

培养基瓶辐照灭菌后颜色变化说明

Color change of media bottle after irradiation sterilization

- 产品货号(Item No.) : T0500
- 产品批号(Lot.) : 20230401
- 灭菌方式(Sterilization Method) : 电子束辐照(Electron beam irradiation)
- 灭菌剂量(Irradiation Dose) : 29.8K Gy。 (满足标准 : $25\text{K Gy} \leq \text{吸收剂量} \leq 30\text{K Gy}$, $\text{SAL}=10^{-6}$)
(29.8K Gy, $\text{SAL}=10^{-6}$ sterilization level.)
- 灭菌时间(Sterilization Time) : 2023年8月19日下午15:00 (August 19, 2023, 15:00 p.m)
- 观察时间(Observation Time) : 1个月(One month)



辐照后10分钟
10 minutes after irradiation



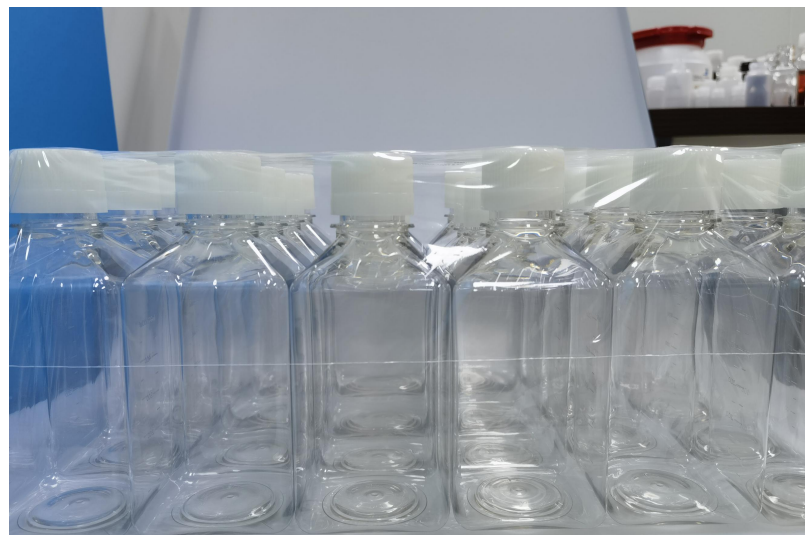
辐照后48小时
48h after irradiation



辐照后5日
5 days after irradiation



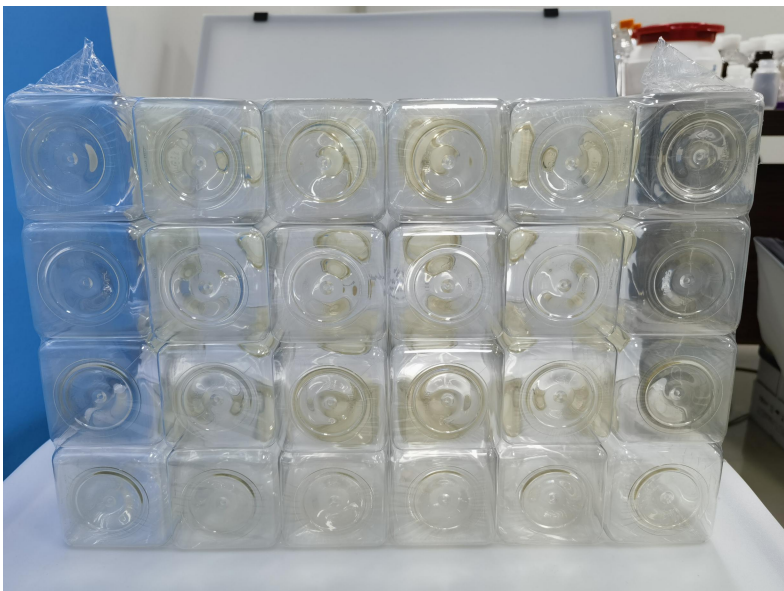
辐照后7日
7 days after irradiation



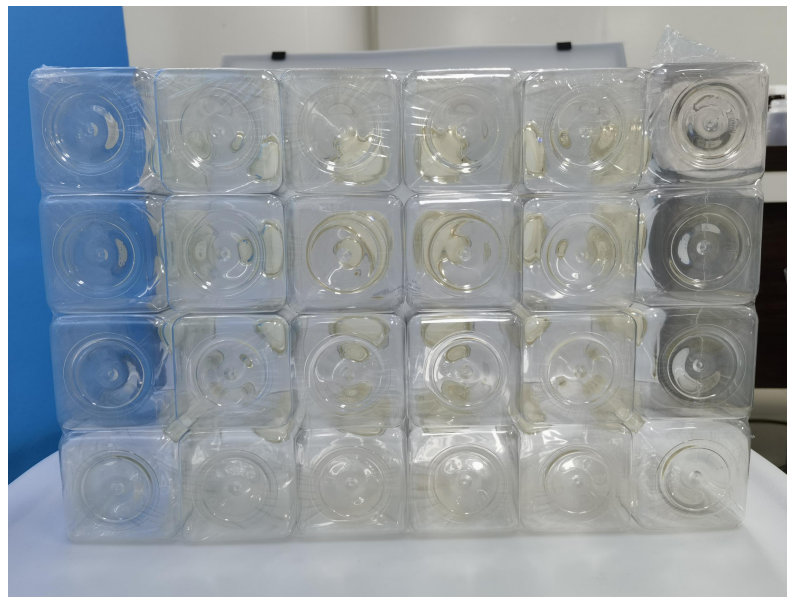
辐照后10日
10 days after irradiation



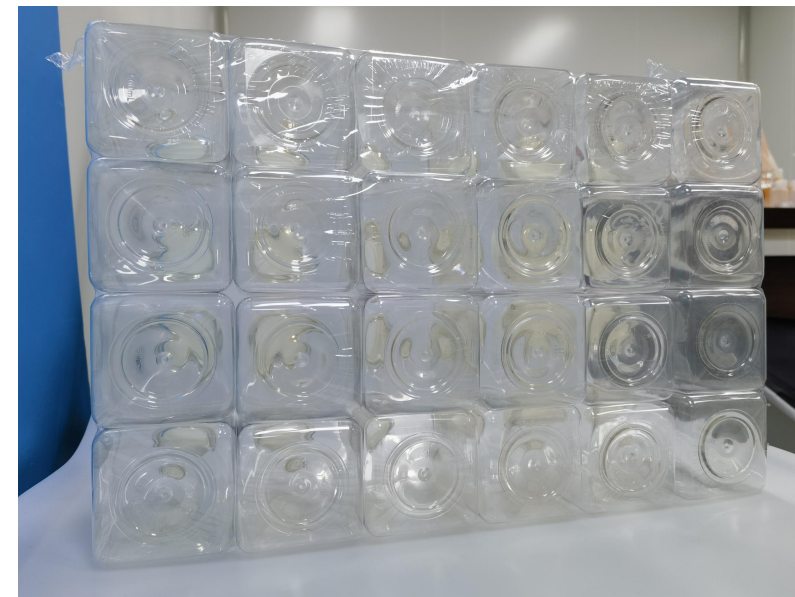
辐照后20日
20 days after irradiation



辐照后5日
5 days after irradiation



辐照后7日
7 days after irradiation



辐照后10日
10 days after irradiation



辐照后20日
20 days after irradiation

结论：培养基瓶（瓶身PET/PETG,瓶盖HDPE）在经过辐照灭菌后颜色出现变色发黄现象，辐照剂量越大，颜色越深。但随着存放时间的延长，黄色会慢慢退去，大约在辐照后10-15日，颜色趋于正常，不再继续褪色。若您收到全球康培养基瓶后，发现颜色偏黄，请不要担心，存放几日后就会恢复正常。

Conclusion: Media bottle (the bottle body is PET/PETG; the cap is HDPE), the color of bottle appears yellow after irradiation sterilization, and the larger the irradiation dose, the darker the color. However, with the extension of storage time, the yellow will slowly fade, about 10-15 days after irradiation, the color tends to normal, no longer fade. If you find that the color is yellowish after receiving the INTLKANG media bottle, please do not worry, it will return to normal after a few days of storage.

