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ENTERPRISES, INC.

## Silver-Free<sup>™</sup> Decorative Silver Plate (Decorative)

### Product Description

Silver-Free<sup>™</sup> is a silver plating solution which deposits a flash plate of silver over nickel, sterling silver, gold, rhodium, and most other similar metals. Silver-Free<sup>™</sup> deposits silver slowly to provide uniform color consistency and coverage.

Silver-Free<sup>™</sup> offers a cyanide-free alternative to other hazardous cyanide based silver plating solutions.

Silver-Free<sup>™</sup> is supplied as ready to use, for ease of set-up and operation.

### Applications:

Over nickel, sterling silver, gold, and most other similar metals.

### Cautions: Read all safety information before using this product

1. Use only with proper ventilation.
2. Wear gloves, safety goggles, and apron.
3. Avoid contact with eyes and skin.

### Operating Conditions:

Temperature	Room temperature
Current Density	1.5 Volts (1-5 ASF)
PH	9
Beaker	Pyrex
Anodes	Stainless Steel
	1 micro inch per minute

## Bath Set Up:

1. Fill beaker with Silver-Free™.
2. Check connections from rectifier to anode and work to be sure the negative (-) and positive (+) wires are connected properly. The work should be charged negative (-), and the anode positive (+). Turn Rectifier On.
3. Plate for 30-60 seconds at 1.5-3 volts depending on size of part and coverage desired.
4. Larger parts require slightly higher voltage (3V), while smaller parts require lower voltage (1.5-2V). If part shows any burning such as a dark or dull grey deposit around the edges, you are burning the part and must lower the voltage. If part is not a silver color after 45 seconds of plating, voltage is too low, therefore, increase voltage slightly.
5. After silver plating rinse part thoroughly in deionized water and dry completely with either a steam cleaner or a hot air dryer.

## Trouble Shooting:

Pieces not Plating

- Check power supply, make sure switch is on.
- If switch is on, check fuse.
- Check connections from power supply to anode or cathode (part).

Pieces turn dark gray or black

- Anode/cathode connections are reversed.
- Current is too high.

Pieces turn hazy, cloudy, dark

- Current too high. Adjust to lower current.
- Temperature is warm, cool to below 80 F
- Plate for a shorter time.
- Organics are too high. Solution is used up - discard.

Pieces are dark and not plated

- Current too low. Adjust to higher current.
- Plate for a longer time.
- If solution is old, organics are too high. Solution is used up - discard.

## Discard & Replace:

Silver-Free™ is a rugged solution and is designed to help assure long life. If, however, a problem should arise that cannot be solved by any of the above recommendations, or recommendations by our or any other qualified laboratory, the bath may need to be replaced: Transfer to a D.O.T. approved container. Check with local authorities for proper disposal.