

## 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	$40.0 \pm 3.6$

### 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	$32.4 \pm 3.6$

### 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	$30.1 \pm 3.6$

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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