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OXYNATE[®] No. 84 INSTRUCTIONS & EQUIPMENT

By
BOB BROWNELL
and the Crew at Brownells

Stainless steel has been used to a limited extent for many years by American firearms manufacturers. Winchester, for example, used stainless steel in some rifles prior to World War II. However, it has only been within the last ten years or so that it has gained such wide popularity with the gunmakers and shooters who were greatly attracted to its great corrosion resistance and ease of maintenance. These factors are particularly important for duty guns, any wetland hunting guns and many personal-protection guns.

Often the stainless steel was blued at the factory (as in the case of the Remington and Winchester barrels); but more frequently, it has been left "natural color" often with a bead-blasted, or sand-blasted, matte finish.

While many shooters and gun owners are attracted by the rust- and wear-resistant qualities of stainless steel, they are unhappy with its bright, silver appearance. For instance, natural stainless (in the white), is highly reflective and causes game-spooking "flashing". In the case of duty guns, many departments and law enforcement agencies recognize the need for a dark, non-reflective finish to permit the officer and his gun to more easily fade into the background. As for target shooters and hunters, the light reflection of the white stainless can dramatically affect sight picture - a serious detraction when accuracy and target pickup really count. And, lastly, there are many gun owners who just want their firearms to have a more "traditional" blue or black finish.

Stainless steel has been blued by various means in a limited number of specialty shops over the years, but, it was almost impossible for the general gunsmithing or bluing shop to blue these stainless steel guns successfully. The bluing products had been developed for industry some years ago, but they were very critical to use, requiring constant monitoring, absolute temperature control and laboratory back-up - with a different formulation for each different stainless alloy or group of alloys. We have been working on trying to bring Stainless Steel Bluing to the Trade since the early '70's... and never could make a solution work repeatedly, predictably and reliably over a wide assortment of stainless parts and alloys.

Now, with Oxynate No. 84, Bob Brownell and the Crew at Brownells have brought you a superior new formulation for stainless bluing that has met and passed all of our demands and requirements. It has worked on all the popular guns (S&W's, Rugers, and virtually every type of stainless we could find), and even does a mighty good job on cast irons. It is predictable, repeatable, reliable and easy to operate.

Oxynate No. 84 will enable you, the gunsmith, to better serve your customers by being able to blue the newer stainless steel firearms right in your own shop. No more hassles of shipping guns out, concerns about loss or damage, and long waits while someone else does your work. In addition, Oxynate No. 84 can be a real lifesaver when you encounter rarer variations of some of the early production rifles such as the Winchester Model 54 and 70 which were made with stainless steel barrels. Unfortunately, the old trick of testing the metal with a magnet to see if it is stainless steel or not, doesn't work too

well, for most of the stainless steels used in guns will hold a magnet. In fact, we have not yet found one that didn't! So, more than one gunsmith has tried and failed to hot blue one of these barrels in the usual way without realizing that it was stainless steel - and, that it was not going to blue!

In operation, Oxynate No. 84 is not as easy as Oxynate No. 7 - but almost! You do have to vary the temperature between 240° F. and 270° F.; you may have to pull the part out and give it a good Hydrochloric Acid etch (until it gasses well), before the part will turn blue. And, you will have to spend a variable amount of time at the tank depending upon which temperature finally "kicks" the part over to blue. Sometimes the blue is incredibly jet black; other times, depending on the stainless alloy you are working with, it may not be as deep and rich a color. But, even at the very worst, we've always come up with a good enough color to match satisfactorily with parts blued in Oxynate No. 7. Because Oxynate No. 84 is compatible with Oxynate No. 7, it is possible to blue an action or frame with a stainless barrel in Oxynate No. 84 first, then go into the Oxynate No. 7 tank to blue the action or frame. The Oxynate No. 7 turns the stainless steel blue color a little darker, while doing its usual excellent job on the chrome moly steels, and seems to blend it all together nicely.

(Actually, bluing with Oxynate No 84 is essentially mighty simple, just stabilize the tank at 240° F., put the parts in and let the temperature rise slowly until they turn blue, then hold that temperature for about 15 minutes more for maximum penetration and color. The parts may turn at 245° F. - or not until 264° F. If they are going to turn - including cast iron - they will do so below 270° F., because above 270° F. you start to heat-kill the bath).

