**PRODUCT INFORMATION**

**Indoxyl Sulfate (potassium salt)**  
*Item No. 16926*

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**CAS Registry No.:** 2642-37-7  
**Formal Name:** 1H-indol-3-ol, 3-(hydrogen sulfate), monopotassium salt  
**MF:** C₈H₆NO₄S • K  
**FW:** 251.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 221, 281 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years

*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

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**Laboratory Procedures**

Indoxyl sulfate (potassium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the indoxyl sulfate (potassium salt) in the solvent of choice, which should be purged with an inert gas. Indoxyl sulfate (potassium salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of indoxyl sulfate (potassium salt) in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of indoxyl sulfate (potassium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of indoxyl sulfate (potassium salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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**Description**

Indoxyl sulfate is a uremic toxin and a metabolite of tryptophan (Item No. 29600).<sup>1</sup> It is formed via sulfation of indoxyl, an intermediate generated from tryptophan by intestinal bacteria, by the sulfotransferase (SULT) isoform 1A1 variant 2 (SULT1A1*2) in the liver.<sup>1,2</sup> Indoxyl sulfate activates the aryl hydrocarbon receptor (AhR) in HepG2 40/6 hepatoma cells (EC<sub>50</sub> = 12.1 nM in a reporter assay).<sup>3</sup> It also inhibits the organic anion transporter (OAT) isoforms OAT1 and OAT3 (K<sub>i</sub> = 34.2 and 74.4 µM, respectively for the rat transporters) in S2 proximal tubule cells.<sup>4</sup> Indoxyl sulfate (0.2 and 1 mM) increases superoxide anion and nitric oxide levels in isolated human mononuclear blood cells.<sup>5</sup> It increases serum creatinine and blood urea nitrogen (BUN) levels in the 5/6 nephrectomized rat model of chronic renal failure when administered at a dose of 50 mg/kg.<sup>4</sup>

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**References**