

Thermo Scientific 100% Pure Copper  
CO<sub>2</sub> Incubators

5 reasons

why your next CO<sub>2</sub> incubator  
should be 100% pure copper

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*“ We like the Heracell copper incubator because we just don't experience any problems, from entry level to post-docs with 20-30 papers, none of our team has any contamination problems at all. It's just so easy.”*

**— Lab Manager with 11 years experience with  
Thermo Scientific Heracell copper CO<sub>2</sub> incubators**



## Protect your valuable cultures with 100% pure copper

Recognizing copper's natural bactericidal and fungicidal properties, more cell culture professionals are choosing Thermo Scientific incubators with 100% pure copper interiors.

Learn how copper can maximize your productivity and minimize the threat of contamination, surrounding your cells with an environment you can trust.

For additional information visit  
[www.thermoscientific.com/purecopperincubators](http://www.thermoscientific.com/purecopperincubators)

Thermo Scientific Heracell 150i shown equipped with  
exclusive 100% pure copper interior



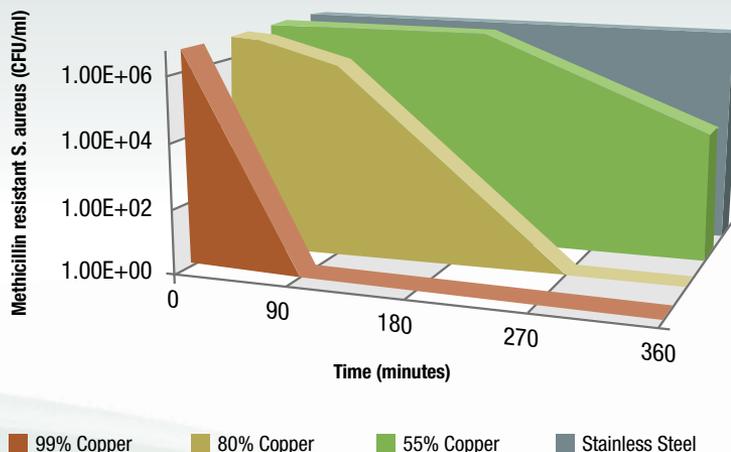
# 1 100% pure antimicrobial copper is proven effective against contamination

The antimicrobial capabilities of 100% pure copper eliminate microbial contaminants quickly and effectively.

Research measuring the viability of methicillin resistant *Staphylococcus aureus* on various copper alloys and stainless steel (chart at right) demonstrates that nothing matches the contamination fighting efficiency of pure copper. Similar results have been documented against typical incubator contaminants.

Low copper content alloys and copper plated stainless steel are less effective. Thermo Scientific CO<sub>2</sub> incubators featuring 100% pure copper offer the best solution for prevention of surface contamination.

Reduced Copper Content Results In Reduced Antimicrobial Effectiveness



Adapted from Michels HT, Wilks SA, Nocyce JO and Keevil CW. Copper alloys for human infection disease control. Materials Science and Teaching Conference, 2005.

## 2 Easy to maintain

No special handling is required for copper, and maintenance is minimal.

There is no need to risk exposure of cultures or personnel to toxic chemical disinfectants or UV light, which becomes less effective as a decontamination source over time.



## 3 Always working

The antimicrobial properties of 100% pure copper provide continuous protection against contamination on contact, all day every day.

*“With copper, you have no contamination. The lab next door has contamination in their stainless steel incubator, but we have not had any. Before we had to clean the incubator all the time. Copper is saving us time and money.”*

— Principal Investigator working with stem cells

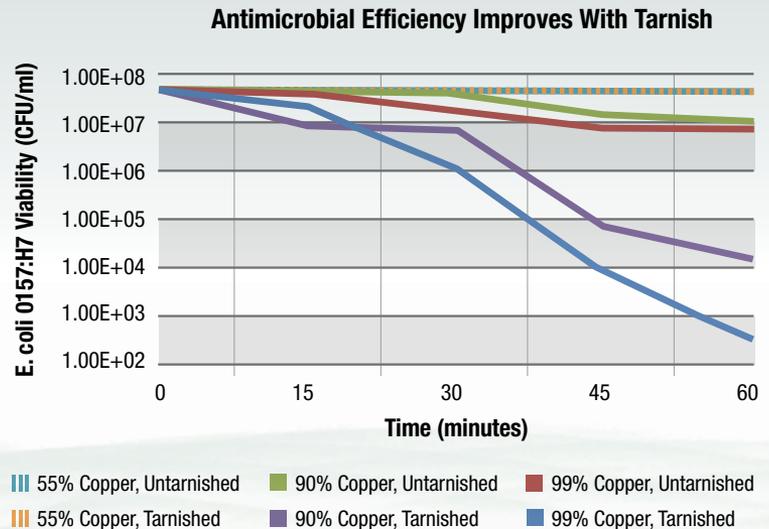
## 4 Improves with time

The antimicrobial efficiency of 100% pure copper interiors improves as the surface oxidizes over time, visible as tarnishing.

The study at right demonstrates that as copper ages the tarnishing effect provides an increased amount of cupric ions to attack contaminating microorganisms.

Tarnished and untarnished 1 cm<sup>2</sup> copper and copper alloy samples were tested for their antimicrobial activity. *E.coli* bacteria were applied to each coupon and air dried. At several time points, the bacteria were collected and the number of viable organisms determined.

Only tarnished, high copper content carriers exhibited increased antimicrobial performance with age. Untarnished alloys with limited copper had almost no effect.



Adapted from Michels HT, Wilks SA, Nocyte JO and Keevil CW. Copper alloys for human infection disease control. Materials Science and Teaching Conference, 2005.

## 5 Safe for cells

Because copper ions do not become airborne, they pose no threat to precious cells incubated in culture vessels on copper shelves.

100% pure copper surfaces protect the entire incubator chamber, including walls, shelves and humidity water reservoir, to provide you peace of mind that your cells are safe from contamination introduced by routine door openings and sample access.

*“Everything we do is cell based. The main thing I’ve noticed is my ability to maintain my cells. There is just no comparison since we got the copper. I’ve had stainless steel incubators before but the comfort level you can have with the copper is simply amazing.”*

– Laboratory Manager with 14 years experience working with all types of mammalian cell lines, including adherent, suspension, hybridomas and transformed stem cells



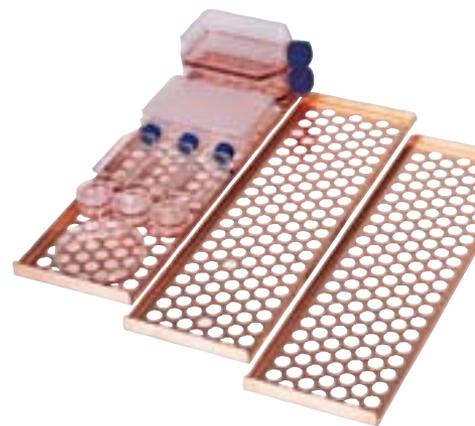
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CO<sub>2</sub> incubator should be 100% pure copper.

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