February 17, 2015
Taiyo Nippon Sanso Corporation

Notice Regarding a Report on the Investigation Results of the Accident at the Oita Sanso Center

(Final Report Regarding the Accident at the Oita Sanso Center)

With regard to the accident at the Oita Sanso Center on December 12, 2014, Taiyo Nippon Sanso Corporation (TNSC) would like to apologize to neighboring residents and others concerned for the inconvenience and anxiety this accident may have caused.

TNSC subsequently held accident investigation committee and accident prevention committee meetings to investigate the cause of the accident and formulate countermeasures for preventing a recurrence. TNSC hereby announces that it has finished submitting a report on the investigation results and countermeasures to the relevant administrative authorities.

The following is a summary of the report.

1. Overview of the accident

Accident location	Oita Sanso Center Co., Ltd.
Affected facility	No. 3 liquefied gas drainage tank
Time of accident	The tank burst at 9:06 a.m. on Friday, December 12, 2014 (after release of liquefied gas began at 8:00 a.m.)
Human damage	None
Property damage	The entire drainage tank burst (along with damage to the related piping) Perlite (powdery insulator) spilled out from damaged peripheral gas liquefaction equipment Fragments of the drainage tank scattered within a sphere of approximately 650 meters (with some fragments flying outside the plant compound and causing property damage)

2. Overview of the burst drainage tank

The drainage tank was installed to prevent liquefied gas released from the air separation unit and related equipment from coming into direct contact with other parts of the plant facilities and the ground, etc.

Model	Ambient air heating, non - pressurized cylindrical stainless tank

Dimensions	Diameter 4,000 mm x height 6,000 mm x thickness 3 mm (at the sidewall)
Drainage inflow pipe	200 A
Duct (for releasing the gas)	
	Outer diameter 1,016 mm x thickness 6 mm
Manufacturing date	February 1977

3. Estimated cause of accident

It appears a considerable amount of water left in the drainage tank froze and formed ice when it came in contact with the drainage inflow of low-temperature liquefied gas. We estimate that this ice caused the tank to burst by trapping the liquefied gas inside and raising the internal pressure.

4. Countermeasures for preventing a recurrence

The Oita Sanso Center and TNSC will implement the following countermeasures for preventing a recurrence.

- The Oita Sanso Center's countermeasures

  (1) Facility, work, and operation management
  - Rules and efforts will be made to make certain water is removed from the drainage tank.
  - A full inspection of the facility and work procedures will be conducted.
  - Management procedures will be established, in addition to clarifying the objectives of work procedures and other instructions.

  (2) Employee education

  Lessons learned from this accident will be used to educate all employees, promote safety activities on a daily basis, and thereby enhance their risk sensitivity.

- TNSC's countermeasures

  (1) Full inspection of related business sites
  - Internal inspections of other liquefied gas drainage tanks were completed, and the work procedures for operating the tanks will be revised.
  - Checks on factory management functions will be made more rigorous.

  (2) Lessons learned from the accident will be reflected in the design of liquefied gas drainage tanks and other aspects

  (3) Lessons learned from the accident will be shared and built upon with the users TNSC supplies and other industrial equipment manufacturers