emulsion breaker, i.e., it facilitates the separation of crude oil from contaminated water or brine. Even though it remains with the crude oil component when the water is removed, its purpose is to remove the water. Therefore, it is a manufacturing aid and may not be purchased for resale. 11/24/92.

440.1050. **Cyclohexanone.** The chemical Cyclohexanone utilized as a solvent and dispersal agent in the manufacture of magnetic tape is a taxable manufacturing aid notwithstanding that each repeated use of the chemical may result in the incorporation of about one percent of the property. 7/11/74.

[440.1055](#) **Degreasing Agents.** Remkleen WS and Metro CD are degreasing agents used by various persons prior to painting, welding, etc. These agents are not incorporated into the product for resale, and are subject to tax. 5/19/72.

440.1060 **Deobase.** The chemical “Deobase” is a manufacturing aid used in process of making soap and its sale to the manufacturer is taxable as a sale for a purpose other than resale. 2/15/57.

440.1080 **Electroplating.** Nickel Sulphate, Nickel Chloride, Coppalyte, Potassium Stannite, and Silver Cyanide used in electroplating, the metallic components of which become incorporated in finished products which are sold, may be purchased ex-tax for resale.

Boric Acid, Caustic Potash, Potassium Carbonate, and Potassium Cyanide, used in electroplating, the components of which do not become incorporated in finished products which are sold are taxable manufacturing aids. 9/14/66.

440.1085 **Electroplating.** Sales to platers of brighteners to be codeposited or absorbed into a product which is resold are sales for resale and not subject to sales tax. Likewise, if a plater plates a new article for

a consumer, his entire charge is taxable and sales to him of brighteners are for resale. However, when the plating is of a used article for a consumer, the plater is the consumer of the brighteners and sales thereof to him are taxable. 6/2/72.

440.1090 **Emulsion Breakers.** Emulsion breakers separate oil and water in crude oil. They are regarded as being used in a manufacturing process. Tax applies even though they may incidentally dissolve in the crude oil and some portion may remain in the finished product. 11/20/89.

440.1095 **Film and Negatives Used to Produce Sample Prints.** Raw film and optical sound track negatives were used in the process of duplicating previously released motion pictures from which sample prints were made. The sample prints and the negatives used to produce them were then sold. In this case, the negatives were used as manufacturing aids to make the sample prints prior to being sold. Therefore, use tax applies to the cost of the raw film stock and the optical sound track used to make the sample prints, as set forth in Regulation 1525.1, in addition to the sales tax due upon their sale to the purchaser. 8/28/91.

440.1105 **Flourspar.** Flourspar (calcium fluoride) is added to raw cement mixes during manufacturing to facilitate clinkering. It lowers the temperature at which liquid is formed and thus reduces the clinkering temperature; however, its presence has no beneficial effect on the cement. Flourspar is a manufacturing aid and its sale to a cement manufacturer is a taxable retail sale. 3/13/81.

440.1121 **Flux.** Flux used to prevent magnesium from burning during the process of melting magnesium is not purchased for purpose of resale. The sale of the flux is subject to tax. 11/4/42.

440.1140 **Flux, Lead and Wire-Drawing Compounds as Manufacturing Aids.** Flux used in coating a base metal with another molten metal reduces the oxidized surface of the base metal, permitting the bonding of both metals. Neither the flux nor its constituents becomes incorporated in the bonded metals to any significant degree.

Molten lead is used as a bath for preheating wire prior to passage through flux and immersion in molten zinc. A small amount of lead adheres to the wire and becomes incorporated in the galvanized coating.

Calcium stearate and grease compounds containing hydrated lime and borax are used as lubricants to facilitate the drawing of wire through dies and to produce various finishes. Pressures developed in drawing cause a certain amount of the drawing compounds to adhere permanently to the wire surfaces.

Such fluxes, lead and wire-drawing compounds are purchased for use in performing manufacturing operations and not for the purpose of incorporating their constituents in finished wire products. Accordingly, sales of such property to a wire manufacturer for such purposes are not sales for resale. 12/29/65.

[440.1160](#) **Fuel Oil.** Fuel oil sold for the purpose of generating steam in a manufacturing plant to assist in the process of curing products is subject to sales tax. 1/27/53.

440.1180 **Fusel Oil.** Fusel oil purchased for use as an anti-foam agent in the pumping over and recirculation of a finished coating solution are used as a manufacturing aid and hence consumed by the user. 5/26/54.

440.1200 **Galvanizing Process—Chemicals Used in.** Caustic soda, sulphuric acid, and hydrochloric acid (sometimes called muriatic acid), and zinc ammonium chloride are manufacturing aids consumed by the manufacturers in the galvanizing process. 1/13/70. (Am. 2000–1).

440.1220 **Garnet Paper.** Garnet paper purchased and used to smooth the surface of plywood is consumed during the manufacturing process and is not purchased for resale notwithstanding the fact that the resins from the garnet paper remain on the surface of the finished product since this is only an incidental effect. 4/7/61.

440.1230 **Gypsum.** Gypsum added in the process of manufacturing glass containers is an essential component of the manufactured article and may be purchased for resale. 11/11/76.

440.1234 **Gypsum for Wallboards.** The following chemicals used in the production of gypsum for wallboards are manufacturing aids:

(1) Lignosite (lignosis). Since gypsum is a dehydrate of calcium sulfate and water, it is important that two and only two molecules of water bond to each molecule of calcium sulfate. Lignosite is a diffusing agent which is added to the slurry of calcium sulfate and water to ensure that the water will spread evenly throughout the mixture. When added to the slurry, the lignosite bonds with water molecules to form ionized water-lignin molecules. The ionized molecules apparently surround the calcium sulfate particles and thereby impart a negative charge to each of the particles. The result is that each particle repels every other particle ensuring adequate diffusion of the water and proper bonding to the calcium sulfate.

Lignosite is used as a diffusing agent, and the fact that it remains in the finished product is merely an added benefit. Accordingly, the purchases of lignosite is for the primary purpose of use during the manufacturing process and not for the primary purpose of resale as part of the finished product. Also, the use of the lignosite as a diffusing agent in the manufacturing process is prior to resale.

(2) Retarders and Potassium Sulfate. In the wallboard's drying process, it is important that all parts of the gypsum dry at the same rate. If some parts dry prematurely, the result is stress lines in the gypsum which weaken the wallboard. In order to control the rate of drying, "retarders" and potassium sulfate are added to the gypsum. The retarders are added first and their function is to prevent the gypsum from drying so that no part dries prematurely. At the proper time, potassium sulfate is added. This chemical causes the gypsum to dry almost immediately, thereby producing a uniform "snap set."

Both the retarders and potassium sulfate are used to produce chemical or physical reactions during the manufacturing process. The retarders are used to delay drying and the potassium sulfate is used to produce a snap set. Although the retarders and potassium sulfate remain in the finished gypsum, their physical presence does not appear to have any beneficial effect whatsoever. Accordingly, these chemicals are purchased primarily for use in the manufacturing process and not for resale. Also, the use of these chemicals in the manufacturing process is prior to resale. 6/28/83.

440.1237 **Hormone Rooting Powder and Liquid.** Sales tax applies to the sales of rooting powders and liquids. Rooting hormones are described as follows: "They are placed on the tip end of the cutting. Upon watering and with the proper temperature and other greenhouse or growing practices, rooting hopefully occurs. After rooting, the stock is either placed in containers or sold as rooted cuttings for others to grow to proper size for resale . . . The hormones are used in the production of the finished product."

Indole 3 butyric acid and naphthalenaecetic acid, the active ingredient of the rooting powder and liquid, are growth regulators used by the growers to promote the rooting of plants. The primary purpose of such growth regulators is to promote the rooting of the plants. Only after this rooting function is performed and the rooting has occurred are the rooted plants resold by the growers.

The resold plant having been rooted by the use of rooting products is not sufficient to conclude that the growers are reselling the rooting product. Further research leads to the conclusion that during the rooting process, the growth regulators are metabolized into the cells of the plants or are exhausted and detoxified by indiscriminate reactions that are meaningless to cell regulation. It is also concluded that the growers purchase the rooting products for the purpose of rooting the plants before they are sold. A small amount of unexhausted and toxic rooting powder or liquid still being active in the rooted plant would be incidental to the growers purpose and would not change the conclusion. The courts have held that the sale of chemicals for use in a manufacturing process is a taxable retail sale where only a small and uncertain portion of the elements of the chemicals are retained in the finished product. (*American Distilling Company v. State Board of Equalization*, 55 Cal.App.2d 799, 804.) 11/17/71.

440.1240 **Hydrochloric Acid.** Where HCl is purchased, used first to extract a product, and then used in the manufacture of cattle feed, it cannot be purchased ex-tax for resale. 4/28/64.

440.1260 **Hydrochloric Acid—First Taxable Use.** The sale of HCl for use in the manufacture of monosodium glutamate is a retail sale and subject to tax, even though subsequent to such use it is incorporated into cattle feed which is sold. 9/14/64.