We highly recommend you use Oxynate No. 84 for the stainless guns and cast iron gun parts you need to blue. But - we don't recommend it for the shops where a little experimentation and trial-and-error aren't acceptable; we don't recommend it for your only bluing tank - it just takes too much messing around to replace good, old, reliable Oxynate No. 7. We do recommend it for bluing stainless steel and cast iron. It's a great product - the first stainless blue we have found that will do the job you want... repeatedly and profitably! It does require a certain amount of bluing experience and talent before you will get the best results it can give you - and the great results you want. Firearms manufacturers use many different types of stainless steel alloy. Some can be given an attractive, durable, blue-black finish very easily. Other types require experimentation with operating temperature, salts concentration, the sequence of operation, or the use of a pickling bath.

Oxynate No. 84 has worked on virtually all the stainless steel alloys and cast iron pieces we have tried...and we've blued many types of stainless steel, including parts and barrels made by Ruger, Smith & Wesson, Shilen, Pachmayr, Clark and others. And, among the cast iron pieces that we blued successfully was a Savage 311 receiver which is cast iron and case colored, and as you may know, normally is very difficult - if not impossible - to blue! In the vast majority of cases we were very successful and pleased with the color and finish. In a couple of instances, we could get a "blue" color that was adequate - but not really what we preferred, and then only after some "fiddling around" to make it come out. It is quite possible and probable that at some point you will encounter a type of stainless steel or cast iron

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that simply will not blue.

Frankly, this is a new area for all of us in the Trade, and there are going to be some "unknowns" crop up. So... you must be willing to experiment and develop some new procedures as you go along that work for you and the alloy you are working on. We would love to have you tell us about your successes and failures so we can incorporate all the information learned into the next revision of these instructions. It will be a great pleasure to work with you in any way we can.

OXYNATE No. 84 COMPARED TO OXYNATE No. 7

While Oxynate No. 84 is used in the same basic manner as Oxynate No. 7, there are several VERY important DIFFERENCES that you should keep in mind.

- (1) Oxynate No. 84 is used at the rate of 4 pounds of salts to 1 gallon of water for a normal bluing bath.
- (2) Oxynate No. 84 operates normally at 240° F., a lower operating temperature than Oxynate No. 7. While the temperature of Oxynate No. 84 can be raised to 270° F. without damage to the solution, if the temperature exceeds 275° F., the solution will turn red. At that point the bath is dead and should be discarded in a safe and appropriate manner.
- (3) In normal use, the mixed bath of Oxynate No. 84 is a greenish color. It can be very similar to the old army O.D. color.
- (4) During normal use, a red oxide often forms on the surface of the bath. When this occurs, skim the red oxide material off and discard it. If the basic solution is still a green color, it has not been damaged and can continue to be used.

BLUING PROCEDURE

If you are presently bluing with Oxynate No. 7, more than likely

USE EXTREME CAUTION:

There is no such thing as being too safe in handling all types of chemicals.

you already have all the items needed to use Oxynate No. 84. The following checklist contains all the basic items that are normally required to use the stainless steel bluing salts.

TANKS - A typical setup would require 6 tanks; one tank for the Dicro-Clean 909™, one tank for the cold water rinse, one tank for the Oxynate No. 84 Bluing Salts bath, one tank for after cold rinse, one tank for after hot water rinse, and one tank for Water Displacing Oil.

Either black iron or stainless steel may be used for the 909™ Cleaner tank and the Hot Water tank. We recommend that a black iron tank be used for Oxynate No. 84 Bluing Salts.

THERMOMETERS - Normally two thermometers are required: one in the Oxynate No. 84 Bluing Salts tank, the other in the 909 Cleaner tank.

STIRRING TOOL - It is of vital importance that the bluing bath be stirred frequently and thoroughly. We suggest you use a steel tire iron or that you construct a small shovel or similar-shaped tool to stir the bath. Either black iron or stainless steel can be used for this tool.

