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I am the founder of Caswell Incorporated, a business based in New York State. We have been selling electroplating kits for approximately fifteen years. We are the instigators of plating kits in the United States, and are the major supplier. Our competitors, such as they are, have very little of the market share. We do not sell a chromic acid anodizing system, preferring our low toxicity LCD sulfuric system.

I am concerned that the legislation you intend to pass making the possession or use of small hexavalent chrome plating kits is being made based primarily on misinformation. We have groups of commercial platers actively trying to put us out of business and fear you may be heeding them. In particular, the groups who subscribe to www.finishing.com have been extremely active in spreading lies and propaganda against our company. We have had to resort to threatening them with legal action, which has subdued them, to some degree.

It does seem extremely odd that The State of California is considering banning 'kits'. Considering how small the market is, I was initially puzzled how this has become blown up to this extent, and that the administration considers these kits to be a threat to the health and safety of the citizens of California. However, after looking at the CARB web page, I see that the board has enlisted the names of companies such as Sigma Plating, Excell Plating, Van Nuys Plating, Alta Plating, Sherm's Custom Chrome, Clovis Specialty Plating, and Walker's Custom Chrome and used them as testing facilities. Some of these people post/ visit www.finishing.com. I cannot imagine any one of these people liking the idea of hex chrome kits operating, and would suggest these people are the main source of your misinformation. One has to look at the history of these types of plating shops, it is THEY who have been the 'offenders' in polluting the air and environment, not my customers. They have repeatedly said that the operation is specialized and cannot be done by amateurs; we have proven them wrong, and it irks them.

Firstly, let me say that my company could care less whether you pass the legislation or not. It will not affect our bottom line one penny, because we have developed a back-up system, namely our Copy Chrome system based on cobalt and containing no hexavalent chrome. My point is that my company has no bias, or financial interest in you passing this law. I am not writing to peddle the virtues of this system either.

The actual number of hex chrome kits being used in California is miniscule. We estimate, according to our available records over the past three years, that no more than 35 gallons of decorative chrome kits and six 1 gal hard chrome kits have been sold into the State of California. This represents approximately 90 lbs of chromic acid. Our sales really took off about 3 years ago, doubling the previous year, which

doubled the year before. Since we have been in business, I can't conceive how these totals would be more than doubled for the previous 12 years. We have no record of any 20 gallon kits operating in California.

I note that the Board recognizes tobacco smoke to contain hexavalent chromium. I would suggest that there is a far greater health hazard for Californian citizens coming in contact with chrome through this source, than through our kits, yet no mention is made of making cigarette smoking illegal in the report.

See <http://www.arb.ca.gov/regact/chrom06/cpisor.pdf>
A. 4 Indoor Sources & Concentrations

We have three types of customers who purchase these Hex chrome kits

1. Individuals who restore vehicles. These people usually operate the kit in a garage or small outbuilding. There are many alternatives to Hex chrome, such as trivalent, tin zinc nickel-cobalt alloys, etc. but a true restoration of expensive antique vehicles requires that the vehicle be put back into original condition. Competitive showing of these antique cars with incorrect features such as using trivalent chrome will devalue and lose points. The restorer, without our kits, is faced with sending the parts to a professional shop. Unfortunately, these plating shops are useless when it comes to prestigious car parts, as they employ people who have no regard for the rare parts. Owners flatly refuse to send parts to these shops. I note that Sherm's Custom Chrome web page even comments, "*parts are photographed upon arrival at Sherm's facilities. Sherm's prides themselves in avoiding the problem of lost parts that has long been the legacy of some of the larger, mass-production commercial plating companies.*"

Many of these parts come with a high price for rarity value, have taken years to locate in junk yards, car rallies and the like, and the owners are very reluctant to part with them. We have heard of numerous instances where employees in plating shops have 'lost' a rare and valuable part, only to find the part offered for sale at a swap meet.

2. Hard chroming specialists. All will have business premises. Hard chrome plating is a very specialised process, it will be used by small companies who need to provide a product with a super hard, abrasion resistant coating. Without this service, these companies cannot do prototype work, and compete in the market place, because finding a hard chrome specialist shop that will 'work' with prototypes is rare, difficult and not cost effective. As previously stated, there are only SIX such operations in the State, to the best of our knowledge, amounting to twelve pounds of chromic acid.

