

## About the Dry & Store Germicidal Cycle

**Our lamp:** All models of the Dry & Store® hearing aid conditioning system use a 4-watt germicidal ultraviolet lamp. The UV-C primary radiation generated by these lamps consists almost exclusively of a spectral line at 254 nm, which is close to the wavelength of 255 nm that yields maximum germicidal effect. These lamps have a clear, special glass envelope that does not allow undesirable ozone-forming radiation to pass through.

**Germicidal action:** The resistance of micro-organisms to ultraviolet radiation varies considerably and is greatly influenced by the environment. The drier the conditions, the less UV radiation energy is required for micro-organism destruction. Dry & Store's warm, controlled temperature and its advanced Dry-Brik® desiccant create an ideal dry environment for destruction of micro-organisms. Additionally, the air that passes around the germicidal lamp is also sanitized, ensuring the cleanest operating environment possible.

The strength of UV germicidal light (scientists call this the *dose*) is dictated by a number of factors: the power of the bulb, the distance from the bulb to the target (in this case hearing instruments), the time that the lamp is on, and the temperature of the air through which the germicidal light passes. Using the standard formula,

**Dry & Store's delivered dose is 660 to 1,100 joules per square meter.\***

So what does this mean to the user? By comparing data from the chart below with Dry & Store's delivered dose, it is possible to calculate the level of bacteriological kill in one Dry & Store germicidal cycle (8 minutes for the Professional model, 3 minutes for the Global model). For example, physicians know that a very common micro-organism present in most infections of the external ear canal is pseudomonas aeruginosa. The chart indicates that a dose of 55 joules/m<sup>2</sup> will kill 90% of such bacteria on hearing instrument surfaces that are exposed to the UV lamp. Since the Dry & Store dose is more than ten times higher than that dose, one can predict that few, if any, pseudomonas flora would survive a single germicidal cycle.

Bacteria	Dose	Bacteria	Dose
Corynebact. diphtheriae	34	Streptococcus viridans	20
Micrococcus sphaeroides	100	Mycobacterium tuberculi	100
Pseudomonas aeruginosa	55		
Staphylococcus aureus	26	<b>Mould Spores</b>	
Streptococcus lactis	62	Aspergillus	440-667

Data from Philips Corporation shows the approximate minimum dose in j/m<sup>2</sup> of UV radiation at 254 nm required for the 90% destruction of listed micro-organisms.

### Frequently Asked Questions:

**Q) Does the UV lamp hasten hardening of BTE tubes, and can it cause damage or discoloration?**

A) At 4 watts, the Dry & Store lamp is a great surface sanitizer, but it has no penetrating power and it does not generate damaging ozone. Thus it should have no affect on any of the conditions mentioned.

**Q) Does the UV lamp heat the appliance?**

A) No. A 4 watt UV lamp generates very little heat. The air inside Dry & Store is warmed by a different mechanism.

**Q) How can Dry & Store relieve itching ears?**

A) By killing the bacteria that is a frequent cause. In surveys, three out of four hearing aid users who suffer from itching ears or recurring infections of the external ear canal report relief by using Dry & Store regularly.

**Q) I suffer from frequent infections of the external ear canal. Any advice?**

A) Yes. Occasionally re-orient your hearing instruments when placing them in the drying chamber, so that all exterior parts of the ear mold or hearing instrument are exposed to the UV light.

\* Dry & Store Professional generates 660-710 joules/m<sup>2</sup>; Dry & Store Global generates 1000-1100.

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