

Crystal Data: Cubic. *Point Group:* $\bar{4}3m$. As a fractured grain to 20 μm .

Physical Properties: *Cleavage:* n.d. *Tenacity:* Brittle. *Fracture:* n.d. *Hardness:* = n.d.
D(meas.) = n.d. D(calc.) = 3.291

Optical Properties: Translucent. *Color:* Yellowish brown. *Streak:* n.d. *Luster:* n.d.
Optical Class: n.d.

Cell Data: *Space Group:* $F\bar{4}3m$. $a = 5.601$ $Z = 4$

X-ray Powder Pattern: Calculated pattern.

3.234 (100), 1.980 (63), 1.689 (39), 1.143 (19), 1.285 (14), 0.947 (14), 0.886 (14)

Chemistry:	(1)
S	36.46
Fe	0.62
Ca	0.10
<u>Mn</u>	<u>62.31</u>
Total	99.49

(1) Zakłodzie meteorite; average of 6 electron microprobe analyses supplemented by micro-Raman spectroscopy; corresponds to $(\text{Mn}_{0.993}\text{Fe}_{0.010}\text{Ca}_{0.002})_{\Sigma=1.005}\text{S}_{0.995}$.

Mineral Group: Sphalerite group.

Polymorphism & Series: Polymorphous with alabandite and rambergite.

Occurrence: In an enstatite-rich achondrite meteorite, postdates the impact melting and subsequent crystallization of an enstatite-rich rock.

Association: Plagioclase, enstatite, troilite.

Distribution: From the Zakłodzie meteorite.

Name: Honors Patrick R.L. Browne (b. 1941), Professor at the University of Auckland, New Zealand, for his contributions to low-temperature mineralogy and petrology.

Type Material: National Museum of Natural History, Washington, D.C., USA (USNM 7607).

References: (1) Chi Ma, J.R. Beckett, and G.R. Rossman (2012) Browneite, MnS, a new sphalerite-group mineral from the Zakłodzie meteorite. *Amer. Mineral.*, 97, 2056-2059.