



## Desflurane yellowing

### Amarilleamiento del desfluorano

During the intervention, when refilling the desflurane vaporizer, we observed that the product was no longer clear (Fig. 1A). The vaporizer was removed from the anaesthesia circuit and after 1 hour of observation, a supernatant was found to cover the wall of the level

monitor (Fig. 1B). This discoloration, reported in the literature,<sup>1-3</sup> is due to the accumulation of oxidized by-products of butylate hydroxytoluene (BHT) (E-321) (2,6-bis(1,1-dimethylethyl)-4-methylphenol, C<sub>15</sub>H<sub>24</sub>O, P. M.: 220.35) (Fig. 2) an antioxidant present in the elastomer used

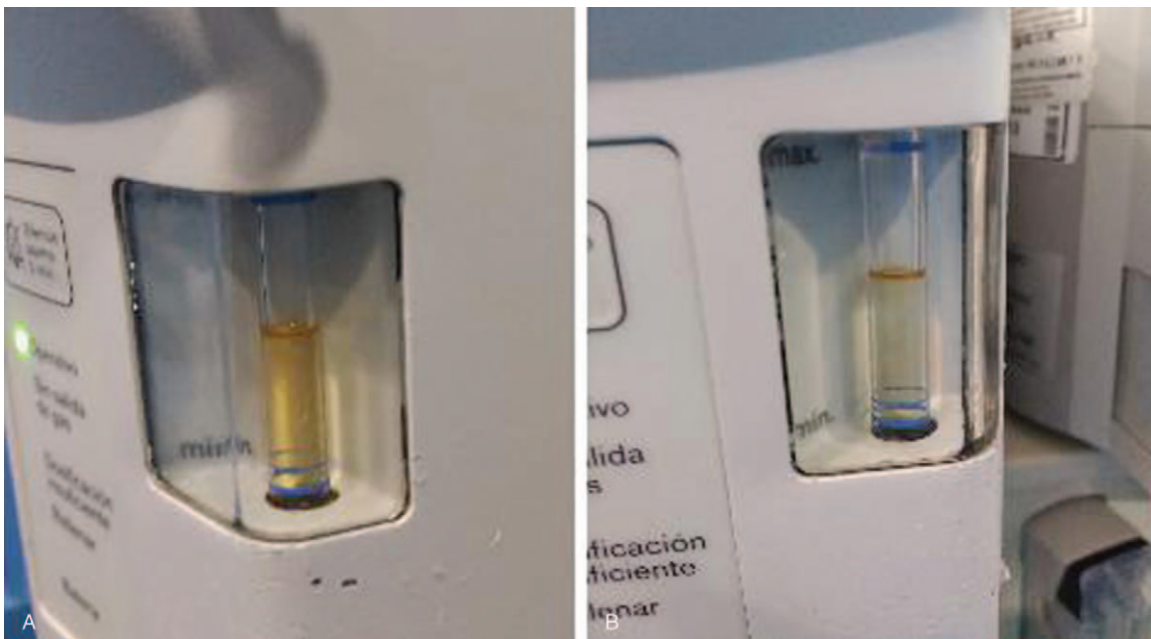


Figure 1. Desflurane yellowed. Initial appearance and appearance after one hour at rest. Source: Authors.

How to cite this article: Rico-Borrego MJ, Melguizo-Madrid E, Lozano-Guijarro Y, Rubio-Romero R, Jiménez-López I. Desflurane yellowing. Rev Colomb Anesthesiol. 2018;46:266-267.

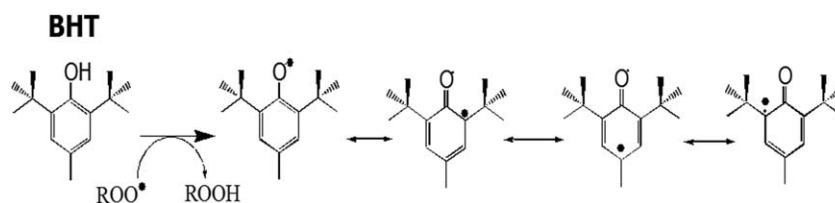
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Rev Colomb Anesthesiol (2018) 46:3

<http://dx.doi.org/10.1097/CJ9.0000000000000060>



**Figure 2.** BHT oxidized in radicals resonant-quinones (colored). BHT = butylate hydroxytoluene. Source: Authors.

to seal desflurane bottles,<sup>1,3</sup> authorized for use in the food industry.

Desflurane must be stored at a temperature of 15 to 30°C. The probability of yellowing is higher when this temperature is exceeded. BHT and its by-products have higher boiling points than desflurane and remain trapped in the vaporizer sink and do not flow into the gas circuit. They are not associated with deleterious effects for the patients, although the contamination made evident by BHT oxidation creates interactions of unpredictable consequences. We believe it is important to be aware of this discoloration phenomenon and prevent its occurrence.

### Funding

The authors did not receive any sponsorship to produce this article.

### Conflicts of interest

The authors have no conflicts of interest to declare.

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