440.1280 **Hydrogen, Oxygen, and Butane Gases,** sales of, to manufacturer, used in fusing glass in manufacturing “nitrogen filled” thermometers, are taxable retail sales. Sales of nitrogen, however, to be used as ingredient are exempt. 8/1/51.

[440.1300](#) **Iron Rods and Bars.** Are not bought for the purpose of resale even though the iron remains in the finished product, where such bars and rods are used as electric poles to create an electric spark.

This is equally true in the case of pipes used to convey oxygen prior to their becoming an ingredient of the finished product.

An apportionment is not possible in either of the above situations because all of the material is used for a purpose other than resale, even though it ultimately is resold. 2/21/55.

440.1320 **Kerosene.** The use of kerosene as a heating agent in processing products is subject to tax as it is substantially consumed in the process, thus becoming a manufacturing aid. 3/2/56.

[440.1330](#) **Lignin and Potash.** Both of these chemicals are used in the manufacturing of wallboard. Lignin retards setting and also assists in the penetration of the slurry into the paper. Potash accelerates the final setting of the gypsum.

Since these properties enhance the manufacturing process so that a higher quality wallboard can be produced, they are manufacturing aids and their use is subject to tax. 4/13/93.

[440.1340](#) **Lubricants.** A rubber chemical used as a lubricant to facilitate mold release of rubber products such as tires, and which may remain as a film on the finished rubber product, is nevertheless a manufacturing aid purchased primarily for use as a lubricant, and is subject to tax. 3/4/54.

[440.1360](#) **Lubricants.** Zinc stearate and wax, purchased by a ceramics manufacturer for use as external lubricants in the manufacture of articles produced by molding, improve the flow of the material being molded and facilitate the removal of the article from the mold. Zinc stearate and wax purchased for such purpose are purchased for use as manufacturing aids. Sales of such materials to a ceramics manufacturer for such use are taxable retail sales. 8/13/64.

440.1380 **Lumber Treatment.** Purchase of Melsan, Lignasan, Wyandotte Noxtane and Permatox, used as an anti-blue stain for lumber are sales for resale, provided, the purchaser who applies such stains does not plane the lumber subsequent to such application and sells the lumber unplanned. If, however, the applier planes the lumber after application of the stain and before sale of the lumber, the stain is thus removed and the sale of the stains to the applier is taxable. 7/18/56.

440.1420 **Offset Prevention.** The sale of a powder to printers for use as a spray to prevent wet ink from offsetting, is a retail sale and subject to tax. 2/18/54.

440.1440 **Oil for Flushing Wells.** A sale of oil for flushing oil wells is not a sale for resale. Although the flushing oil used to clean the walls of wells commingles with the petroleum which is pumped from the well and sold, the flushing oil performs its function before it commingles with the product to be sold. 7/31/58. (Am. 2000-3).

440.1460 **Paper Pulp.** The sale of paper pulp and wood fiber which is ultimately incorporated into a product sold as cattle feed is, nevertheless, a retail sale when prior to incorporating it in cattle feed it is used in a filtration process. 3/25/65.

440.1470 **Peptide and Antibody Manufacture.** A taxpayer manufactures peptides by solid phase synthesis. A catalyst is used to couple the various amino acids into peptide chains. The peptides are washed with mixtures of solvents such as methylene chloride and methanol. The peptides are then purified, freeze dried, and packaged for sale. The taxpayer also produces antibodies to peptides by injecting rabbits, guinea pigs, and rats with peptides. Blood is withdrawn from the animals and the antibodies are isolated, purified, and sold.

Even if some portion of the catalysts, solvents, and carriers remain in the finished products, there is no indication that such presence has any beneficial effect on the final product. These items are manufacturing aids and may not be purchased for resale. 5/4/94.

440.1480 **Peroxides.** Peroxides used as initiators in the production of plastic products become a component part of the finished product and accordingly, may be purchased ex-tax for resale. Cellophane, on the other hand, used in such production, constitutes manufacturing aid and is subject to tax. 11/16/56.

440.1485 **Petroleum Coke.** By use of the word “waste”, the Legislature did not intend to exempt “moderate to high value byproducts”. It has been noted that the quality of petroleum coke can vary significantly from refinery to refinery. Much of the sulfur originally contained in crude oil and almost all of the metals are concentrated in the petroleum coke. The higher the level of sulfur and metals, the less the value of the petroleum coke. Assuming that petroleum coke is not a “moderate to high value byproduct”, the sale is exempt from tax regardless that it has some commercial value. 1/7/92.

440.1500 **Phosphoric and Sulphuric Acids.** These acids, used in a process known as “anodizing” aluminum, are primarily used as electrolytes, acting in the nature of a catalyst, and do not become a component part of the aluminum objects that are processed. The processor is accordingly the consumer of such acids and subject to tax thereon. 4/24/57.

440.1520 **Plastic Coatings** sold to manufacturers which become a part of the finished product are exempt sales for resale. Where reducers in separate containers are sold along with such plastic coatings and used by manufacturers to reduce the coatings to proper consistency, they are manufacturing aids the sale of which is subject to tax. If a single price is charged for both items, it will be necessary to allocate to the reducer its fair retail selling price upon which tax must be paid. 3/12/54.

440.1540 **Plating.** Sales of metal anodes and chromic acid to job platers who plate articles of a manufacturer’s product which is destined for resale, are sales for resale. Likewise, where a plater plates a new article for a consumer, his entire charge is taxable and sales to him of anodes and acid are for resale. However, where the plater plates a used article for a consumer and the plating metal is chrome or some other nonprecious metal, the plater is the consumer of the anodes and acids and sales thereof to him are taxable. 5/25/54.

440.1560 **Plywood Manufacture.** The manufacturer of plywood is liable for the tax on his purchase of paper tape consumed in the production of the plywood, and is not purchased for resale. 6/8/60.

440.1580 **Polyurethane Foam.** Ethyl Morpholine, Tetramethyl Butanediamine, Demethyl Farmamide, Cellosolve Solvent, Isopropanol Anhydrous, Kaydol, Methylene Chloride, Aropol #7750, N-Ethyl Morpholine, Triethylenediamine and Tetra Methyl Butane Diamine used in the production of Polyurethane Foam are manufacturing aids and may not be purchased for resale. Trichloromofluormethane, when used in making flexible Polyurethane Foam, is considered a manufacturing aid and may not be purchased for resale. 7/6/67. (Am. M99-1).

[440.1595](#) **Property Used in Manufacturing—Negatives, etc.** The manufacture of printed circuit boards involves the creation and use of negatives of the engineering and design drawings which show the actual

circuitry to be imprinted on the board, assembly drawings showing the various components to be mounted on the board, and schematic drawings to be used in servicing the finished product of which the board is a part. All of these items are manufacturing aids as they do not become part of the finished product even though their images or imprints may become part of the finished product. If they are purchased from a vendor the gross receipts from the sale are taxable and a resale card should not be given. Even though most of the value of such manufacturing aids may be represented by the cost of the skilled services of technicians, draftsmen, other specialists, and the use of expensive equipment, the true object of the contract is the acquisition of the tangible personal property produced by such services and equipment. 1/18/79.

440.1600 **Protein Injections.** Sales of protein for injection into animals to produce certain antibodies are taxable retail sales since none of the protein becomes a component of the antibodies which are sold. 12/6/67.

440.1605 **Pump Aids.** Pumping aids are added to concrete mixers at the job sites to improve pumpability. Pumping aids are consumed during the pumping process and are manufacturing aids as set forth under Regulation 1525. If title to the wet concrete passes to the purchaser after delivery from the truck, the pumping aids have already been consumed by the seller and they are not resold to the purchaser even if the seller includes a separate charge for that delivered wet concrete for its overhead cost of pumping aids. 10/8/91.

440.1620 **Sand Used in Preparation of Surfaces for Painting.** Sales of sand for use in removal of scale and rust from manufactured units to prepare them for painting are subject to sales tax under Regulation 1525 since the sand is not physically incorporated into the manufactured item. 8/5/64.

440.1660 **Soap Used in Manufacturing.** Soap used to create voids in a plastic mixture, resulting in increased insulation properties of wallboard being manufactured, is purchased for a purpose other than resale. 4/30/53.

440.1662 **Soap Used in Manufacturing as a Foamer.** Where soap is used as a foamer in the manufacturing process, it is the presence of bubbles in the final product that is beneficial to the final product, and not the foamer. The foamer itself produces the bubbles and, thus, is beneficial in the manufacturing process but not in the finished product. Under such circumstances, the soap cannot be purchased for resale even if remaining in the finished product. 4/13/93. (Am. 99-2).

440.1668 **Soap Used in Manufacturing Latex Foam Rubber Backing.** In the manufacturing of latex foam rubber backing on carpet, the foaming by mechanical agitation generally requires the addition of a soap product to produce the desired froth or foam level. The primary purpose for the soap is for the foaming. After solidification of the product, the soap generally becomes an undesirable component.

In this process, the soap was purchased specifically for the purpose of a processing aid and only incidentally remains in the finished product after performing its function. Thus, the soap used in this manner is a manufacturing aid and may not be purchased for resale. 5/16/72.