使用不同剂量辐照，瓶子颜色对比

Use different doses of radiation to compare the color of the bottles

试验方法

- 1、取125ML的PET方形培养基瓶5箱。
- 2、取国产原料的125ML的PETG方形培养基瓶5箱。
- 3、取进口原料的125ML的PETG方形培养基瓶5箱。
- 4、对PET、PETG方形培养基瓶分别进行15、20、25、31 KGy的辐照灭菌。
- 5、第3、7、10、15、20天观察产品颜色变化。
- 6、与未辐照的对照品一起拍照记录。

Test method

1. Take 5 boxes of 125ML PET square media bottles.
2. Take 5 boxes of 125ML PETG square media bottles with domestic raw materials.
3. Take 5 boxes of 125ML PETG square media bottles of imported raw materials.
4. The PET and PETG square media bottles were sterilized by radiation of 15KGy, 20KGy, 25KGy, 31KGy respectively.
5. Observe the color change of the product on days 3, 7, 10, 15 and 20.
6. Take pictures together with unirradiated control products.



15KGy PET bottle
11days after irradiation



20KGy PET bottle
11days after irradiation

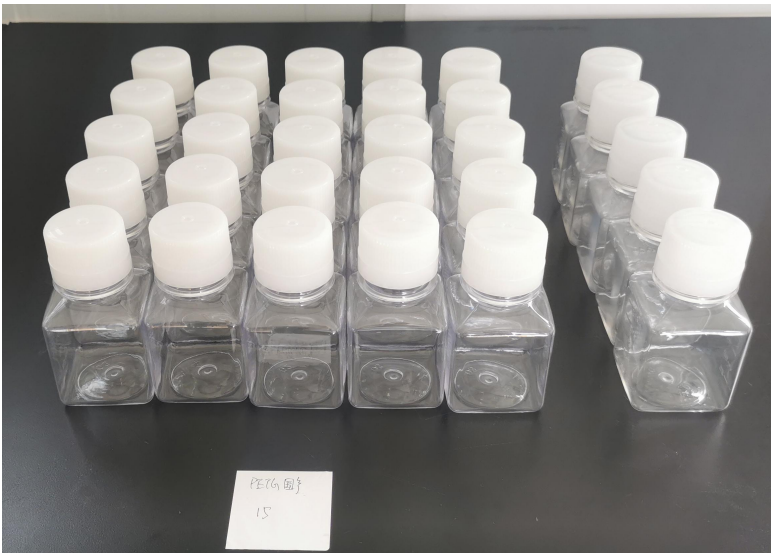


25KGy PET bottle
11days after irradiation



31KGy PET bottle
11days after irradiation

PET 培养基瓶
PET Material



15KGy PETG bottle
11days after irradiation



20KGy PETG bottle
11days after irradiation



25KGy PETG bottle
11days after irradiation



31KGy PETG bottle
11days after irradiation

PETG 培养基瓶
PETG Material

结论

Conclusion

1. 经过对比发现，PET、PETG原料在15KGy和20KGy辐照强度下瓶身颜色不会发生大的变化，25KGy、31KGy、38KGy辐照强度下，瓶身颜色逐渐变深;
2. 颜色消散在第11天后不会再有变化;
3. PETG进口原料在同等辐照强度下对比PETG国产原料颜色较深。

1. After comparison, it is found that the bottle color of PET and PETG raw materials will not change greatly under the irradiation intensity of 15 and 20KGy. Under the irradiation intensity of 25, 31 and 38KGy, the color of the bottle gradually becomes darker.
2. The color will not change after the 11th day.
3. The color of PETG imported raw materials is darker than that of PETG domestic raw materials under the same irradiation intensity.