
**Space systems — Fluid characteristics —
Part 11:
Ammonia**

Systèmes spatiaux — Caractéristiques des fluides —

Partie 11: Ammoniac

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ISO 14951-11:1999

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 14951-11 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

ISO 14951 consists of the following parts, under the general title *Space systems — Fluid characteristics*:

- Part 1: Oxygen
- Part 2: Hydrogen propellant
- Part 3: Nitrogen
- Part 4: Helium
- Part 5: Nitrogen tetroxide propellant
- Part 6: Monomethylhydrazine propellant
- Part 7: Hydrazine propellant
- Part 8: Kerosene propellant
- Part 9: Argon
- Part 10: Water
- Part 11: Ammonia
- Part 12: Carbon dioxide
- Part 13: Breathing air

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Space systems — Fluid characteristics —

Part 11: Ammonia

1 Scope

This part of ISO 14951 specifies limits for the composition of ammonia (NH₃) intended as a coolant and used in the servicing of space systems, and test methods for verification of its composition.

This part of ISO 14951 is applicable to ammonia used in both flight hardware and ground servicing, systems, and equipment. It is applicable to influents only to the extent specified herein.

2 Term and definition

For the purposes of this part of ISO 14951, the following term and definition apply.

2.1

indirect method

method of measuring fluid purity by indirect means, that is, measuring the aggregate impurities, as a volume percent or percent by weight and subtracting it from 100

3 Composition

The composition of ammonia delivered to the flight vehicle interface shall be in accordance with the limits given in Table 1 when tested in accordance with the applicable test methods.

4 Test methods

4.1 Sampling

The ammonia should be selected in accordance with a sampling plan that will produce results with sensitivities and accuracies equivalent to or better than those required to meet the programme or project requirements.

4.2 Composition tests

The composition of the ammonia shall be tested by such methods, apparatus, or analyzers as may be required to produce results with the sensitivities and accuracies necessary to meet programme or project requirements.

Table 1 — Composition limits

Composition		Limit
Purity ^a	mass fraction, %, min.	99,98
Moisture	µg/g, max.	50
Oil	µg/g, max.	6
Total nonvolatile residue		b
Chlorides	µg/g, max.	1
Fluorides		b
^a Determined by indirect method.		
^b Record and report only.		

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