

RE-ACTIVATION OF MERCURY USING ELECTROLYSIS



THE PROBLEM

Over time, 'fresh' mercury will oxidize, turning blacker, and losing its shiny appearance.

The 'older' the mercury becomes, the less efficient it is, at bonding with gold particles.

When this 'old' mercury is no longer effective for recovery of gold, miners may throw it away.

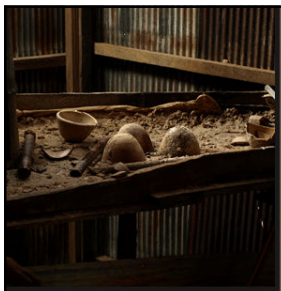


THE SOLUTION

Distill the mercury using a retort, or ...



Use an electrolysis bath to restore the mercury to a pure elemental state once again.



THE EQUIPMENT

A plastic container

An insulated copper cable

A stick of graphite or silver

A solution of Sodium Hydroxide

A 12-volt battery or regulator





THE TECHNIQUE

Put the copper cable into the 'old' mercury so negative charge will flow through the mercury.



Pour the electrolytic solution over the top of the mercury and put the graphite anode into the solution without touching the layer of mercury.

Let the charge flow.

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THE RESULT

The sodium enters the mercury and forms sodium amalgam, also known as 'charged mercury'.



Allowing it to discharge back into the solution will result in a pure and shiny 'fresh' product which can be used once again.

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THE INCENTIVE

'Fresh' mercury is expensive.

'Old' mercury is usually sold at a discounted price, around 75% of the price of 'fresh' mercury.

Therefore, there is a large profit margin to be gained from re-activation of 'old' mercury.

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THE POTENTIAL

Re-activating 'old' mercury and recycling it to be used again, could reduce the need to buy 'fresh' mercury by up to 25%.

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