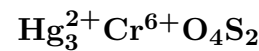


# Edoylerite



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**Crystal Data:** Monoclinic. *Point Group:*  $2/m$ . As acicular to prismatic crystals, elongated along [101], showing {010},  $\{\bar{1}11\}$ , {001}, {101}, to 0.5 mm; typically in stellate aggregates.

**Physical Properties:** *Cleavage:* On {010}, good; on {101}, fair. *Fracture:* Subconchoidal. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 7.11 Photosensitive, turning olive-green after several months exposure.

**Optical Properties:** Transparent to opaque. *Color:* Canary yellow to orangeish yellow; pale gray to bluish gray in reflected light with brilliant pale yellow internal reflections. *Streak:* Yellow. *Luster:* Adamantine.

*Optical Class:* Biaxial. *Pleochroism:* Weak;  $X = Y$  = lemon-yellow;  $Z$  = darker lemon-yellow.

*Orientation:*  $Z = [101]$ ; positive elongation. *Absorption:*  $Z > X = Y$ . *Birefractance:* Weak.

$R_1$ – $R_2$ : (400) 17.5–16.8, (420) 18.0–18.0, (440) 18.2–19.1, (460) 17.9–19.2, (480) 17.3–18.95, (500) 17.0–18.5, (520) 17.1–19.5, (540) 17.0–19.8, (560) 16.8–19.6, (580) 16.6–19.55, (600) 16.3–19.5, (620) 16.2–19.3, (640) 16.1–19.2, (660) 15.95–19.1, (680) 15.8–19.1, (700) 15.7–18.9

**Cell Data:** *Space Group:*  $P2_1/c$ .  $a = 7.5283(4)$   $b = 14.8325(8)$   $c = 7.4629(4)$   
 $\beta = 118.746(1)^\circ$   $Z = 4$

**X-ray Powder Pattern:** Clear Creek claim, California, USA.

3.212 (100), 3.012 (60), 4.88 (50), 5.94 (40), 2.307 (40), 2.185 (40), 2.208 (35)

## Chemistry:

	(1)	(2)
CrO <sub>3</sub>	11.5	12.79
Hg	51.6	51.31
HgO	27.9	27.70
S	8.2	8.20
Total	99.2	100.00

(1) Clear Creek claim, California, USA; by electron microprobe, average of five analyses, Hg and HgO partitioned according to crystal-structure analysis; then corresponding to  $\text{Hg}_{3.26}^{2+}\text{Cr}_{0.97}^{6+}\text{O}_4\text{S}_{2.16}$ . (2)  $\text{Hg}_3^{2+}\text{CrO}_4\text{S}_2$ .

**Occurrence:** A rare alteration product of cinnabar, in a mercury deposit in silicate–carbonate rock hydrothermally altered from serpentinite.

**Association:** Cinnabar, deanesmithite, ferroan magnesite, quartz.

**Distribution:** From the Clear Creek claim, near the Clear Creek mercury mine, New Idria district, San Benito Co., California, USA.

**Name:** To honor Edward H. Oyler (1915–), American mineral collector specializing in mercury minerals.

**Type Material:** Canadian Geological Survey, Ottawa, Canada, 65026; National Museum of Natural History, Washington, D.C., USA, 165270.

**References:** (1) Erd, R.C., A.C. Roberts, M. Bonardi, A.J. Criddle, Y. Le Page, and E.J. Gabe (1993) Edoylerite,  $\text{Hg}_3^{2+}\text{Cr}^{6+}\text{O}_4\text{S}_2$ , a new mineral from the Clear Creek claim, San Benito County, California. Mineral. Record, 24, 471–475. (2) Burns, P.C. (1999) The structure of edoylerite determined from a microcrystal. Can. Mineral., 37, 113–118.