

**Crystal Data:** Cubic. *Point Group:*  $\bar{4}3m$ . Crystals show combinations of {111}, {101}, {211}, to 1 cm, occurring typically in aggregates.

**Physical Properties:** *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 5  
D(meas.) = 2.47 D(calc.) = 2.489 Soluble in H<sub>2</sub>O.

**Optical Properties:** Semitransparent. *Color:* Colorless to pale brown. *Luster:* Vitreous.  
*Optical Class:* Isotropic.  $n = 1.618(2)$

**Cell Data:** *Space Group:*  $P\bar{4}3n$ .  $a = 8.89(1)$   $Z = 24$

**X-ray Powder Pattern:** Ak-saï, Kazakhstan.  
1.938 (10), 4.53 (5), 2.835 (4), 6.60 (3), 3.71 (3), 2.388 (3), 2.102 (3)

Chemistry:	(1)	(2)
B <sub>2</sub> O <sub>3</sub>	77.60	79.44
MgO	2.15	
H <sub>2</sub> O	20.00	20.56
Total	99.75	100.00

(1) Ak-saï, Kazakhstan. (2) HBO<sub>2</sub>.

**Occurrence:** In fine-grained halite in a salt dome (Chalkar salt dome, Kazakhstan).

**Association:** Halite, anhydrite, kieserite, preobrazhenskite, boracite, aksaite, ginorite, hilgardite, strontioborite, halurgite (Chalkar salt dome, Kazakhstan).

**Distribution:** From the Chelkar salt dome, Ak-saï Valley, Uralsk district, and at the Inder borate deposit, Kazakhstan.

**Name:** From the Greek *meta*, as a lesser hydrate than orthoboric acid.

**Type Material:** Mining Institute, St. Petersburg, 1015/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 69825.

**References:** (1) Lobanova, V.V. and N.P. Avrova (1964) The new mineral metaborite – natural metaboric acid. *Zap. Vses. Mineral. Obshch.*, 93, 329–334 (in Russian). (2) (1965) *Amer. Mineral.*, 50, 261–262 (abs. ref. 1). (3) Zachariason, W.H. (1960) The crystal structure of cubic metaboric acid. *Acta Cryst.*, 16, 380–384. (4) (1966) *NBS Mono.* 25, 4, 27.