HEAT SOURCE - At least one bluing salts burner and two hot water burners will be required. Either bottled or natural gas can be used as fuel.

BLACK IRON WIRE - This wire is used to suspend parts being blued.

BLUING PARTS BASKET - The number of Bluing Baskets required will depend upon personal preference and the number of guns you will be bluing.

STAINLESS STEEL DIPPER - This is the ideal tool for safely and easily adding salts or water to the bluing solution.

SAFETY GEAR - As when working with any type of caustic material, you must use Heavy Rubber Gloves, Neoprene Rubber Apron, Rubber Boots, Full-Face Safety Shield, and a Filter Mask.

ACID TANK - In the event you must use Hydrochloric Acid as part of the Oxynate No. 84 bluing procedure, we would recommend that you use pyrex, gel-coated fiberglass, or polypropylene plastic containers.

CHEMICALS - The following chemicals will be needed; Dicro-Clean 909 (8 lb.. container) Cleaning Solution; Oxynate No. 84 Bluing Salts (40 lb. cab); Water Displacing Oil (1 gallon can); and Hydrochloric Acid (1 gallon jug).

MIXING INSTRUCTIONS

Oxynate No. 84 is mixed with water at the ratio of 4 pounds of salts to 1 gallon of water. The proper way to do this is as follows:

(1) Calculate the volume capacity in gallons of your bluing tank. To determine this, multiply the inside length x inside width x desired depth of the solution and divide the answer by 231 (the number of cubic inches in a gallon.) The number you get will be the capacity in gallons. For example: if your tank has an inside length of 40", an inside width of 6" which equals 960" divided by 231", equals 4.1 gallons.

(2) Fill your tank with the desired number of gallons of water. Do not turn on your burner at this point.

(3) Weigh out the proper amount of salts (4 lbs. of salts per gallon of water used) and add the salts slowly to the water in approximately two pound increments.

(4) Stir the solution as the salts are added to help the salts dissolve. Be very careful as you prepare this mixture, for heat is generated as the salts are dissolved.

(5) When you have completed the addition of all the Oxynate No. 84 to the water, place your bluing thermometer in the tank and turn on the burner. Continue to stir the solution as the temperature rises.

(6) The bath solution should boil vigorously at approximately 240° F. If the solution boils at below 240° F., add small amounts of Oxynate No. 84 until the boiling point is at 240°F. If the solution boils at above 240° F., add small amounts of water to lower the boiling point. It is very important that you continually stir the salts solution to eliminate the possibility of "hot" or "cold" areas. Be sure to move your stirring tool along the bottom of the tank as well as near the surface of the solution.

(7) Once your solution has reached 240° F. and is boiling vigorously, you should turn the heat down about one-third to stabilize the heat level to maintain that vigorous boiling. To raise the temperature of the bath, allow water boil out; lower the temperature by adding water to the bath. DO NOT attempt to control the temperature by cutting back on the burner, because what must be accomplished here is a change in the concentration of the salts to water which raises or lowers the temperature at which the solution boils vigorously.

COMPLETE BLUING OPERATION STEP-BY-STEP

CAUTION - SAFETY WARNING

Oxynate No. 84 is CAUSTIC and can cause permanent damage to skin and eyes. **ALWAYS** wear a Long-Sleeved, Cotton Shirt, Heavy Rubber Gloves, Neoprene Rubber Apron, Rubber Boots, Full Face Safety Shield and Filter Mask when working with it.

ALWAYS keep a wide mouth jar of vinegar close to your bluing tank. If Oxynate No. 84 splashes onto your skin, immediately dip hands into vinegar, or splash vinegar over the affected area. Wash with plenty of soap and water. If Oxynate No. 84 splashes into eyes, flush them thoroughly for 15 minutes with cold water followed by bathing them with a boric acid solution. Consult physician immediately.

In case of serious accident, consult physician. Advise him to treat the same as for bad lye burns. External: Flush with acetic or boric acid and water. Internal: Sweet oil, stomach pump and neutralizers for caustic alkali.

Oxynate No. 84 attacks leather, wool, skin. Wear cotton clothing, rubber overshoes, and other non-animal clothing when working in your bluing room.

