

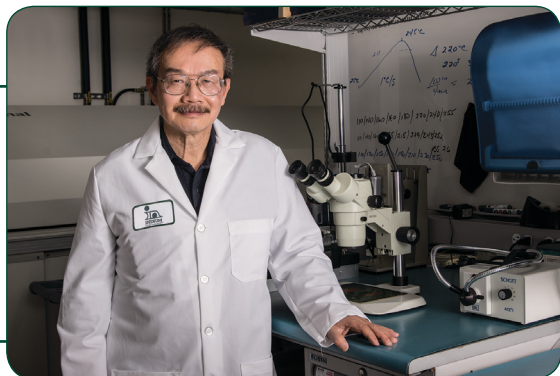
## PRODUCT DATA SHEET

# IndiSul™ (Indium Sulfate)



### Introduction

**IndiSul™ (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. **IndiSul™** 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 ( $2\text{In} + 3\text{H}_2\text{SO}_4 = \text{In}_2(\text{SO}_4)_3 + 3\text{H}_2$ ) 72.78cal ( $\text{In}_2\text{O}_3 + 3\text{H}_2\text{SO}_4 = \text{In}_2(\text{SO}_4)_3 + 3\text{H}_2\text{O}$ )
Dissociation Pressure	10mm Hg @ 645°C 900mm Hg @ 820°C
Theoretical Indium Percentage	44.35
Minimum Indium Percentage	40.4
Nominal Indium Percentage	$42.6 \pm 2.2$

### Standard Packaging Powder

<b>Quantity*</b>	<b>Container</b>
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

### 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 ( $2\text{In} + 3\text{H}_2\text{SO}_4 = \text{In}_2(\text{SO}_4)_3 + 3\text{H}_2$ ) 72.78cal ( $\text{In}_2\text{O}_3 + 3\text{H}_2\text{SO}_4 = \text{In}_2(\text{SO}_4)_3 + 3\text{H}_2\text{O}$ )
Dissociation Pressure	10mm Hg @ 645°C 900mm Hg @ 820°C
Theoretical Indium Percentage	33.77
Minimum Indium Percentage	31.5
Nominal Indium Percentage	$33.7 \pm 2.2$

### Storage and Shelf Life

**IndiSul™** should be stored at room temperature and the container kept tightly sealed. **IndiSul™** 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>

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

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## From One Engineer To Another®

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