

PRODUCT DATA SHEET

Indium Nitrate



Introduction

Indium nitrate is an odorless, off-white crystalline powder that is freely soluble in water and soluble in lower alcohols. It is available as an anhydrous powder and hydrated forms with 3 and 4.5 associated moles of water. The hydrated forms lose their associated water at temperatures over 100°C. Continued heating at temperatures over 250°C results in decomposition to indium oxide.

Properties (Anhydrous)

Chemical Formula	$\text{In}(\text{NO}_3)_3$
Molecular Weight	300.85
General Description	Off-white hygroscopic powder
Uses	Chemical synthesis
Purity Grades Available	4N (99.99%), 5N (99.999%)
Solubility	Very soluble in water; soluble in alcohol
Theoretical Indium Percentage	38.17
Minimum Indium Percentage	36.4
Nominal Indium Percentage	40.0 ± 3.6

Properties (hydrated with 3 moles of water)

Chemical Formula	$\text{In}(\text{NO}_3)_3 \cdot 3\text{H}_2\text{O}$
Molecular Weight	354.91
General Description	Off-white hygroscopic powder
Uses	Chemical synthesis
Purity Grades Available	4N (99.99%), 5N (99.999%)
Solubility	Very soluble in water; soluble in alcohol
Theoretical Indium Percentage	32.35
Minimum Indium Percentage	28.8
Nominal Indium Percentage	32.4 ± 3.6

Properties (hydrated with 4.5 moles of water)

Chemical Formula	$\text{In}(\text{NO}_3)_3 \cdot 4.5\text{H}_2\text{O}$
Molecular Weight	381.94
General Description	Off-white hygroscopic powder
Uses	Chemical synthesis
Purity Grades Available	4N (99.99%), 5N (99.999%)
Solubility	Very soluble in water; soluble in alcohol
Theoretical Indium Percentage	30.06
Minimum Indium Percentage	26.4
Nominal Indium Percentage	30.1 ± 3.6

Note: $\text{In}(\text{NO}_3)_3 \cdot 4.5\text{H}_2\text{O}$ is unstable in that water separation often occurs depending on storage conditions, reverting to the more stable $\text{In}(\text{NO}_3)_3 \cdot 3\text{H}_2\text{O}$ hydrated form.

Standard Packaging

Quantity*	Container
3.5kg	1-gallon Nalgene™
2.0kg	½-gallon Nalgene™
1.0kg	1-liter Nalgene™
500g	½-liter Nalgene™
100–200g	Plastic jars

*All package sizes contain suitable desiccant. Packaging in other sizes or in glass may be available upon request.

Storage and Shelf Life

Indium nitrate should be stored at room temperature and the container kept tightly sealed. **Indium nitrate** has a shelf life of 6 months.

Safety Data Sheets

The SDS for this product can be found online at <http://www.indium.com/sds>

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