(1) **PREPARE THE SURFACE OF THE METAL** to be blued by polishing, sand blasting, bead blasting, wire wheel, etc. If buffing wheels are used, exercise care since many stainless steel alloys will develop a "grainy" appearance when heavily buffed.

(2) **SUSPEND PARTS IN A CLEANING SOLUTION** of Dicro-Clean 909 to remove all dirt, grease, oil and crud. Mix the Dicro-Clean 909 Solution at the rate of 5 ounces (by weight of Dicro-Clean) to 1 gallon of water. Heat the 909 Solution to 180° F. and immerse the parts for 10 to 15 minutes. DO NOT boil the Dicro-Clean 909 Solution. Mix a fresh batch each bluing day; do not keep.

(3) **RINSE THE CLEANED PARTS** in a tank of flowing cold water. Scrub the parts thoroughly with a soft vegetable brush to remove all traces of the Dicro-Clean 909.

(4) **SUSPEND CLEANED PART IN THE OXYNATE NO. 84 BATH.** The bath should be boiling vigorously at 240° F. Normally, a part will blue within 5 to 15 minutes after the "right" temperature is reached. See "Special Notes on Stainless Steel" for further information.

(5) **RINSE THE BLUED PARTS** in a flowing cold water tank (not the same tank from Step 3). When the parts have cooled to room

temperature in the cold water, carefully examine the parts for blemishes, discolorations or flaws.

- (6) SUSPEND RINSED PARTS IN A TANK OF CLEAN, BOILING WATER** for 5 to 10 minutes or a B.O.N.™ bath following label directions, to remove or neutralize any remaining traces of Oxynate No. 84.
- (7) TRANSFER PARTS QUICKLY TO A TANK OF WATER DISPLACING OIL.** After allowing the parts to cool in the Water Displacing Oil the parts can be removed, excess oil wiped off, and the firearm reassembled. Because new blue is very tender, we recommend minimal handling of freshly blued parts for at least 24 hours to give bluing time to "cure".

SPECIAL NOTES ON STAINLESS STEEL

Most stainless steel alloys will blue within 5 to 15 minutes after being immersed in the Oxynate No. 84 salts bath. However, some alloys will require a higher temperature to blue. If a part fails to blue at 240° F. within 15 minutes of immersion, you should begin to raise the temperature (the boiling point) of the bath. This is best done by allowing the water to boil off as steam which raises the salts concentration in the bath relative to the amount of water in the bath, and raises the temperature (boiling point). As the temperature gradually increases you should reach a point at which the part will blue. When bluing starts, note the temperature and hold it for 15 minutes more at a vigorous boil to get maximum penetration and color. Remember that above 270° F. you will run the risk of heat-killing the bath! BE CAREFUL!

If you have carried the part through the full temperature range up to 270° F. and it has failed to achieve a satisfactory blue, you might try the following procedure which has proven successful for us on several occasions. During your initial attempt at bluing, your part may become discolored. If you feel that repolishing is necessary, follow your normal polishing and metal preparation procedures. Clean the part in Dicro-Clean 909 and rinse in the flowing cold water tank as usual. Following the rinse, place the part in a container of undiluted 31% Hydrochloric Acid (HCL), sometimes also known as 18° Baumé Muriatic Acid until the part "gases". Usually this will take only 2 or 3 minutes to start. Let the part gas about 60 seconds. If gassing does not begin within 5 minutes, remove the part from the acid as this treatment is not going to help the part blue.

After "gassing" in the acid solution, rinse the part in flowing cold water and then go into the Oxynate No. 84 bath which should be boiling at 240° F. If the part fails to blue at 240° F., allow the temperature to gradually increase to the point where the part does blue or you reach 270° F. - whichever comes first.

OTHER STEELS

Oxynate No. 84 can be used to blue other types of metal. We have been pleased with the results we have obtained bluing cast iron frames and other cast steels. While it will blue regular chrome moly gun or barrel steel, we found that it does not as consistently provide the same dark and lustrous finish as Oxynate No. 7. Therefore, we would not recommend that you attempt to do all your bluing with

Oxynate No. 84, which is specifically formulated to color stainless steel.