3. Prototype workshops/ manufacturers/ schools/universities etc. All our customers in this category are professionals, concerned with their employee's health and safety, and aware that certain products need to be handled carefully. Their

insurance policies and their lawyers dictate their behavior. They demand MSDS documentation, and ask us for handling and disposal procedures. They, rightly so, are concerned for their health and their employees. These customers usually need our kits to do small runs of chrome plating. Many schools use them to train people in electroplating. The manufacturers are competing in the marketplace, often with overseas companies, and need to offer fast turn-around and lower costs.

Typically, the larger chrome plating shops charge outrageous prices and have terribly slow turn-around times. Often, they simply aren't interested in plating a few objects, and slap the customer with high minimum charges.

What has Caswell Inc. done to provide a safe product?

We have sent numerous staff on DOT Approved training courses for the handling of HAZMAT products. We have incorporated the best of Canadian WHMIS systems and US labeling concepts into our labels. We are licensed by UPS to ship hazardous materials.

Our greatest achievement in our Hex Chrome kits is our ZERO WASTE & EMISSIONS policy. Our kits contain an EPA approved mist suppressant, which completely eliminates the emission of any chromic acid mist, this it seems, is the major part of your concern. We are not even satisfied with the EPA rulings, so we have DOUBLED the rate at which the Mist Suppressant is administered. Further more, we add FUME BALLS, small plastic balls that float in the chrome, covering over 80% of the surface area, to reduce mists. I have yet to hear of ANY customer who has ever complained of fumes getting out of the tank. Believe me, you would know, because they are obnoxious. Our manual also explains how to check for fume emissions periodically. Please also bear in mind, that most of our customers are using these kits in confined spaces, small workshops. ANY fume emissions would be more unpleasant than in the larger environment of a commercial shop. We HAVE TO BE more vigilant than commercial platers!

The 'zero waste' policy is simple. Our customers rinse off the parts by spraying the part with distilled water, which rinses off directly back into the tank. The part is further dipped and rinsed in a separate tank of distilled water which is set aside for 'topping up' the chrome tank, due to evaporation losses, A commercial set-up usually rinses then dumps waste water or has reclamation systems, unable to afford themselves the luxury of rinsing in distilled water.

Our emissions and waste problems are zero. Can that be said in a commercial setup? NO!

Almost all our kits are 3 or 4.5 gals in total volume. This represents approx 8lbs of Chromic Acid powder. One pound of chemicals will electroplate approx 500 square feet of decorative chrome. It takes approximately 3 minutes to chrome plate a part.

The emissions from such a system with no mist control would be minimal. I doubt that the total hours of operating time for all of our kits ever used in Ca would exceed one morning's work for a medium sized commercial plating shop.

Our customers pay approximately \$100 per 2lbs for their chromic acid concentrate. It is not something they throw away without regard. Because the material has a high price, it is carefully looked after. Never the less, disposal is a problem we recognise and we inform our customers on the correct procedures in our manual. We even sell small quantities of sodium bisulfite to neutralize the acid prior to disposal.

By passing a law making hexavalent chrome kits illegal in California, you will immediately undo all the good work and customer training we have done to make them handle this material correctly.

I envisage many people will simply ignore the new law and carry on regardless, plating the occasional nut and bolt; others, fearing persecution, will dump their chemicals down the drain and flush them, creating more pollution than if they were allowed to continue. Most will send them off to a waste management company.

Persons who are determined to carry out 'small operation' plating will purchase chromic acid outside the State, and make up their own setup, circumventing your 'kit' philosophy. There are numerous places outside California where small quantities of chromic acid can be purchased quite legally. I see this law being totally unenforceable.

I bring your attention to your article - section 93102.15

<http://www.arb.ca.gov/regact/chrom06/cpisor.pdf> printed next page.

There are many misconceptions about this section, the main one being that our customers are not aware of the hazards of chromium plating. This is simply not true, and if anyone had taken the time to read the relevant section of our manual, they would discover that WE spell out the precautions needed very specifically. 'Uncontrolled emissions' are once again discussed and I say again. "We have ZERO emissions from our systems'. Therefore, the risk is less than an employee in a large plating shop, or someone inhaling second hand cigarette smoke.

By saying that the kits could be used by a 'permitted plating facility' seems ridiculous, as they would already have equipment there. Why would they need a small kit? Have you spelt out how a person would become a 'permitted facility'? No.