440.1676 **Sodium Hydroxide and Sulfuric Acid Used in Manufacturing Filters.** Sodium hydroxide is used as a solvent in the manufacture of filters. It dissolves the poly carbonate membrane (film texture) creating holes. Sulfuric acid is used to neutralize the sodium hydroxide in preparing for its safe disposal at the end of the manufacturing process.

Both of these chemicals are subject to tax since they perform a manufacturing function rather than being resold prior to use. (Regulation 1525(a).) 12/5/90.

440.1680 **Sodium Silicate Used in Paper Production.** Sodium silicate when purchased for use in a paper production process as a source of basic ions for maintaining proper pH is taxable. However, if a substantial amount of the sodium silicate remains in the groundwood pulp and imparts a desired nonabsorbency characteristic, sodium silicate purchased for such purpose may be regarded as purchased for resale. 1/24/66.

440.1700 **Spring Mist Spray Applied to Drapes.** Spring Mist, a liquid spray, is sold to drapers for use in removing wrinkles in drapes which they sell and install. Inasmuch as this spray evaporates after performing its function, it is regarded as sold to the drapers for consumption and not for the purpose of resale. Accordingly, such sales are taxable retail sales. 8/31/67.

440.1720 **Stakes—Ties and Fasteners,** sold retailer-nursery to support trees while in nursery, are used in producing, and tax applies to sale. 11/10/50.

440.1740 **Steel Balls Used to Grind Sand.** Forged steel balls are used in a ball mill to grind silica sand to a desired fineness. The sand becomes incorporated into a finished product which you sell. In the course of the grinding the balls wear out and all of the steel from the balls eventually becomes a part of the product.

The steel balls are purchased for the purpose of using them in manufacturing processes and not primarily for the purpose of incorporating iron into a finished product. Accordingly, the sale of the steel balls is a retail sale and subject to sales tax. 5/16/52.

440.1760 **Steel Oxidizing Agents.** Sodium Hydroxide, Sodium Nitrate and Potassium Nitrate used in the process of blackening steel in which the steel is immersed in a solution of the chemicals and emerges with an oxidized surface are consumed rather than resold. 8/11/64.

440.1780 **Sulphuric Acid.** The sale of sulphuric acid to a manufacturer and used as a dehydrating agent is a retail sale and subject to tax, even though subsequent to such use it is incorporated into other tangible personal property which is sold. 5/26/55.

440.1800 **Sulphuric Acid.** Sulphuric acid, remaining in solution in the same amount before and after the anodizing of aluminum, is merely used as an electrolyte and in the nature of a catalyst or vehicle for transferring the oxygen from the water to the anodized aluminum, and the sale of the acid to the user is, therefore, a taxable retail sale. 11/8/57. (Am. 2000-3).

440.1820 **Talc.** Talc used as an anti-adhesive or lubricant in the manufacture of tires is subject to sales tax as a manufacturing aid. 5/10/56.

440.1840 **Wood Pulp Products.** Although sodium silicate, epsom salts, trisodium phosphate and Versenes 80 are combined with hydrogen peroxide, they act as peroxide stabilizers before and during the manufacturing process and only incidentally remain in the finished product, and may not be purchased for resale. 7/28/65.

440.1848 **Chemicals Used in Manufacturing Cracking Catalysts.** The following chemicals are used in the manufacturing of cracking catalysts for the petroleum industry.

Ammonia and sulfuric acid. Ammonia and sulfuric acid are purchased primarily for incorporation in the finished catalyst. Although only small percentages of these chemicals are in fact so incorporated, this is a necessary consequence of the manufacturing process. Under these circumstances, the ammonia and sulfuric acid are considered nontaxable.

Caustic soda. Caustic soda detracts from the stability and activity of cracking catalysts, is usually removed during the manufacturing, and is not intended to be incorporated in the finished catalysts. Thus, its purchase is subject to tax. 9/6/77.

(b) PROPERTY BECOMING COMPONENT PART OF FINISHED PRODUCT

Tanning, chemicals used in, see also Fur Dressers and Dyers. Photographic processing, chemicals used in, see also Photographers, Photostat Producers, Photo Finishers and X-ray Laboratories.

(1) IN GENERAL

440.1851 **Aircraft Kit.** A firm engaged in light manufacturing plans to purchase a light aircraft kit from which to manufacture the aircraft. It will take approximately two and a half years to complete. Upon completion, it will be sold. If the aircraft kit is purchased for the sole purpose of reselling it, the firm may purchase it for resale. The subsequent sale of the completed aircraft would be subject to tax. 4/30/97.

440.1852 **Carrier Gases/Dopants.** Manufacturers of silicon wafers may purchase a mixture of carrier gas and dopants for resale. The carrier gases facilitate transportation of the toxic dopant and to control the amount of dopant diffused into the wafer. It is not incorporated into the finished product. It is appropriate to allow the manufacturer to purchase the combined product for resale. The situation is analogous to paint which includes thinner. A manufacturer may purchase a paint with thinner for resale, but separate purchases of thinner only are subject to tax.

In this case, the mixture serves a dual purpose. The Board has long held that property is purchased for incorporation, even though a portion may be used in the manufacturing process, if the use in the manufacturing process is for the purpose of incorporating the property into the end product sold. 2/26/80.

[440.1853](#) **Determining Factors.** In determining whether an item was used in a manufacturing process or became part of a finished product, there are two factors to consider. First is whether the item is in fact physically present in the finished product. If so, the second factor is what is the function of the item in the finished product? If it primarily serves a beneficial purpose in the finished product, and it was put in with the intention that it remain, it may be purchased for resale, even though it may also have served a secondary purpose as a catalyst. 9/16/92.

[440.1854](#) **Drill-Align Panels (Etched Panels).** A taxpayer manufactures multilayer, laminated circuit boards to the special order of its customers. The circuit boards are unfinished when the taxpayer transfers them to its customers. The customers finish the boards and then install them in electronics equipment for sale. The taxpayer makes a separate charge for drill-align panels. Since the boards are laminated, holes must be drilled in them so that circuits on each layer can be connected by lines of copper to circuits on other layers. Each hole must be drilled within .001 inch for a proper connection. Since the taxpayer does the drilling, it takes the first circuit board off the production line, places it in a drill, and drills the holes. The board is also "etched," that is, the copper cover is removed to allow visual inspection of the interior to verify that the holes were drilled correctly. If this first board was drilled correctly, the remaining boards are drilled and all of the boards, including the original drill-align board, are then transferred to the customer. The customer will specify in its purchase order for the taxpayer to drill the boards. If the customer has elected to drill its own boards, the taxpayer does not prepare or bill for a drill-align panel. However, the taxpayer may still etch one of the boards so that the customer can inspect the interior and verify that the boards were manufactured to specifications.

The described drill-align panel is simply one of the circuit boards manufactured to the customer's order. It happens to be the first board drilled, and is therefore inspected carefully to see that the drill was aligned properly, but it is not otherwise used in the manufacturing process. Thus, the drill-align panels are properly sold for resale and are not used prior to sale. 1/4/96.

[440.1880](#) **Incorporation into Finished Product.** If the sole purpose of purchasing an item is to incorporate it into the finished product ultimately sold, the sale of the item will be treated as a sale for resale and no tax will be due even with respect to that portion lost or wasted in the manufacturing process. 5/26/52.

440.1890 **Manufacturer of Prescription Medicine.** A manufacturer of prescription drugs, exempt from the sales and use taxes under section 6369, requested information regarding the application of tax to certain materials some of which are physically incorporated into the finished product, and some of which are only used and consumed in the process.

The list of materials including serum, yeast extracts, and nutrients are used in the inoculation, cell growth and fermentation processes which form the bulk proteins from which the medicines are formulated. Although only minute traces of these materials are found in the finished product and are not visible, they

are purchased for the principal purpose of becoming a part of the finished product and are not subject to tax.

The list of materials including buffers, separating agents, cleaning agents, agents that kill cells or detach the cells from a flask, pH control agents, and anti-foam agents are not for the purpose of incorporation into the final product, but are for use in the manufacturing process and are consumed during that process. These materials are taxable to the manufacturer, as the consumer, when the items are purchased. 2/16/93.

440.1893 Medical Products—Commercial Fermentation Process. Cell growth and product expression occur in large vessels in the production of certain protein medical products. Growth of the cell population to production scale is facilitated by maintaining the cells in a fluid which mimics the serum environment. Maintenance and growth of the population require the addition to the vessel of nutrients, growth factors, antibiotics, products that protect the cells from mechanical damage during mixing, and other properties. Any product introduced into the mix which becomes, or a fraction of which becomes, a component of the ultimate protein product can be traced at the atomic level.

Properties which physically contribute to the end product which is sold may be purchased for resale. Products which are introduced into the vessels and contribute to the success of the fermentation process which are not resold may not be purchased for resale. The cells themselves may not be purchased for resale. 5/3/88.

