

**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . As acicular to bladed crystals, elongated along [001], to 3.5 cm; typically in rosettes and radial fibrous to tufted aggregates.

**Physical Properties:** *Cleavage:* {110}, perfect. *Hardness* = 3 *D*(meas.) = 2.436  
*D*(calc.) = 2.431

**Optical Properties:** Transparent. *Color:* Colorless to white, rarely pink; colorless in transmitted light. *Streak:* White. *Luster:* Vitreous, silky in fibrous aggregates.  
*Optical Class:* Biaxial (-). *Orientation:*  $X = a$ ;  $Y = c$ ;  $Z = b$ . *Dispersion:*  $r < v$ , weak.  
 $\alpha = 1.466$   $\beta = 1.542$   $\gamma = 1.596$   $2V$ (meas.) =  $77^\circ$

**Cell Data:** *Space Group:* *Imam*.  $a = 6.759(1)$   $b = 10.425(1)$   $c = 5.585(1)$   $Z = 4$

**X-ray Powder Pattern:** Mont Saint-Bruno, Canada.  
5.67 (10), 2.784 (9), 2.601 (7), 1.988 (7), 1.728 (7), 3.38 (6), 2.151 (6)

Chemistry:	(1)		(2)	
	(1)	(2)	(1)	(2)
CO <sub>2</sub>	31.41	30.56	Na <sub>2</sub> O	21.10
SiO <sub>2</sub>	0.29		K <sub>2</sub> O	0.02
TiO <sub>2</sub>	0.01		H <sub>2</sub> O	11.85
Al <sub>2</sub> O <sub>3</sub>	35.60	35.41	Total	[100.38]
Fe <sub>2</sub> O <sub>3</sub>	0.10			100.00

(1) Glen Davis, New South Wales, Australia; original total given as 100.25%.

(2) NaAl(CO<sub>3</sub>)(OH)<sub>2</sub>.

**Occurrence:** Coating vug walls and fractures in hydrothermally altered feldspathic dikes and hornfels associated with nepheline syenite (Mont Saint-Bruno, Canada); authigenic in alkaline shales and coal-bearing rocks (Green River Formation, USA; Sydney Basin, Australia); in saline soils on nepheline syenite tuffs (Olduvai Gorge, Tanzania).

**Association:** Fluorite, calcite, dolomite, aragonite, pyrite, quartz (Quebec, Canada); analcime, dolomite, quartz, calcite, pyrite, albite, cryolite, halite, fluorite (Green River Formation, USA).

**Distribution:** In Canada, in Quebec, from Mont Royal, on the campus of McGill University, and in the Francon quarry, Montreal Island, Montreal; on Mont Saint-Bruno and as large crystals at Mont Saint-Hilaire; from near Saint-Amable; at Bancroft, Ontario. Abundant in the Green River Formation, Colorado and Wyoming, USA. At Pian Castagnaio and Santa Fiora, near Mt. Amiata, Siena, Tuscany; on Monte Tondo, Terlano, Bolzano, Italy. In the Simplon Tunnel, Valais, Switzerland. At Komana, Drin Valley, Albania. From Lahóca Hill, Recsk, Mátra Mountains, Hungary. In the Khibiny massif, Kola Peninsula, Russia. From near Lake Natron, in the Olduvai Gorge area, Tanzania. From east of Tenès, Algeria. In the Sydney Coal Basin, as at Glen Davis and Muswellbrook, New South Wales, Australia. Additional localities are known.

**Name:** Honors John William Dawson (1820–1899), Canadian geologist and Principal of McGill University, Montreal, Canada.

**Type Material:** McGill University, Montreal, Canada, RMF2381A.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 276–277. (2) Corazza, E., C. Sabelli, and S. Vannucci (1977) Dawsonite: new mineralogical data and structure refinement. *Neues Jahrb. Mineral., Monatsh.*, 381–397. (3) Goldbery, R. and F.C. Loughnan (1970) Dawsonite and nordstrandite in the Permian Berry Formation of the Sydney Basin, New South Wales. *Amer. Mineral.*, 55, 477–490. (4) Smith, J.W. and C. Milton (1966) Dawsonite in the Green River Formation of Colorado. *Econ. Geol.*, 61, 1029–1042. (5) Mandarino, J.A. and D.C. Harris (1965) New Canadian mineral occurrences: I. eucryptite, pollucite, rozenite, epsomite, dawsonite, fairchildite and bütschliite. *Can. Mineral.*, 8, 377–381.

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