You also propose to ban the ancillary equipment, including internal and external equipment. That means it's now illegal to purchase 3 gallon plastic buckets, aquarium heaters, aquarium pumps, sulfuric acid, nickel sulfate, metal degreasers, copper solutions, brush plating equipment, etc. etc ?? Unless you be very specific, I can see

this being turned into a witch hunt by over zealous officials, using almost anything to pillory someone.

No mention is made of an industrial 'on-site process' of hard chroming shafts etc. by brush plating. (A process we do not sell).

15. **Proposed section 93102.15--Requirements Related to Chromium Plating or Chromic Acid Anodizing Kits**

Staff is proposing requirements related to chromium plating kits. We are aware that these kits are currently offered for sale over the Internet. Because no restrictions exist on who

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may buy these kits, they may be sold or supplied to a person that is not trained or aware of the hazards associated with chromium plating or chromic acid anodizing. These kits also could be a source of uncontrolled hexavalent chromium emissions. This could lead to unacceptable exposures for the individual performing the chromium plating or chromic acid anodizing, or for near-by sensitive receptors.

Because of these hazards, staff is proposing that these chromium plating or chromic acid anodizing kits could not be sold, supplied, offered for sale, or manufactured for sale in California. However, this provision would not apply if the kit was sold to the owner or operator of a permitted chromium plating or chromic acid anodizing facility.

These kits also could not be used unless the kit is used at a permitted chromium plating or chromic acid anodizing facility that is in full compliance with the ATCM.

We are also proposing that for the purposes of these provisions a "chromium electroplating or chromic acid anodizing kit" means chemicals and associated equipment for conducting chromium electroplating or chromic acid anodizing, including, but not limited to, internal and external tank components.

I have a better plan which, I believe, will make everyone happy.

Pass a law that all small hex chrome plating operations (say under 20 gallons) operate under the following restrictions:

1. All tanks must operate an EPA compliant Mist Suppressant. Periodic checks must be made and the results recorded for inspection. A fee is charged if inspection is warranted.

2. All tanks must have Fume Balls added to the solution. They must be 1" diameter and completely cover the surface area of the tank.

3. Operators must employ a 'zero waste' policy. All parts must be spray rinsed over the tank, and then finally rinsed in de-ionized/distilled water. This water is to be used exclusively for 'topping up' the plating solution.

4. Disposal of solution must be done through an approved waste management company, and a receipt kept for inspection.

5. Operation must be done in an enclosed room, not in a residence.

I believe these measures will enable the State to have some control over small operations, without infringing on their civil liberties, enabling them to conduct their businesses and hobbies in a safe and efficient manner.

As you are also discussing the dubious benefits of Trivalent Chrome, and getting more people to change over to this process, may I suggest the following as another alternative:

Most people who have 'new chrome work' would not care much if the chrome were slightly different in color, and could care less if it were Hex or trivalent. However, a very small percentage of the market specifically need hex chrome to match their old and original work. These are the restorers -my customers.

Seeing as it is really only they and the 'hard chrome' platers who need hex chrome, I suggest you consider closing down all the other operations using hex, forcing them to use trivalent or other alternatives; this would really do the people of the State of California a service, as it is they who have been the polluters for far too long.

D. Alternatives to the Proposed Amendments

California Government Code section 11346.2 requires the ARB to consider and evaluate reasonable alternatives to the proposed amendments to the ATCM and to provide reasons for rejecting these alternatives. Staff considered the following alternatives to the proposed amendments to the ATCM:

1. Alternative 1: Require Decorative Chromium Plating Facilities to Use the Trivalent Chromium Plating Process

One alternative to the staff's proposal would be to require the use of the trivalent chromium plating process for all decorative chromium plating facilities. The process is already in use successfully in ten businesses (six facilities only conduct trivalent chromium plating and four facilities conduct both trivalent and hexavalent chromium plating) in California. Requiring all decorative chromium facilities to use the trivalent chromium process would eliminate the remaining cancer risk from the hexavalent chromium emissions from decorative chromium plating facilities. In fact, the switch to trivalent chromium process could be more cost effective than the staff's proposal, which would require installation of BACT (HEPA add-on air pollution control device). As

Mike Caswell

A handwritten signature in black ink, appearing to read "Caswell", written over a large, stylized circular scribble.

founder
Caswell & Sons Inc