440.1894 New Wine Oak Barrels—Retroactive Effect. Information submitted to the Board supported the fact that new oak wine barrels are purchased primarily for the purpose of incorporating oak into the wine, that is, for resale, and not as containers for aging wine. The Board then amended Regulation 1525, effective April 3, 1996, to recognize new oak wine barrels purchased for such purposes were purchased for resale based on existing law. There was no basis for distinguishing earlier periods from future periods since there had been no change in industry practice. Thus, the amendment to Regulation 1525 merely applies existing law to the facts found by the Board, and it is retroactive. 5/31/96.

440.1895 Solvents Used in Microfilm Manufacture. The manufacture of microfilm involves the use of several solvents, some of which remain in the finished product by intent as it improves the quality of the image produced by the film.

Generally, solvents used to create the base or “subbing” coat will be taxable as manufacturing aids as they perform their function during the manufacturing process and may remain in the finished product only because it is not practical to remove them and their presence does no harm. Other solvents used in the photo-sensitive layer are intended to remain and do remain in the finished product, although only in minor amounts, i.e., 0.5% to 1%, with the remainder used to create the base coat and then evaporating in the drying process. Two court cases have established that if some portion of a chemical is purchased for incorporation as an active ingredient or component part of the finished product, the purchase is nontaxable despite a portion of the chemical being used in the manufacturing process and then being lost or dissipated. It is immaterial that the portion remaining is a small fraction.

Based on these facts, the following chemicals used in the manufacture of microfilm are deemed to be properly purchased for resale: 80% of the methyl ethyl ketone (20% is used in the base layers); anhydrol PM; acetone; amscop PM; glycol ether PM; methyl cellosolve. (The proportion of methyl ethyl ketone resold may vary by manufacturer.) In addition, tricresyl phosphate and epichlorhydrin become part of the top layer and may be purchased for resale. Hydrochloric acid and phosphoric acid, although present in the top layer, are undesired and, as much as possible, removed from the finished product. They are subject to tax. 2/23/90.

440.1896 Toner. Toner which is placed in a copy machine and becomes a component part of the copies sold to customers is purchased for resale by the copy machine operator. 9/6/90.

440.1897 Transfer Film. A company manufactures two types of transfer film which it sells to other manufacturers. One type has lettering and designs and is transferred to customers’ products in its entirety

with no plastic residue. The second type has lettering and designs attached to a patternless backing. The lettering and designs are transferred to customers' products, but the backing is discarded.

Both types of film are purchased for the purpose of incorporating them into a product which is resold. It is immaterial that the backing of the second type is discarded. Both types may be sold for resale. 11/23/93.

(2) FOOD, BEVERAGES

440.1900 **Ammonium Products.** Sales of ammonium carbonate and bicarbonate to bakeries for use as leavening agents qualify as exempt sales. 1/11/63.

[440.1920 Bakery Dough Improvers.](#) Bakeries may properly purchase ex-tax for resale Arkady and Fermaloid dough improvers, which become an ingredient of the bakery products. 5/13/59.

[440.1926 Beer Brewing.](#) Ingredients used in the brew to obviate cloudiness in chilled beer or to improve the foaming qualities of the beer may be purchased for resale even though they are largely precipitated or filtered out. Examples are:

Activate	Pepsin
KMS Crystals	D & S Schaumade
Century Special	P/L 104
Liquidase	Gum Arabic
Cerevase	P/1 400
Mitt Body Foam	Heading Powder
Collopolin	Rapidose
Papain	Reinfirm
Diatase	Tansul

Chemicals added to brew water to improve the taste of the beer may be purchased for resale. Examples are:

Burtom Salts	Tannic Acid
Calcium Chloride	Lactic Acid
Gypsum (Calcium Sulfate)	Tartaric Acid
Sulfuric Acid	Sodium Bisulfite
Hydrated Lime	

Ingredients which are food products in themselves are not subject to tax. Examples are grains, hops, juniper berries and malt, as well as enzymes.

Products used to clarify the beer are manufacturing aids and subject to tax. Examples are:

Activated Carbon	Dicalite
Irish Moss	Tacc Sierra Snow
Colloidal Clay	Geletin
Isinglas	Inerto

Bung tins, filter asbestos, filter mass, pitch for barrel repair, returnable containers and revenue stamp protectors are not regarded as containers. Paper bottle wrappers, wooden plugs, and tap corks may be purchased for resale. 1/1/50; 5/29/96.

440.1940 **CO₂ Gas** is purchased for the sole purpose of incorporating it into a product to be sold and is so incorporated into a product to be sold, as in soda water or other beverage, the sale of the gas is exempt as a sale for resale. 8/7/52.

440.1960 **Caustic Soda.** Pretzel dough is dropped into a lye solution which causes a gelatination of this starch by the caustic soda; a film of dilute soda solution adheres to the surface of the pretzel and upon

heating reacts and becomes part of the pretzel in the form of the glazed surface; as such the caustic soda is purchased by the manufacturer for resale and may be purchased ex-tax. 11/16/61.

440.1963 Chemicals Used in Manufacture of Bakers Yeast. A manufacturer of bakers yeast purchases the following chemicals: di-ammonium phosphate, ammonium sulfate, argue ammonia, phosphoric acid, magnesium sulfate and zinc sulfate.

Bakers yeast contains carbon, nitrogen, phosphates, sulfates, and traces of magnesium and zinc. The carbon and some amounts of other required substances are usually supplied by molasses, which have previously been considered to be nontaxable when used in yeast production. Hydrogen is supplied by ammonia or by ammonium salts such as sulfate or phosphates. Phosphates are supplied by phosphoric acid or ammonium phosphate. Sulfate is supplied in ammonium sulfates. Traces of magnesium and zinc are supplied in the form of salts such as the sulfates. Since all of these chemicals are absorbed into the yeast and are present in and an integral part of the yeast which is sold, sales of the aforementioned chemicals to manufacturers of bakers yeast are not subject to tax. 5/7/75.

440.1980 Ice Used in Manufacturing Luncheon Meat. If ice is in fact used for the sole purpose of becoming an ingredient of the finished product, as where it is used solely to supply all or a part of the water content of the sausage and luncheon meats, the sale of the ice may be regarded as a sale for resale. 9/4/51.

440.2000 Ketlube Used in Manufacturing Candy. Ketlube, a product made from animal and vegetable fats, is purchased for use in manufacturing candy. It is applied to kettles to prevent the candy from sticking while cooking and to give the cooked candy a texture which facilitates shaping, cutting, and wrapping. Since most of the ketlube becomes incorporated in the finished candy and imparts desired characteristics thereto, it is considered to be purchased for resale and not for use as a manufacturing aid. 2/10/67.

440.2020 “Liquid Smoke.” Liquid smoke is considered to be sold for resale to a restaurant or other customer who applies the liquid smoke as an ingredient of barbecued meats which are to be sold. The theory is that the smoke or certain ingredients contained in it become physically incorporated into the food providing flavor to it. 8/24/64.

440.2027 Liquors. The purchase of liquors to be incorporated into chocolate products as flavoring agents is not subject to sales tax, because the liquor will be resold as an ingredient of the finished product. However, retail liquor stores are prohibited from making sales for resale pursuant to the Business and Professions Code. Purchases of this nature can be made from a licensed Industrial Alcohol Dealer. 2/2/90.

440.2040 Molasses Used in Manufacturing of Yeast. In the process of the growth and the reproduction of yeast cells, the sugar in the molasses is the food on which the yeast cells live, grow and multiply. Everything which goes into a yeast cell comes from either the sugar or the water. Accordingly, it is our opinion that the molasses is purchased for the purpose of resale. 7/7/52.

440.2080 Nitrogen Gas for Packing. The sale of nitrogen gas used in a flush process to maintain an inert atmosphere in sandwiches, chipped beef and other food products which remains in the packaged food as a preservative until opened, is an exempt sale for resale. 5/17/60

440.2088 Oak Barrel Inserts/Oak Chips—Wine Making. Oak barrel inserts (staves) and oak chips purchased for the purpose of incorporating physical flavoring elements derived from the oak into the wine as it matures may properly be purchased for resale by winemakers who will resell the wine. 12/26/95.

440.2095 Phosphoric Acid Used in Manufacture of Beer. Phosphoric acid when purchased as an ingredient of beer to be resold may be purchased for resale. 2/1/89.

440.2100 Phosphoric Acid Used in the Manufacture of Yeast. The phosphoric acid is purchased for resale, in that it has a continuous function both during the manufacturing process and until it is used in bread or other products. The acid is as necessary to the yeast after manufacture as during manufacture. 2/14/52.

440.2120 **Potassium Meta Bisulfite.** Sales of potassium meta bisulfite, known as KMS, to brewers for use as a preservative of beer are exempt as sales for resale. 12/8/59.

440.2140 **Curing Salt.** Curing salt sold to butchers for curing meat is permanently incorporated into the meat and such sales are exempt both as sales of a food product and as sales for resale. In the curing process, it is assumed that a fairly large amount of the curing salt does not become permanently incorporated into the meat but is lost or discarded. Nevertheless, this is not important. The critical factor is whether this product is purchased for the purpose of being incorporated into the meat. If this is the purpose, it is not significant that the process used entails a large amount of waste. 10/6/55.