If you have a rifle with a chrome moly receiver and a stainless barrel you may place the entire barreled action in the Oxynate No. 7 salts bath to blue the receiver. In our test of this procedure, the colors have blended well but the composition of the stainless steel is the governing factor. Your only other option is to remove the barrel from the receiver and blue the parts separately.

POST '64 WINCHESTER MODEL 94

We have had a degree of success in bluing these "nonbluable" receivers with the Oxynate No. 84. However, even our most successful bluing jobs did not result in a finish that was as nice as we would like. At this point we are still experimenting. We found that we had our best luck with these receivers when we polished all the old finish off first, then pickled the receiver in full-strength Hydrochloric Acid prior to going into the Oxynate No. 84 salts.

SAVING THE OXYNATE No 84 BATH

Oxynate No. 84 may be stored in the bluing tank in which it was originally mixed and used. As with Oxynate No. 7, after allowing the solution to cool, lay some heavy-duty builders' plastic over the top of the tank. On top of the plastic, place a piece of fiberboard or heavy cardboard that is 2" or 3" larger than the tank in both length and width. A similar sized piece of lumber or plywood should be placed on top of the fiberboard or cardboard. Finally, add a few bricks or other heavy items on top of the plywood. This cover will normally provide a very effective, almost airtight seal for the tank.

For long-term storage of Oxynate No. 84, we would recommend that you locate 1 or 2 of the heavy plastic, five-gallon pails frequently used for food in restaurants or for joint compound for wall board, etc., complete with the lid un-cut and rubber seal intact. After cleaning these thoroughly, dump the completely cooled Oxynate No. 84 salts into the pail and seal the lid tightly. Because all bluing salts are tremendously hygroscopic (means draws water even worse than a sponge!), it is important to keep the salts clean and sealed as tightly as possible.

THE STATE OF THE ART

As we indicated earlier, Oxynate No. 84 is a new type of bluing salts and we are still learning to use it most effectively. In one sense, we are at about the same point that we were with Oxynate No. 7 forty-five plus years ago! Just as our knowledge of Oxynate No. 7 has increased with use and experience, our knowledge of Oxynate No. 84 will also grow and expand with time. Please do write or call and tell us about your bluing experiences with Oxynate No. 84. Our tech staff is very anxious to learn of your experiences - including successes and failures so we can pass along to the trade new information about Oxynate No. 84 as it develops.

COMMENTS & UPDATES

BLUES "Y" MODEL 12 WINCHESTER- Bernard Rowekamp, Rowekamp's Gunsmithing, Breese, Illinois 62230. I had great success bluing these guns by immersing the gun in Oxynate No. 84 boiling at 260° F. for 5 minutes, then lowering bath temperature to 255° F. for 20 minutes. Sometimes you have to run the gun through regular Oxynate No. 7 bath to get the proper color on the barrel, rib and magazine tube. (One required it, the other didn't). After gun was blued, I used a soft cotton cloth or carding instead of steel wool, then placed in boiling water for 15 minutes to dissolve any adhering salts. Next, rubbed down with Water Displacing Oil-saturated, soft, cotton cloth. Finally, placed in Water Displacing Oil soaking bath for 24 hours. Drained and assembled.

BLUING S&W 659's - Bill Reynolds, St. Augustine Gun Works, Inc., St. Augustine, Florida 32084. After initial cleaning, (we used Carbo-Chlor-TCE), the parts to be blued are all bead blasted and placed in a 20% Muriatic Acid (same as Hydrochloric Acid) bath for 5 to 10 minutes, a shorter time if the Acid is new and not reused. A quick rinse under cold running water (just a few seconds), and put into the Bluing Tank of Oxynate No. 84, boiling at 240-245° F. Parts take the blue every time and turn out absolutely jet black. We're very pleased with

the Oxynate No. 84, and the St. Johns County Sheriff's Department is very pleased with the results we got, so we are looking to do a lot more business with them.

WINCHESTER STAINLESS BARRELS BLUED - Dean Zollinger, Dean's Custom Guns, Rexburg, Idaho 83440. This barrel blued immediately at 245° F. after being thoroughly cleaned and lightly etched, per your instructions for difficult pieces. I also stirred the Bluing Solution the whole time the parts were in the tank.

