Tatarskite $Ca_6Mg_2(SO_4)_2(CO_3)_2Cl_4(OH)_4 \cdot 7H_2O$

Crystal Data: Orthorhombic (probable). *Point Group:* n.d. As coarsely crystalline masses, to 3 cm.

Physical Properties: *Cleavage:* Two sets of distinct pinacoidal cleavages. Hardness = 2.5 D(meas.) = 2.341 D(calc.) = n.d. Soluble in boiling H_2O.

Optical Properties: Transparent. *Color:* Colorless to very pale yellow. *Luster:* Vitreous, pearly on cleavages.
Optical Class: Biaxial (–). *Orientation:* Positive elongation, parallel extinction. $\alpha = 1.567(2)$ $\beta = 1.654(2)$ $\gamma = 1.722(2)$ 2V(meas.) = n.d. 2V(calc.) = 83°

Cell Data: *Space Group:* n.d. Z = n.d.

X-ray Powder Pattern: Chelkar salt dome, Kazakhstan.
2.967 (10), 2.625 (9), 5.34 (8), 2.004 (8), 2.917 (7), 1.585 (7), 2.522 (6)

Chemistry:

	(1)	(2)
SO_3	15.45	17.09
CO_2	9.60	9.39
SiO_2	0.23	
Al_2O_3	0.25	
MgO	6.78	8.60
CaO	36.32	35.90
Na_2O	1.22	
K_2O	0.78	
F	0.10	
Cl	14.84	15.13
H_2O	17.00	17.30
$-O = (F, Cl)_2$	3.35	3.41
Total	[99.22]	100.00

(1) Chelkar salt dome, Kazakhstan; original total given as 99.61%, stated to correspond to $Ca_{6.14}Mg_{1.60}(K, Na)_{0.26}(SO_4)_2(CO_3)_2Cl_4(OH)_4 \cdot 7H_2O$. (2) $Ca_6Mg_2(SO_4)_2(CO_3)_2Cl_4(OH)_4 \cdot 7H_2O$.

Occurrence: A rare secondary mineral found in drill core in a marine salt deposit.

Association: Anhydrite, halite, bischofite, magnesite, hilgardite.

Distribution: From the Chelkar salt dome, Ak-saĭ Valley, Uralsk district, Kazakhstan.

Name: Honors Professor Vitalii Borisovich Tatarskii (1907–1993), mineralogist, St. Petersburg University, St. Petersburg, Russia.

Type Material: Mining Institute, St. Petersburg, 948/1-2; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 79820.

References: (1) Lobanova, V.V. (1963) The new mineral tatarskite. Zap. Vses. Mineral. Obshch., 92, 697–702 (in Russian). (2) (1964) Amer. Mineral., 49, 1151–1152 (abs. ref. 1). (3) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union. Ocean Pictures, Moscow, 206.