440.2150 **Salt Cake and Soda Ash Used in the Manufacture of Safety Glass.** Salt cake and soda ash acquired for addition to a mix of raw materials utilized to produce safety glass are purchased for purposes of resale since they are incorporated for the primary purpose of imparting desired physical characteristics to the end product manufactured, the glass. This follows even though the process of incorporation of the salt cake and soda ash aids in the manufacture of the glass. This has been the Board's position since March 21, 1955. 1/26/73.

440.2181 **Salt Used in Tanning Hides.** Salt purchased by the tanner for tanning hides may not be purchased for resale. 8/17/57.

440.2200 **Sodium Bisulfite.** Sodium bisulfite used on potatoes to preserve their whiteness is not a food product, and its sales to consumers, for example, by grocery stores is subject to tax. However, where it is purchased by restaurants for fixing peeled potatoes so as to retard discoloration, it may properly be purchased ex-tax for resale, since the compound becomes incorporated into the potatoes. 6/11/59; 12/20/60; 5/9/61.

440.2220 **Sodium Hexametaphosphate Used in Treating Water, Manufacturers, Producers, and Processors of.** Sodium Hexametaphosphate is sold to water supply companies for use in treating water. It is completely dissolved in the water and remains in solution until the water is distributed. It serves to reduce alkalinity and to prevent corrosion of supply and distribution lines. Sales of Sodium Hexametaphosphate for such purposes are exempt sales for resale. 2/26/65.

440.2240 **Talc.** The sale of talc for use in processing rice is a sale for resale along with or as a part of the processed rice. 4/19/54.

[440.2260](#) **Whipped Cream Chargers.** These are small cartridges containing nitrous dioxide, inserted in a whipped cream container for purpose of whipping cream. They release the nitrous dioxide into the cream which thus becomes a part of the end product and the sale of the chargers is an exempt sale for resale. 12/16/55.

(3) WATER TREATMENT AND PURIFICATION—ICE

440.2300 **Aluminum Sulfate (Alum) Used in Purification of Water.** Aluminum sulfate (alum) is purchased by water supply companies for use in purifying water. The major portion of the molecular constituents thereof remain in the water which is sold. Accordingly, sales of aluminum sulfate (alum) to water supply companies for such purpose are exempt sales for resale. 3/25/65.

440.2320 **Ammonium Chloride Used in Making Ice.** Ammonium chloride is sold to ice companies for use in making ice. It is added to the water prior to freezing and remains therein as an ingredient of the ice. The function of the ammonium chloride is to keep the ice from checking and cracking.

Inasmuch as ammonium chloride used for such purpose imparts certain desired characteristics to the ice and remains as a constituent of the ice which is sold, sales of ammonium chloride for such purposes are exempt sales for resale. 2/28/66.

440.2340 **Caustic Soda (Sodium Hydroxide) Used in Treating Water.** Caustic soda is purchased by a city water department to control the pH of the water. Its constituents remain in the water which is sold. Accordingly, the sale of caustic soda to the water department is an exempt sale for resale. 9/30/65.

440.2360 **Copper Sulphate as a Water Additive.** When introduced into a city's drinking water supply copper sulphate remains in the water to the extent of about 82 percent of its total molecular weight and since it becomes a component part of the water may be purchased for resale as part of the water which is sold. 3/23/62; 4/9/62.

[440.2375](#) **Ferric Chloride Used in Treating Water.** Ferric chloride used as a flocculant in treating drinking water remains in the treated water and becomes a component of the water sold. Sale of ferric chloride for this purpose is exempt from tax. 12/31/75.

[440.2380](#) **Ferric Sulphate Used in Treating Water.** Ferric sulphate is purchased by a city for use as a flocculant in treating its water supply. The water of crystallization and sulphate constituents which comprise 72.5 percent of the ferric sulphate remain in the treated water as a component thereof. Accordingly, sales of ferric sulphate for such purpose are exempt sales for resale. 9/16/65.

[440.2400](#) **Nuchar Aqua A.** Purchase of Nuchar Aqua A by a municipality for addition to a public water supply are taxable because the substance is a chemical catalyst within the meaning of Regulation 1525, but purchases of Poly Phosphate are exempt because it is intended to remain in the water as sold. 7/25/69.

[440.2420](#) **Potassium Aluminate Used in Treating Water.** The major portion of the constituents of potassium aluminate used in treating a municipal water supply system remains in the water when it is sold. Accordingly, sales of potassium aluminate to the municipality are exempt sales for resale. 4/22/66.

[440.2440](#) **Potassium Metabisulphite Used in Wine Preservation.** Potassium metabisulphite or its components become an ingredient or component part of wine when used for sterilizing and preserving it inasmuch as it forms combined or bound sulphur dioxide in the wine. 2/19/62.

[440.2460](#) **Sodium Silicofluoride and Quicklime.** Sodium silicofluoride and quicklime used as water purifiers become component parts of the water so that they may be purchased by a city for resale to the extent that the city actually resells the water, but any water used for municipal purposes, such as swimming pools, irrigation, etc., would be consumed by the city and the tax would apply to the sale of the chemicals to the city. 1/19/62.

440.2490 **Water Treatment Chemicals.** Chlorine, sodium hypochlorite, calcium hypochlorite, calcium hydroxide and sodium hydroxide are purchased for incorporation into treated water. If the treated water is sold, these chemicals may be purchased for resale.

Sodium hexametaphosphate, activated charcoal, and kelagin are used in the process of manufacturing treated water. They are manufacturing aids the sales of which are subject to tax. 4/12/62.

(4) MISCELLANEOUS SPECIFIC COMPONENTS

[440.2500](#) **Acetone.** Acetone used as a carrier in acetylene cylinders to prevent explosions is purchased for resale rather than consumed as a manufacturing aid. 4/6/55.

440.2505 **Additives to Wet Concrete.** An item whose sale is a taxable retail sale of a manufacturing aid when sold to a manufacturer of concrete products or to a construction contractor may, in some cases, be sold for resale when sold to a seller of wet concrete. For example, a person cannot purchase an additive for resale when an additive is purchased to assist in the hardening of concrete and not for any benefits from that additive which remain in the hardened concrete to be sold. On the other hand, that person can purchase the additive for resale if it is to be added to concrete that will be sold in wet form. In that case, it is the purchaser of the wet concrete who purchases the additive for functional use. Examples of such additives follow.

Water Reducing Agents. Water reducing agents are used to reduce the quantity of mixing water required to produce concrete of a given consistency. It can reduce cracking and shrinking and improves water lightness, strength, and finished appearance of hardened concrete. These benefits appear to be based upon the water reducing agent's functional benefits during the hardening process and not by virtue of benefits arising from any water reducing agent remaining in the finished hardened concrete.

Superplasticizers. Superplasticizers are specialized water reducing agents. They appear to have substantially the same functions as water reducing agents, but more and better. Therefore, the same conclusion applicable to water reducing agents is applicable to superplasticizers.

Accelerators. Accelerators are often used to accelerate the hardening of concrete during cold weather. There are no indications that accelerators have a beneficial function in the hardened concrete. Thus, the same conclusion applicable to water reducing agents and superplasticizers applies.

Air-Entraining Agents. Air-entraining agents are used to stabilize bubbles of air during the mixing process so that the hardened cement contains air pockets. These air pockets increase resistance to damage from freezing and thawing. Air-entraining agents are similar to blowing agents used in the manufacture of flexible polyurethane foam. These blowing agents are used in the manufacturing process to produce a chemical reaction and not for beneficial purpose of remaining in the final product and are manufacturing aids as set forth in Annotation 440.0900. The same conclusion applicable to blowing agents is applicable to air-entraining agents. 10/8/91.

[440.2516](#) **Ammonia, Sulfuric Acid and Caustic Soda Used to Manufacture Cracking Catalysts for the Petroleum Industry.** Ammonia, sulfuric acid and caustic soda are used in the manufacture of cracking catalysts which are sold to the petroleum industry. Only two percent of the ammonia and sulfuric acid remain in the finished catalyst, but their presence is necessary for the catalyst to be effective. These chemicals may be purchased for resale even though ninety-eight percent is washed out or dumped during the manufacturing process. The caustic soda detracts from the stability and activity of the catalyst. The caustic soda is therefore regarded as a manufacturing aid even though some portion remains in the catalyst. 9/6/77.

440.2520 **Ammonium Hydroxide** purchased for used in increasing the solubility of casein, which in turn, forms part of the coating on a specialized type of paper, becomes a component part of the paper and may be purchased for resale. 7/29/54.

440.2540 **Anhydrous Ammonia,** sold for use in case hardening steel by the nitriding process is a sale for resale. 5/9/50.

440.2570 **Blowing Agents—Manufacture of Food Containers.** A manufacturer of plastic-rubber food containers purchases sodium hydrogen carbonate (aka sodium bicarbonate), citric acid and stearic acid calcium (aka calcium stearic). The products are purchased by the manufacturer as a combined product. In the course of the manufacturing process, the sodium bicarbonate disappears. The stearic acid causes the cells of the rubber and plastic to remain in small sizes so that the eventual product is smooth and then it disappears. Carbon dioxide bubbles are trapped in the plastic-rubber mixture and remain there. As the product is heated the citric acid decomposes.

