

June 16, 2009

Re: Global He3 Shortage – The Impact upon Products with Neutron Detectors and Our Action Program

Dear Colleagues and Customers:

Since the late 60's the neutron detector of choice has been the He-3 filled proportional tube. He-3, which has negligible natural abundance on earth, has been readily available as it is a by-product of the large quantities of Tritium provided to support nuclear weapons programs. The reduction in the weapons programs has removed this source of He-3 to the point where the stock of He-3 is insufficient to support the current demand for neutron detectors. The development of a source of He-3 by producing Tritium is characterized by a lengthy time to production and by very high cost and would not be available for at least one year.

At the same time Homeland Security requirements have driven a greatly increased demand for neutron detectors. The statement below is taken from a DOE (Department of Energy) coordinated Neutron Detection Technologies Workshop in which we are participating.

*Over the past 5 years, the demand for helium-3 (He-3) for neutron detectors has increased greatly, and the available supply of He-3 is projected to fall significantly short of demand in the near future. The primary reason for the increase in demand is the expanded use of He-3 in neutron detectors for national security, nonproliferation, defense, border security, and homeland security applications. He-3 is the material of choice for neutron detection because of the ease of discrimination between neutrons and gamma rays.*

In summary – the ability to source neutron detectors based on He-3 has become problematic and affects the following products:

- ARIS
- Mobile ARIS
- PackEye
- SGS products with the GN suffix
- MDS-L, MDS-L+ & MDS-MIL with neutron detector option

Thermo Fisher Scientific is taking the following actions:

1. We are working with the Department of Homeland Security to secure supplies of the government held strategic reserve of He-3 gas for our Homeland Security critical projects. This reserve supports only Homeland Security critical needs.
2. The existing inventory of neutron detectors that we hold, and which we are permitted to sell to commercial customers, will be provided on a first-come-first-serve basis. We feel that this is fair to all parties.
3. We are aggressively working on alternative neutron detector sources.

We want to assure you that we are putting every effort into solving this problem both internally and working with the DOE. We know that this may cause you issues or concerns, so please feel free to contact our Customer Service Team at: +1 (800) 274-4212 or email: [customerservice.rmsi@thermofisher.com](mailto:customerservice.rmsi@thermofisher.com)

Sincerely,

Richard P. Oxford  
Global Portal Product Line Manager