

PRODUCT DATA SHEET

Indium Sulfate



Introduction

Indium sulfate is a grayish-white powder. It is hygroscopic and possesses a monoclinic prism structure. It is available as an anhydrous powder, a hydrated salt with 9 moles of associated water, and a solution in varying concentrations up to its solubility limit in water. **Indium sulfate** is used as a synthesis chemical and as a hardening agent in gold electroplating baths.



Properties: Anhydrous

Chemical Formula	$\text{In}_2(\text{SO}_4)_3$
Molecular Weight	517.81
General Description	Grayish-white hygroscopic powder; monoclinic prisms
Uses	Chemical synthesis, hardening agent in gold electroplating baths
Purity Grades Available	4N (99.99%), 5N (99.999%)
Solubility	53.92g/100g solution at 20°C
Specific Gravity	3.438g/cc
Specific Heat	0.129cal/gram°C (0–100°C)
Heat of Formation	49.039cal (2In + 3H ₂ SO ₄ =In ₂ (SO ₄) ₃ + 3H ₂) 72.78cal (In ₂ O ₃ + 3H ₂ SO ₄ =In ₂ (SO ₄) ₃ + 3H ₂ O)
Dissociation Pressure	10mm Hg @ 645°C 900mm Hg @ 820°C
Theoretical Indium Percentage	44.35
Minimum Indium Percentage	40.4
Nominal Indium Percentage	42.6 ± 2.2

Standard Packaging Powder

Quantity*	Container
2.5kg	3.8-liter plastic
0.66kg	1-liter plastic

Solution

1-liter (2.1 pints) polyethylene bottles
3.8-liter (1 gallon) polyethylene bottles
18.9-liter (5 gallons) polyethylene bottles

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

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Properties: Hydrated Salt

Chemical Formula	$\text{In}_2(\text{SO}_4)_3 \cdot 9\text{H}_2\text{O}$
Molecular Weight	679.95
General Description	Grayish-white hygroscopic powder; monoclinic prisms
Uses	Chemical synthesis, hardening agent in gold electroplating baths
Purity Grades Available	4N (99.99%), 5N (99.999%)
Solubility	53.92g/100g solution at 20°C
Specific Gravity	3.438g/cc
Specific Heat	0.129cal/gram°C (0–100°C)
Heat of Formation	49.039cal (2In + 3H ₂ SO ₄ =In ₂ (SO ₄) ₃ + 3H ₂) 72.78cal (In ₂ O ₃ + 3H ₂ SO ₄ =In ₂ (SO ₄) ₃ + 3H ₂ O)
Dissociation Pressure	10mm Hg @ 645°C 900mm Hg @ 820°C
Theoretical Indium Percentage	33.77
Minimum Indium Percentage	31.5
Nominal Indium Percentage	33.7 ± 2.2

Storage and Shelf Life

Indium sulfate should be stored at room temperature and the container kept tightly sealed. **Indium sulfate** has a shelf life of 12 months.

Safety Data Sheets

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



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