Ordinarily, sodium hydrogen carbonate is property purchased for resale. The primary purpose for this product is to decompose it to extract carbon dioxide bubbles for incorporation into the product. On the other hand, the citric acid and stearic acid calcium were used as manufacturing aids and purchases of these items would be subject to tax. However, since the three products are purchased as one combined product from the supplier and 50 to 52 percent of the combined product was sodium hydrogen carbonate, the principal purpose for acquiring the product was for incorporation into the finished product and it is properly purchased for resale. 3/27/95; 5/16/95.

440.2580 **Borax Anhydrous Dust Used in Making Fiberglass.** The amount of Borax Anhydrous Dust that remained in finished Fiberglass was considered as purchased by the Fiberglass manufacturer for resale because it was purchased for the purpose of imparting the characteristic of durability in the finished Fiberglass. 8/24/67.

440.2600 **Calcium Silicon.** The use of calcium silicon in the electro-steel process to improve ductility and to change inclusion type results in a substantial incorporation of such material into the manufactured article, and hence, may be purchased ex-tax for resale purposes. 5/10/56.

440.2620 **Calcium Silicon,** sold to be used in producing castings by the Mechanite Process, is sold for resale. 3/27/51.

440.2640 **Case Hardening Compounds.** Charcoal used in the pack carburizing process, sodium cyanide used in the cyaniding process, barium cyanide and sodium cyanide used in the liquid carburizing process and anhydrous ammonia used in the nitriding process are purchased for the purpose of incorporation into steel. That is, it appears that these compounds are purchased for their carbon or nitrogen content and that the carbon and nitrogen are physically incorporated into the steel.

Accordingly, the sale of the above-named case hardening compounds to steel manufacturers is an exempt sale for resale. 9/30/52.

440.2648 **Chemical Ingredients.** The courts have found the following chemical ingredients to be exempt from tax when purchased by the manufacturer of polyurethane foam. The ingredients were found to be resold in polyurethane foam:

Toluene Di-isocyanate (TDI)
Silicone Oils

Dimethylethanolamine (DMEA or DME)

Niix A-2 is two-thirds DME. Therefore, two-thirds is exempt.

Dabio R-8020 is 80% DME. Therefore, 80% is exempt.

Dipropylene Glycol

Niix A-1 is 30% dipropylene Glycol. Therefore, 30% is exempt.

Niix A-2 is 10% dipropylene Glycol. Therefore, an additional 10% is exempt.

Dimethylaaminophenol (0012D)

Niix A-5—35% exempt

Dabco 33LV—two-thirds exempt

Carstan 8-50. 11/15/82.

440.2652 **Chemicals Used in Conversion Coatings for Steel.** Conversion coatings are coatings formed on metals by treatment with suitable combinations of acids and metallic salts in dilute solutions. The coating is the result of converting the exterior metallic molecules into another chemical compound with different physical and chemical properties. Tax applies as follows to chemicals used in the process.

Leeder 374-H—Leeder 374-H is a cleaner and iron phosphating compound and is used at about 1½ ounce per gallon of water at 140°–160° F. Under these conditions, the phosphate portion which is about 80% of the formula reacts with the outer layer of iron, forming a complex iron phosphate. This coating imparts a

color, increases paint adhesion and increases corrosion resistance. Leeder 374-H may be purchased for resale since its primary purpose is to form a nonmetallic coating on the metal being treated through a chemical conversion of the surface metal notwithstanding that it may to some extent perform a cleaning function prior to the actual disposition of the coating on the metal.

Leeder 272-H—Leeder 272-H is used with Leeder 374-H to control the pH in the proper range to get good disposition and improved corrosion resistance. Therefore, it is in the nature of a catalyst. It is used for purposes other than incorporation into the finished product. Under such circumstances, Leeder 272-H is regarded as a taxable manufacturing aid.

Leeder 771-H—Leeder 771-H is used in the final rinse stage to “stabilize and seal” the phosphate coating by depositing in the capillaries of the coatings itself. Since Leeder 771-H is being incorporated into the finished product, it may be purchased for resale. 5/10/71.

440.2660 **Chills.** “Chills,” used to fill what would otherwise be voids due to shrinkage on the inside of castings, are purchased to become a component part of the finished product and may, therefore, be purchased without sales tax for resale purposes. 12/14/54.

440.2680 **Chromic Acid.** If the primary purpose of purchasing chromic acid is to supply the chrome which is applied through a plating process to articles to be sold, the chromic acid is purchased for resale, even though the acid contains ingredients which aid in the application of the chrome to the articles. 6/29/51.

[440.2690](#) **Coal Burned in Kilns to Make Cement.** A taxpayer burns coal in kilns used to make cement. The process of burning coal produces “flyash,” a residue which remains in the kiln after the coal is burned. It is mixed with the other ingredients used to make the cement. Flyash contains inorganic elements that are required for the production of cement, which elements would have to be purchased and added if the flyash was not present in the kiln. Based on this analysis, the portion of the coal for the primary purpose of incorporation of flyash into the finished product may be purchased for resale. If the coal is purchased tax-paid, a “tax-paid purchase resold deduction” may be taken or a claim for refund may be filed. 10/29/85.

440.2700 **Color Toners.** Sales of color toners which are applied to furniture by manufacturers and remain on it so as to become a component part of the furniture when sold are exempt. 8/3/65.

440.2720 **Copper Anodes,** supplying copper deposited upon articles being plated and sold, are properly purchased ex-tax for resale. 1/11/52.

440.2740 **Dimethylformamide** when used with dicyandiamide as a co-curing agent in the production of epoxy resin laminates is exempt from tax. 1/30/69.

440.2746 **Dual Purpose Usage of Material.** In *Kaiser Steel Corporation v. State Board of Equalization*, 24 Cal.3d 188, the Court gave clear recognition to the fact that some materials are purchased for a dual purpose, i.e., for incorporating into the goods produced and as a manufacturing aid. In producing steel, coal and coke are a heat source in the production of pig iron and a source of carbon which is important in purifying steel. There is a second purpose, that of incorporating some portion of the carbon in the finished steel. The manufacturer may purchase for resale that percentage of the coal and coke which is incorporated as carbon in the steel products sold.

Aluminum generally is used to remove oxygen from the molten metal and any incorporation of aluminum in the final product is incidental. However, in killed steel, aluminum is incorporated in the final alloy. The manufacturer may also purchase for resale that percentage of aluminum incorporated into killed steel. 9/17/80.

[440.2750](#) **Dycastal.** “Dycastal” is a product composed of boron, oxygen, hydrogen and calcium. It is added to molten metal prior to pouring the metal into molds for the purpose of incorporating elemental hydrogen, which imparts a desired quality of strength to the finished castings. Accordingly, if Dycastal is

purchased for the purpose of incorporation as an essential ingredient of the finished product, it may be purchased for resale. 10/19/84.

440.2760 **Electroplating.** Nickel Sulphate, Nickel Chloride, Coppralyte, Potassium Stannite, and Silver Cyanide used in electroplating, the metallic components of which become incorporated in finished products which are sold, may be purchased ex-tax for resale.

Boric Acid, Caustic Potash, Potassium Carbonate, and Potassium Cyanide, used in electroplating, the components of which do not become incorporated in finished products which are sold are taxable manufacturing aids. 9/14/66.

440.2780 **Etching Zinc Reducer.** Etching zinc chromate primer reducer used in painting galvanized sheet becomes a part of the finished product and may be purchased ex-tax for resale. 4/8/55.

440.2800 **Felting Oil.** Sale of felting oil purchased for incorporation into sisal to be sold is exempt. 12/19/61.

440.2840 **Formula 19020-B Synthetic Resin Paint Hardener.** Sales of synthetic resin paint, together with hardener, to persons who use it to paint products which they sell are exempt sales for resale. The hardener, known as Formula 19020-B, does not evaporate, but causes the paint to set and dry by the process of polymerization, whereby it becomes a component of the painted surface. 10/26/66.

440.2860 **Fuel Oil Used in Treatment of Timber.** Fuel oil utilized in the treatment of timber and poles serves as a waterproofing agent and becomes part of the finished product. Under these circumstances, the fuel oil is purchased for resale and is not subject to tax. 2/16/53.

440.2880 **Glass.** Sand and fluorspar are substantially incorporated into finished glass and are exempt as sales for resale. The same is true as to arsenic and selenium metals which are purchased as essential ingredients. 3/21/55.

440.2888 **Glass Manufacturing.** Tin Tetrachloride (also described as Stannic Chloride Anhydrous, SnCl₄ Stannic Chloride, Stannous Chloride, Anhydrous Stannous Chloride, Chloride Anhydrous) is applied to the outside of a glass container immediately after it is formed and before the annealing process while the bottle is at a temperature exceeding 800° F and 1100° F. The treatment applies a very thin coating of tin oxide to the bottle surface, that, when overcoated with a thin layer of organic material, provides protection against physical damage of scratching and scuffing. Since the tin tetrachloride is purchased for the purpose of incorporating it as an integral component imparting the desired physical characteristics of strength and durability in the finished product, it may be purchased for resale. 10/31/80.

