

# Untersuchungen zum quasibinären System $\text{Bi}_2\text{Te}_3/\text{BiBr}_3$

Investigations on the Pseudobinary System  $\text{Bi}_2\text{Te}_3/\text{BiBr}_3$

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Bismuth Telluride Bromide, Phase Diagram, Barogram, Total Pressure Measurements,  
Thermodynamic Data

The phase diagram of the pseudobinary system  $\text{Bi}_2\text{Te}_3/\text{BiBr}_3$  was investigated by DTA, total pressure measurements and X-ray phase analysis. Only  $\text{BiTeBr}$  exists as a ternary phase in this system. The compound melts congruently at  $526^\circ\text{C}$ . The heat of formation and standard entropy were calculated from vapor pressure data:

$$\Delta H(\text{BiTeBr, f, 298}) = (-30,4 \pm 1,4) \text{ kcal/mol}; \quad S^\circ(\text{BiTeBr, f, 298}) = (36,2 \pm 2,9) \text{ cal/K}\cdot\text{mol}.$$

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