

영문 규격서

Commodity Description

종목 번호 Item No.	관세분류 번호 HSK No.	정부물품분류번호(8자리) Korean Government Commodity Classification Code(eight-digit)	품 명 Description	단 위 Unit	수 량 Q'ty
1	2845400000	12142005	Helium-3 gas	Liter	16

I. End-user's Use

This material is a stable (non-radiative) isotope and is used as a cryogen gas for He-3 chiller and He-3/He-4 mix of dilution refrigerator which are parts of the low-temperature scanning tunneling microscopes dedicated for material science and quantum computing researches. It will not be used in any nuclear explosive activity or nuclear fuel cycle activity. Also, it will only be used in South Korea and will not be passed on to any third part and in particular not reexported.

II. Configurations of Goods

- Helium 3 gas 16 Liters
- Storage container ≤4 Bottles

III. Performance & Specification

- Purity of Helium 3 gas
 - Chemical purity $\geq 99.995\%$
 - ^3He Isotopic enrichment $>99.9\%$
 - Nitrogen, volume fraction $\leq 6 \text{ ppm}$
 - Carbon Monoxide, volume fraction $\leq 6 \text{ ppm}$
 - Oxygen, volume fraction $\leq 6 \text{ ppm}$
 - Argon, volume fraction $\leq 6 \text{ ppm}$
 - Hydrogen, volume fraction $\leq 6 \text{ ppm}$
 - Tritium, Tritium activity $< 100 \text{ Bq/g}$ [$< 2.7 \times 10^{-6} \text{ Ci/L}$]
 - Tritium, atomic fraction $\leq 1 \times 10^{-11} \%$
- Quantity, Shelf Life, and Storage Container of Helium 3 gas
 - Total Quantity: 16 Liter @ 20°C, 1atm
 - Quantity Tolerance: $\pm 0.8 \text{ Liter}$
 - Shelf Life: $\geq 12 \text{ months}$

- (4) Storage Container: Can be pressurized up to $\geq 4 \text{ bar}$ with a valve connection

IV. Remarks

- The supplier must guarantee that the delivered Helium-3 gas meets the purity and quantity stated in section III. If it fails to meet them, the contract may be terminated or rescinded.
- Any issue arising with the delivered Helium-3 gas for reasons other than the user's fault must be repaired free of charge for at least one (1) year after its delivery.
- The price includes the incidental costs such as transportation and customs clearance.