440.2920 **Glue.** A catalyst which becomes a component part of glue utilized in the manufacturing of furniture and remains in the finished product in its entirety, or substantially so, is purchased for resale and the sale is thus not subject to sales tax. 3/22/55.

440.2940 **Glue Ingredients and Veneer Tape Used in Manufacture of Plywood.** Glue ingredients and veneer tape used in the manufacture of plywood are a component part of the end product which is sold, rather than manufacturing aids. 8/5/64.

440.2960 **Grafting Rubber.** Grafting rubber (thin strips of rubber tied around a tree seal treated graft) is considered as being used in the process of producing the finished product and is consumed in the process of grafting plants. It does not become a component of the plant, but rather serves a function of holding a graft together while it is bonding, after which the plant discards the rubber. The finished product is the full grafted, independently viable plant. The rubber is not purchased for resale and is, therefore, subject to tax when purchased by the grafter. 4/23/69.

[440.2980](#) **Grinding Aids.** "T.D.A.," a grinding aid added to cement, becomes a component part of the finished product, and accordingly may be purchased ex tax for resale. 1/4/55.

440.2990 **Halftones and Photostats.** Sales tax applies to the sale of halftones and photostats to be used in producing a book because such items do not become a component part of the books. Paper, ink and binding materials do become components of the books and may be purchased for resale, without payment of tax, if the books are to be resold. 5/21/90.

440.3000 **Hydrogen, Oxygen, and Butane Gases,** sales of, to manufacturer, used in fusing glass in manufacturing “nitrogen filled” thermometers, are taxable retail sales. Sales of nitrogen, however, to be used as ingredient are exempt. 8/1/51.

[440.3020](#) **Hydropel** is a proprietary waterproofing compound sold to manufacturers for the purpose of incorporation into concrete products. 3/20/50.

440.3040 **Ink Thinner.** Sale of ink thinner to manufacturers of ink are exempt as sales for resale. 10/19/53.

[440.3045](#) **Iron Fines.** Iron fines are incorporated into Portland Cement clinker as part of a class of compounds known as “calcium alumino ferrites”. These compounds comprise essential ingredients of the end product which is sold.

The iron fines “aid” in the production of the cement, in that a certain amount of iron must be present in the mixture, prior to the heating stage, to ultimately produce the desired amount of alumino ferrite compounds. As such, the iron fines are not considered manufacturing aids under Regulation 1525, since the iron is a necessary ingredient which imparts a desired quality to the end product.

Therefore, when the iron is purchased primarily for the purpose of incorporation as an essential ingredient in Portland Cement clinker, which is resold, the iron fines may be purchased for resale. 9/28/84.

[440.3050](#) **Kerosene Distillate.** Taxpayers may purchase kerosene distillate for resale without incurring a use tax liability although the distillate is injected into wells for well stimulation during the process of producing crude oil. Such distillate is resold as part of the crude oil to the extent that the distillate is recovered and is not dissipated as waste in the process. The critical factor is that to meet the viscosity requirements of the purchaser, as provided by the purchase contract, the distillate must be incorporated as a diluent with the heavy crude oil. While the distillate does provide a beneficial effect in the well stimulation process, the distillate must be included in the crude oil sold to meet contract specifications. Accordingly, the primary purpose for which the distillate is purchased is for resale. 10/29/85.

440.3060 **Lacquer.** Lacquer purchased for use as finish for tangible personal property is purchased for the purpose of incorporating it into the manufactured article to be sold and may therefore be purchased for resale.

On the other hand, lacquer thinner completely evaporates and does not remain as an ingredient of the finished product. Accordingly, lacquer thinner which is purchased for use in thinning lacquer, to be applied to articles which will be sold, is not regarded as resold with the finished articles. The tax, therefore, applies with respect to the sale of the lacquer thinner. 5/4/51.

440.3080 **Lacquer Thinner.** Lacquer thinner sold and used as a component part of liquid shoe polish is exempt from tax as a sale for resale. 5/4/53.

440.3115 **Lignin Portion of Wood Chip.** A paper manufacturer produces kraft paper from wood chips. All wood contains 20 to 30 percent lignin, which does not become a part of the kraft paper. The manufacturer burns the extracted lignin to produce process steam. The extraction of the lignin is an unavoidable result of the manufacturing process. The burning of the waste lignin does not constitute a taxable use of a portion of the wood chips since the primary purpose of the chips was to incorporate them into the paper. 4/5/73.

440.3120 **Lime and Limestone.** The purchaser is subject to sales tax on purchases of burnt lime and limestone which are used as flux agents to remove impurities in molten metal and combine with the impurities to form slag which is sold. The burnt lime and limestone are purchased to produce a chemical or physical reaction in manufacturing a product. The incidental production of a by-product, slag, which may be resold does not change the basic use of the chemicals so as to constitute their purchase as purchases for resale. 8/19/69.

440.3160 **Lumber.** Chemicals for the treatment of lumber are considered to be sold for resale to purchasers who apply them to lumber to be sold, if substantially all of the chemicals remain in the lumber and are resold with the lumber. 9/21/52.

Anti blue stain materials which form a coating on lumber, the major part of which coating remains on the lumber at the time of sale, is regarded as purchased for resale and the sale of the materials are thus exempt from tax. 6/30/54.

Anti blue stain solutions may be purchased for resale when they are used for dipping lumber which is to be sold. 9/13/54.

440.3180 **Lupersol Delta—Manufacturers, Producers and Processors.** Lupersol Delta, a mixture of 60 percent methyl ethyl ketone peroxide in dimethyl phthalate, is an oxidizing agent used as a “catalyst” or hardener for liquid synthetic resins. The sale thereof to a manufacturer of plastic boats for such purpose is a sale for resale. 7/20/67.

440.3190 **Materials Used in Formulation Processes.** The formulated bulk components of Product A are sodium citrate, citric acid, sodium chloride and human serum albumin. Product B’s formulation contains acidic acid, sodium hydroxide, mannitol and tween. These components along with the bulk proteins enter the bloodstream after injection of either product into the body. Product A and B are not stable in solutions without these components. They are adjuvants to product delivery and necessary to get the active proteins into the body at required strength without harm to the body.

These products are purchased for the purpose of incorporating them into the final product, and their sale for such purpose is a nontaxable sale for resale under subdivision (b) of Regulation 1525. 7/15/93.

440.3194 **Materials Used in the “Capping” Step of the Manufacture of Synthetic DNA.** The materials used in the capping process may be purchased for resale. While the capping materials are purchased for the purpose of preventing failure sequences from spreading in subsequent coupling steps, they are purchased expressly for the purpose of being incorporated in the synthetic DNA and a portion of the product is, in fact, incorporated into the finished product. The “beneficial effect” on the finished product is that the synthetic DNA will not then express a protein, which is not desired by the customer. 11/12/97. (M99-1).

440.3200 **Metallic Salts.** Silver cyanide, copper cyanide, zinc cyanide and other metal salts used in electroplating become part of the finished product and as such, may be purchased ex-tax for resale. 7/17/56.

440.3220 **Mixture of Carrier Gas and Dopant.** Manufacturers of semiconductors purchase a gaseous mixture which is a combination of a chemical dopant and a carrier gas. The dopant portion of the mixture is incorporated as a necessary ingredient in silicon wafers which are resold. The carrier gas portion of the mixture performs the following functions prior to becoming waste: 1) acts as a carrier for dopants which cannot be shipped in their pure state because of their toxicity; 2) acts as a purifier or blanket in the manufacturing process; and 3) controls the amount of the dopant diffused into the wafer during manufacturing.

Given such facts, the entire gaseous mixture may be purchased for resale. A mixture should be considered as purchased for the purpose of incorporation into an end product even though a portion of the mixture may be used in the manufacturing process and not resold, if the portion which is used, is used only for the purpose of aiding in the incorporation of the remainder of the mixture in the end product. 2/26/80.

440.3230 **Newsprint Manufacture.** Sodium tripoly phosphate and sodium hydrosulfite (V-Brite) impart beneficial qualities to finished newsprint by their presence in the finished product. Accordingly, they may be purchased for resale by manufacturers of newsprint.

Sulfur dioxide, liquid sodium bisulfate and sodium borohydrate are purchased primarily for use in the process of manufacturing newsprint. Although some amount of these chemicals may incidentally remain in the final product, they are not purchased for resale as part of the finished product. 8/7/86.

440.3240 **Organic Catalysts.** Organic peroxide catalysts which are used in curing polyester resins in the manufacture of fiberglass reinforced plastic items are physically incorporated in the manufactured article to be sold because they remain as an integral, chemically united part of the fused resin-fiberglass structure. Consequently, a manufacturer may buy catalysts for such use under a resale certificate. 8/28/64.

