# LETTER TO THE EDITOR

## LIGHT-SENSITIVE COLD KITS AND RADIOPHARMACEUTICALS: HEPATOLITE

**To the Editor:** The recent Letter to the Editor by Joseph C. Hung (*1*) is a well-written, concise overview of the considerations to be taken into account when using light-sensitive radiopharmaceuticals. Dr. Hung is to be commended on his letter and the information he provides nuclear medicine technologists and radiopharmacists regarding the storage of these radiopharmaceuticals.

While I read that letter with great interest, I must respond that the list of $^{99m}$Tc radiopharmaceuticals he provides fails to include at least one additional "cold" kit which is labeled by the manufacturer as being susceptible to photolytic degradation. This light-sensitive radiopharmaceutical formulation is the Hepatolite kit (Du Pont Pharma, No. Billerica, MA) for the preparation of $^{99m}$Tc-Disofenin. The package insert for this product states that the contents of the lyophilized vial are light sensitive and that the lyophilized vial should be protected from light (*2*). This product, much like those mentioned by Dr. Hung, is also packaged in clear and colorless glass vials.

Additionally, for Hepatolite no special consideration was apparently given in the design of the original kit container to provide any greater protection against exposure to ambient light since the container is no different from those of other cold kits which do not claim light sensitivity. The issue of light sensitivity for this particular product may be further clouded since the monographs on $^{99m}$Tc-Disofenin in the USP DI 1994 *Drug Information for the Health Care Provider* (*3*) and in the *United States Pharmacopeia XXII* (*4*) fail to mention its light sensitivity. A telephone call to the Technical Services group of Du Pont Merck Pharmaceutical Co. failed to yield information beyond that contained in the product package insert. No additional information could be determined regarding the time period for which Hepatolite may be exposed to light without causing any deterioration, and it is not clear whether $^{99m}$Tc-Disofenin may also be subject to photolytic degradation.

Interestingly, the product package insert (*5*) for Choletec (kit for the preparation of $^{99m}$Tc-Mebrofenin), which is an analogue of Hepatolite, records no similar cautionary statement regarding light sensitivity. Regardless, it is wise that users of Hepatolite heed the manufacturer's cautionary note and include it in that special category of cold kit-radiopharmaceuticals (Table 1) that may be adversely affected by exposure to light and that they take appropriate steps to prevent excessive exposure of Hepatolite to light during its storage and prior to its reconstitution with $^{99m}$Tc-pertechnetate.

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**TABLE 1**
**Radiopharmaceutical Kit-Type Formulations with Reported Light Sensitivity**

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| Microlite (Du Pont Merck Pharmaceutical Co., No. Billerica, MA) for the preparation of $^{99m}$Tc-Albumin Colloid |
| TechneScan MAG3 (Mallinckrodt Medical Co., St. Louis, MO) for the preparation of $^{99m}$Tc-Mertiatide |
| MPI DMSA Kidney Reagent Kit (Medi-Physics, Inc., Arlington Heights, IL) for the preparation of $^{99m}$Tc-succimer (DMSA) |
| Hepatolite (Du Pont Merck Pharmaceutical Co., No. Billerica, MA) for the preparation of $^{99m}$Tc-Disofenin |
| Syringe I* of the UltraTag RBC kit (Mallinckrodt Medical, Inc., St. Louis, MO) for the preparation of $^{99m}$Tc-labeled red blood cells |

*Syringe I contains sodium hypochlorite, 0.6 mg/0.6 ml.

**REFERENCES**

1. Hung JC. Photochemical considerations of light-sensitive cold kits and radiopharmaceuticals. *J Nucl Med Technol* 1993;21:90–91.
2. Hepatolite package insert. No. Billerica, MA: Du Pont Merck Pharmaceutical Co.; 1991.
3. Technetium $^{99m}$Tc-Disofenin (systemic). In: *Drug Information for Health Care Personnel.* USP DI 1994, 14th ed., Rockville, MD: United States Pharmacopeial Convention, 1994:2563–2566.
4. Technetium 99m Disofenin injection. In: *United States Pharmacopeia*, 22nd ed., Rockville, MD: United States Pharmacopeial Convention, Inc.; 1990:1314–1315.
5. Choletec package insert. Princeton, NJ: Squibb Diagnostics; 1992.