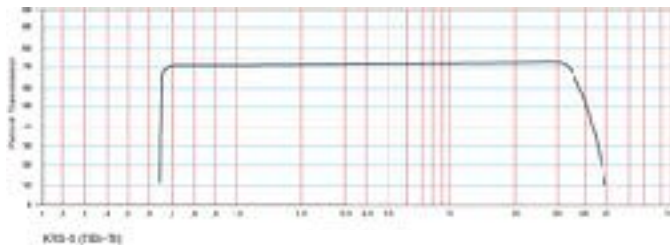
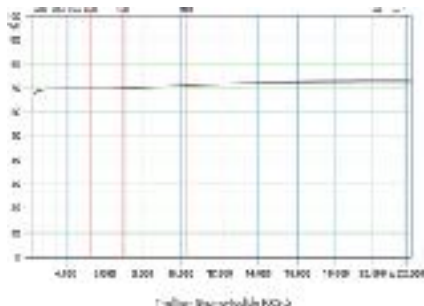


# Optical Material Thallium Bromoiodide (KRS-5) Optical Crystals

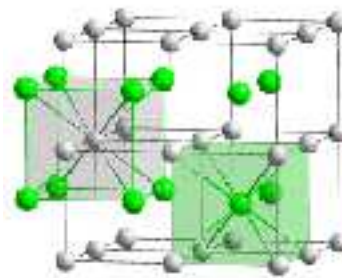
KRS-5 (TlBr-TlI) is a gorgeous red crystal commonly used for attenuated total reflection prisms for IR spectroscopy. It is also used as an infrared transmission window in gas and liquid sample cells used with FTIR spectrophotometers in place of Potassium Bromide (KBr) or Cesium Iodide (CsI) for analysis of aqueous samples that would attack KBr or CsI optics. It has a wide transmission range and is virtually insoluble in water.

It is a useful alternative to AgCl since it is not photo-sensitive and for ATR applications it will transmit well beyond the 18 micron useful range of ZnSe. KRS-5 is considered toxic, but in our opinion it is safe for IR spectroscopic applications when properly handled.



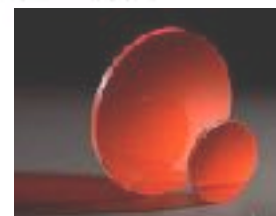
## Optical Properties- KRS-5 Optical Crystals

Transmission Range: 0.6 to 32μm  
Refractive Index: 2.37 at 10μm  
Reflection Loss: 28.4% at 10μm ( 2 surfaces)



## Physical Properties- KRS-5 Optical Crystals

Melting Point: 414.5° C  
Young's Modulus: 15.85 GPa  
Apparent Elastic Limit: 3800 psi  
Structure: Cubic, no cleavage, CsCl structure



## Chemical Properties- KRS-5 Optical Crystals

Solubility: 0.05gm/100gm H<sub>2</sub>O @ 20° C



*future in focus...*

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