



May 31, 2023

Notice Regarding Launch of Deuterated Ammonia (Ammonia-d₃)
-- Creation of First Domestic System for Mass Production --

Taiyo Nippon Sanso Corporation (“TNSC”, President Kenji Nagata), a Japanese industrial gas company in Nippon Sanso Holdings Group, has started the manufacturing and sales of deuterated ammonia gas which substitutes the hydrogen in ammonia (NH₃) with deuterium (D). In order to meet the growing demand for deuterated ammonia, which has been used in semiconductor applications, raw materials for chemical reactions, and analysis, etc., TNSC has created the first mass production process in Japan for deuterated ammonia, and plans to increase production in the future.



1. Background and events leading up to in-house manufacturing

Up until now, TNSC has relied on imports from overseas to meet domestic demand for deuterated ammonia, which has been used in semiconductor applications, raw materials for chemical reactions, and analysis, etc. Now, through its unique technology, TNSC has successfully created a process that enables it to manufacture products with high degree of purity and high enrichment of deuterium, and established a supply system to address heightened demand both in Japan and overseas.

2. Product overview

(1) Features

- ◆ High degree of purity
- ◆ High enrichment of Deuterium
- ◆ Can be filled and supplied in 47 L or 10 L high-pressure gas cylinders in any quantity up to 25 kg or 5 kg, respectively

(2) Product specifications

Product name	Deuterated ammonia (Ammonia-d₃)
Connection port metal	JIS.W22-14L/R DISS720 (*option)
Cylinder	47 L or 10 L cylinder
Purity	≥ 99.998%
Enrichment (D)	>99atom%D
Nitrogen (N ₂)	<10 ppm
Oxygen + Argon (O ₂ +Ar)	<1.0 ppm
Carbon monoxide (CO)	<1.0 ppm
Carbon dioxide (CO ₂)	<1.0 ppm
Methane (CH ₄)	<2.0 ppm
Moisture (H ₂ O)	<2.0 ppm

(3) Production capacity

- ◆ 120 kg/year

We plan to increase production to meet growing demand in the future.

[Company Overview]

Taiyo Nippon Sanso Corporation

Business description: Manufacture and sale of various industrial gases such as oxygen, nitrogen, and argon, LP gas, gas for medical uses, and specialty gases, manufacture and sale of welding equipment and materials, gas-related devices, and, air separation equipment, assembly, processing, inspection of electrical components, and equipment maintenance

Established: October 30, 1910

Incorporated: February 4, 2020

Capital: 1.5 billion yen

Shareholder: Nippon Sanso Holdings Corporation (Investment ratio: 100%)

Revenue: 420.4 billion yen*

*Note: This figure shows the revenue of Japan for Nippon Sanso Holdings Corporation in FYE2023

Taiyo Nippon Sanso Corporation

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