440.3260 **Penicillin.** Corn steep liquor and crude milk sugar (lactose) purchased for use in the production of penicillin become component parts of the penicillin. Accordingly, such purchases are not subject to sales or use tax when used in the production of penicillin for resale. 7/30/54.

440.3280 **Plastic Coatings** sold to manufacturers which become a part of the finished product are exempt sales for resale. Where reducers in separate containers are sold along with such plastic coating and used by manufacturers to reduce the coatings to proper consistency, they are manufacturing aids the sale of which is subject to tax. If a single price is charged for both items, it will be necessary to allocate to the reducer its fair retail selling price upon which tax must be paid. 3/12/54.

440.3320 **Plating Parts for Manufacturers—Producers and Processors.** Electroplaters engaged in the business of plating parts for manufacturers engaged in the business of manufacturing and selling items containing such parts are authorized to purchase for resale plating materials which become incorporated in such parts. 7/22/65.

440.3330 **Polane Catalyst.** Polane catalyst used in the manufacturing of paint serves as a hardener and becomes part of the paint sold. Therefore, paint manufacturers can purchase this product for resale. 3/11/77; 5/20/96.

440.3340 **Polyurethane Foam.** M & T Catalyst (Stannous Octate and Stannous Oleate) and Barium Sulfate used in the production of Polyurethane Foam may be purchased for resale since they become incorporated in the foam in substantial amounts. 7/6/67.

440.3345 **Potassium Compounds Used to Harden Eyeglass Lenses.** Potassium compounds are used in the process for safety treatment of eyeglass lenses. Potassium ions from the compounds diffuse onto the surface of the lenses and result in the hardening of the surface. Sale of potassium compounds for this purpose is exempt from tax. 2/6/76.

440.3380 **Rotogravure Modifier.** A vehicle modifier added to gravure inks in rotogravure printing substantially remains a component part of the finished printed material and as such, may be purchased tax-exempt as a sale for resale. 4/22/55.

440.3400 **Silver Solder Used in Manufacturing Diamond Saws.** A manufacturer of diamond saws purchased silver solder for the purpose of bonding diamond-impregnated steel cutting segments to the edge of a saw disc. The sale of the solder to the manufacturer was an exempt sale for resale inasmuch as the solder became an integral part of the saw. 11/12/64.

440.3420 **Sodium Bicarbonate Used in Sponge Rubber.** Sodium bicarbonate purchased by the manufacturers of sponge rubber padding is exempt inasmuch as its principal purpose in the manufacturing process is to impart resiliency to the padding 1/4/62.

440.3437 **Sodium Hydroxide.** In the sulfonation process, sodium hydroxide is added to sulfonic acid to produce sodium sulfonate. The sodium portion of the sodium hydroxide becomes the sodium portion of the sodium sulfonate. Thus, sodium hydroxide becomes an ingredient of sodium sulfonate, the manufactured item to be sold. The use of the sodium hydroxide as a pH neutralizer is incidental to the primary purpose of incorporating it into the sulfonic acid to create sodium sulfonate. Under these circumstances, tax does not apply to the sale of this product to a manufacturer of sodium sulfonate who in turn will resell the manufactured sodium sulfonate. 12/11/96.

440.3440 **Sodium Hypophosphite Used in Electrolysis Nickel Plating.** Sodium hypophosphite, used in electrolysis nickel plating, is the source of phosphorus which is incorporated in, and imparts desired properties to, nickel plate. Accordingly, sales of sodium hypophosphite for use in electrolysis nickel plating of articles to be sold are exempt sales for resale. 11/15/67.

440.3460 **Sodium Silicate Used in Paper Production.** Sodium silicate when purchased for use in a paper production process as a source of basic ions for maintaining proper pH is taxable. However, if a substantial amount of the sodium silicate remains in the groundwood pulp and imparts a desired nonabsorbency characteristic, sodium silicate purchased for such purpose may be regarded as purchased for resale. 1/24/66.

440.3470 **Spray Hardener.** Spray hardener, when mixed with vinyl metal primer, causes the primer to harden by virtue of incorporation of its constituents in the primer. That is, the purchaser seeks the benefits of incorporating the hardener into the finished product. Accordingly, sales of spray hardener to persons who use it for painting articles which they sell are nontaxable sales for resale. 2/23/68.

440.3480 **Sulfuric Acid Used in Production of Aluminum Fluoride.** Taxpayer produced aluminum fluoride from aluminum oxide, supplied by its customer, and hydrofluoric acid, which taxpayer manufactured from its own sulfuric acid and calcium fluoride. In the chemical reaction between the sulfuric acid and calcium fluoride, calcium sulfate was also produced, which taxpayer sold to a third party.

Although the hydrogen ions in the sulfuric acid served as a carrier for the transfer of the fluorine ions to the aluminum fluoride, nevertheless the sulfuric acid is regarded as having been purchased for resale, inasmuch as the sulfate ions simultaneously become a component of calcium sulfate which taxpayer manufactured and sold. 11/10/64.

440.3500 **Surface Preservative.** Material used as a surface preservative for fan blades being manufactured may be bought for resale if the material is applied to the blades and remains thereon as a surface preservative when the blades are sold even though many other companies use the product as a cleaning agent. 8/1/52.

[440.3520](#) **Toluene, MEK and Nitropropane Used in Manufacturing of Vinyl Sheeting.** Methyl ethyl ketone (MEK), nitropropane, acetone, toluene, isopropyl acetate (IPA), and steric acid are essential components of vinyl sheeting and vinyl coated fabrics and are properly purchased for resale. Mineral spirits (lactol spirits and lacquer diluent) are manufacturing aids used in producing vinyl sheeting and vinyl coated fabrics and may not be purchased for resale. 5/19/76

440.3540 **Toluene Sulfonic Acid and Butyl Phosphoric Acid Used in Wood Finishing.** Resin coating materials are sold to furniture manufacturers for use as high-speed wood finishes. These materials are sold in two packages, a resin compound and a "catalyst." Since the active constituents of the "catalyst," toluene sulfonic acid and butyl phosphoric acid, become incorporated in the polymerized film coating, sales thereof for such purpose are exempt sales for resale. 12/23/64.

440.3560 **Total Manufacturing Process—Gasoline Distillate.** Where, during the process of refining petroleum products, gasoline distillate is derived from the process, run through pipes to pick up wax, and is later refined and sold (as is the recovered wax), the purchase of the distillate or the products from which it is refined is not subject to tax as self-consumed. The process of running the distillate through the pipes is part of the total manufacturing process. 7/16/64.

440.3600 **Vehicle Modifiers.** The sale of vehicle modifiers used in rotogravure printing is considered a sale for resale when substantially all of such modifier remains in the ink and is therefore sold along with the sale of the printed matter. 11/9/55.

[440.3620](#) **Waxes.** If wax is purchased for the purpose of physically incorporating it into fruit and vegetables, to be used as a coating over such products, and to be used as a preservative and to give a shine to such products by enhancing their appearance, the sale of the wax may properly be regarded as a sale for resale. 9/26/52.

440.3640 **Wax Emulsion.** Wax emulsion sold to lumber mills to be sprayed on the ends of new lumber for curtailment of “end-check,” may be regarded as sold for resale provided substantially all of such product remains on the lumber when the latter is sold. 11/7/55.

440.3660 **Welding Rod.** Welding rod used in manufacturing and which becomes incorporated into the manufactured product may be purchased ex-tax for resale purposes. 6/20/55.

[440.3670](#) **Wine Making Chemicals.** Tartaric acid, citric acid, tannin (when added for the purpose of increasing the body and astringency of the wine), sulfurous acid or its salts such as metabisulfite, or dimethyl dicarbonate (when added to check wine diseases), and oxygen gas (when used for the purpose of aging) become component parts of wine and may be purchased by wineries for resale.

Chemicals which are used to process wine and which do not become component parts of the finished product, such as tannin (except as indicated above), casin, gelatin, isinglass, and bentonite are manufacturing aids and their sales are subject to tax. When used to control the fermentation process, chemicals such as charcoal, metabisulfite, and sulfur dioxide are manufacturing aids the sale of which are subject to tax. The sales of neutralizing agents such as potassium carbonate, calcium carbonate, and magnesium carbonate are also taxable. 7/7/36; 5/29/96; 11/19/97. (Am. M99-1).

440.3673 **Wine Making—Oak Chips and Innerstaves.** Oak chips and oak innerstaves used by wine makers to impart unique flavors in wine are considered to be purchased for the purpose of incorporating flavor elements derived from oak into wine as it matures. Neither the tank innerstaves nor the chips perform another functional purpose other than to impart flavor in the wine. Thus, the oak innerstave and chips may properly be purchased for resale pursuant to Regulation 1525(b). 3/22/96.

440.3680 **Wood Pulp Products.** Zinc hydrosulfite, sodium hydrosulfite and hydrogen peroxide purchased by a paper products manufacturer for decolorizing wood pulp, combine with colored constituents of wood pulp and remain in the finished product. Accordingly, zinc hydrosulfite, sodium hydrosulfite and hydrogen peroxide are purchased for resale. 7/28/65.