MAUSER RECEIVER WITH DOUGLAS STAINLESS BARREL - Ralph Carter, Custom Gunsmithing, Penrose, Colorado 81240. Our elevation is 5,392', so as expected, the Oxynate No. 84 boiled at 230° F. instead of the 240° F. given in the instructions for lower elevations. Raised the temperature to 245° F. and put in the barreled action. Action Blued beautifully; barrel didn't - was a Douglas stainless. Raised temperature, no change. Removed barrel from Bluing Solution, soaked about 5 minutes in Muriatic Acid solution. Ruined the beautiful receiver blue. Added water to Bluing Solution to lower temperature to 245° F. returned barrel and receiver to No. 84 Bluing Salts. Swished around, picked up to check, and was already bluing. Twenty minutes

later, barrel was beautiful, but receiver made me want to throw up. Removed from tank, taped barrel for protection, re-polished receiver, back into bluing tank.

Receiver was mirror polished, and came out exactly as it should. Barrel was excellent, but because was octagon and hand polished only through 400 grit, it was not quite as dark and "alive looking" as the receiver. (Editor's Note: Us flat-landers need to add 10° to Ralph's temperature to correct for his initial 10° lower boiling temp. Thus, his 245° F. is 255° F. for us.)

BLUING WINCHESTER 94's WITH SERIAL #'s ABOVE 2,700,000

- Bob Keller, Johns Gunsmithing, Martinsburg, West Virginia 25401. (Editor's Note: We are including these instructions as close to exactly as they were told to us as we can read from our notes. Some of the steps are contrary to the correct and accepted basic instructions for using Oxynate No. 84: but the point is, they work. We have not tested these instructions. However, we have talked repeatedly with Bob Keller about them, and by now he has blued many 94's using this procedure. We are including them because they repeatedly work for him, and it's probably worth your giving it a try.)

These are the "cast" 94's can't blue for love-n'r money, and have to go back to Winchester for one of their \$150 bluing jobs. I've done many of these in Oxynate No. 84 so far, and have a system that works out perfectly every time, gives a deep colored, matte finish that matches 240-grit polished finish. Cannot get it to come out with "bright" polished look because of heavy etching required. Matches barrel done in Oxynate No. 7 perfectly.

Here are the steps that worked for me:

1) Leave the barrel and action together; no need to take apart. Clean the barreled action for 5-6 minutes in Dicro-Clean 909 operating at hard rolling boil.

2) Rinse thoroughly in running cold water, scrubbing with cleaned #0000 steel wool. ("Pre-cleaned" steel wool means that the oil in it has been cleaned out with TCE Cleaner Degreaser, 909 cleaning bath, or equivalent so all oil is gone.)

3) (Put on face shield, breather mask, heavy rubber gloves/apron, etc. Do this step only in well ventilated area - the fumes made are heavy, noxious, and terrible.) Pour full strength 18° Baume Muriatic Acid into a china/glass coffee cup from jug of Acid. Holding the '94 action over a sink or deep plastic pail, pour acid directly on action from coffee cup. Do not pour on the barrel. Immediately, heavy, white fumes come off the metal and heavy foam forms. Allow Acid to work only 30 seconds.

4) Plunge barreled action into cold water rinse tank, and scrub action heavily with fresh #0000 cleaned steel wool. Scrub very heavily! Be sure to rinse thoroughly, removing all traces of acid.

5) Have your Oxynate No. 84 tank up and operating with very hard and vigorous rolling boil at 240° F. I use the half tank because this process I use kills the salts after you have blued about 10 actions. And, you only need a tank large enough to suspend just the action in, not the entire barreled action. Into this half tank I put 1-1/2 gallons

of water and 6-3/4 lb. of Oxynate No. 84. Stir thoroughly and often. Crank up the heat and get a really hard boil. Turn heat down just a little after boil gets really hard (should be spitting and sputtering much harder than normal heavy rolling boil).

6) Put just the action into the boiling Bluing Solution. The Solution comes an inch or so up the barrel which I leave out of the Bluing Solution. You lose the hard boil from the chill effect. Crank the heat up and get temp back up to 246° F. with very hard, very vigorous rolling boil again.

7) Action turns blue almost immediately, within 30 seconds, but is a little light. Leave in tank 6½ minutes and blue turns really dark, deep color. All the time, keep the hard, hard rolling boil.

8) Rinse thoroughly in cold water, again scrubbing the action hard with clean #0000 steel wool.

9) Repolish area on barrel in front of action where was in the Oxynate No. 84 Bluing Solution. Clean again in cold water. (This repolishing step might not be needed, but always do be sure to get even color of the barrel.

10) Put entire barreled action into normal Oxynate No. 7 Bluing Solution and blue as you would any normal gun. Gives total over-all blue to barrel and seems to blend the color of the action to/with the color of the barrel.

11) Clean in cold water again, scrubbing all over with clean #0000 steel wool.

12) Take out of cold water, shake off water, and soak down thoroughly with oil, really laying it on. Let set overnight to cure, then reassemble gun.

As mentioned, can get only about 10 actions per half tank of Oxynate No. 84 Solution, because at the extra hard boil I use, I am really burning them up. But, at 10 guns per about 7 pounds of salts-that's about 50 or so guns per pail. Mightly cheap, I think.

NOTES MADE DURING PHONE CALL FROM CUSTOMERS USING OXYNATE No. 84 - Reid Coffield, Technical Support Group, Brownells, Inc. Montezuma, Ia 50171.

1) Several comments that the guns got a nice blue/black finish that would wipe off if scrubbed immediately after coming out of the Bluing Tank, or the boiling Hot Water Tank. But, these folks found that if the parts/guns were just rinsed in the Hot Water Tank but not scrubbed, then placed in Water Displacing Oil for a few minutes until the metal was cool, and finally hung up to drip for a couple days, the finish would "harden" and become extremely durable.

2) If you get ANY color - gray or whatever - it is an indication that the stainless metal WILL respond to the Oxynate No. 84. It then is just a matter of experimentation until you find the particular temperature or acid etch/temperature variation that turns that gray into a nice dark blue or black.

3) The single group that has the most trouble with Oxynate No. 84 are the knifemakers. Perhaps their stainless steels are much harder than those used in guns. I would certainly think so.



**BROWNELLS
Oxynate
No. 84™
HOT CHEMICAL
BLUING COMPOUND**

For Rebluing Stainless Steels,
Cast Iron & Winchester 94's
Over Serial #2,700,000

In the past, it was almost impossible for the general gun-smithing or bluing shop to blue stainless steel guns successfully. Now, with Oxynate No. 84, we have a superior new formulation for stainless bluing that has met and passed all of our demands and requirements. It has worked on all the popular guns (S&W's, Rugers, and virtually every type of stainless we could find), and even does a mighty

good job on Cast Irons. It is predictable, repeatable, reliable and easy to operate. Blue an action or frame with a stainless barrel in No. 84 first, then go into the No. 7™ tank to blue the action or frame. The whole process is explained in the instructions.

We highly recommend you use Oxynate No. 84 for stainless steels and cast iron. But, it is not as easy to use as Oxynate No. 7. We don't recommend it if a little experimentation and trial-and-error aren't acceptable; we don't recommend it for your only bluing tank - it just takes too much messing around to replace good, old reliable No. 7. Cannot be shipped Parcel Post or UPS. **SPECS: 40 lb. (18.1 kg) net weight can. Normal mix is 4 lbs. per gallon of water. Instructions included with each can. Uses the same neutralization procedures and chemicals as does Oxynate No. 7.**

#082-084-140	*40 lb. Can Oxynate 84,	
	2H00XCH	\$ 67.10
- 2 or More	*40 lb. Can Oxynate 84, per each,	
	2H00DZA	64.00
#082-084-940	*40 lb. Can Oxynate 84, 2H00AYT	67.10
- 10 or More	*40 lb. Can Oxynate 84, per each,	
	2H00AYT	62.40

(Note: Standard Shipping for this item is \$19 each.)
*Requires Additional Hazardous Materials Surcharge