

**NEW MINERALS APPROVED IN 2004
NOMENCLATURE MODIFICATIONS APPROVED IN 2004
BY THE
COMMISSION ON NEW MINERALS AND MINERAL NAMES
INTERNATIONAL MINERALOGICAL ASSOCIATION**

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The information given here is provided by the Commission on New Minerals and Mineral Names, I.M.A., for comparative purposes and as a service to mineralogists working on new species.

Each mineral is described in the following format:

- IMA number
- Type locality
- Corresponding author
- Chemical formula
- Relationship to other minerals
- Crystal system, Space group, Structure determined, yes or no
- Unit-cell parameters
- Interplanar spacing (Å) and intensity of the strongest lines in the X-ray powder-diffraction pattern

The names of these approved species are considered confidential information until the authors have published their descriptions or released information themselves.

This list is also available on the CNMMN website:
<http://sheba.geo.vu.nl/~ima-cnmmn/minerals2004.pdf>

NO OTHER INFORMATION WILL BE RELEASED BY THE COMMISSION

2004 PROPOSALS

IMA No. 2004-001

Little Patsy pegmatite, Jefferson Co., Colorado, USA

William B. Simmons

$[(\text{REE}+\text{Y}),\text{U},\text{Th},\text{Ca},\text{Fe},\dots](\text{Nb},\text{Ta},\text{Ti})\text{O}_4$ with Yb as dominant REE

Yb-dominant analogue of samarskite

Monoclinic: $P2/c$

a 5.687 b 9.918, c 5.201 Å, β 93.18° (for heated material)

3.664(21), 3.086(25), 2.981(100), 1.895(12), 1.865(20), 1.769(15), 1.746(12), 1.587(20)

IMA No. 2004-002

Tastyg spodumene deposit, Tuva, Siberia, Russia

Roberta Oberti

$\text{NaLi}_2(\text{Mg}_2\text{Al}_2\text{Li})_{\Sigma 5}\text{Si}_8\text{O}_{22}\text{F}_2$

Amphibole group

Monoclinic: $C2/m$; Structure determined

a 9.357, b 17.580, c 5.267 Å, β 102.37°

8.11(56), 4.39(54), 3.371(43), 3.002(66), 2.869(26), 2.675(100)

IMA No. **2004-003**

Findlay Gulch, Saguache Co., Colorado, USA

Luca Bindi

$\text{Ag}_3\text{HgPbSbTe}_5$

Strong similarities with petrovicite

Orthorhombic: $Pna2_1$ or $Pnam$ (probably)

a 16.495, b 14.762, c 4.506 Å

3.65(60), 3.60(40), 3.26(50), 3.17(60), 3.01(100), 2.754(60), 2.316(45), 2.137(50), 1.806(55)

IMA No. **2004-004**

Tahara, Hirukawa-mura, Ena-gun, Gifu Prefecture, Japan

Satoshi Matsubara

$\text{Ce}_2\text{Be}_2(\text{SiO}_4)_2(\text{OH})_2$

Gadolinite group

Monoclinic: $P2_1/a$

a 9.8973, b 7.6282, c 4.7505 Å, β 90.416°

6.06(42), 3.74(37), 3.44(34), 3.13(86), 2.85(100), 2.56(46), 2.21(33), 1.976(30)

IMA No. **2004-005**

Palitra pegmatite, Lovozero, Kola Peninsula, Russia

Igor V. Pekov

CsFe_2S_3

Cs-dominant analogue of rasvumite and picotpaulite

Orthorhombic: $Cmcm$

a 9.477, b 11.245, c 5.485 Å

4.69(30), 4.28(20), 2.981(100), 2.723(40), 2.003(30), 1.910(60), 1.785(30), 1.565(40)

IMA No. **2004-006**

ca. 7.5 km southwest of Wolf Mountain, Thunder Bay District, Ontario, Canada

Anton R. Chakhmouradian

$(\text{Ca},\text{Na})_5[(\text{P},\text{S})\text{O}_4]_3(\text{OH},\text{Cl})$

Apatite group

Monoclinic: $P2_1/b$

a 9.445, b 18.853, c 6.8783 Å, γ 120.00°

2.817(66), 2.781(41), 2.724(79), 2.630(24), 2.267(100), 1.945(39), 1.841(58), 1.784(70)

IMA No. **2004-007**

Mesamax Northwest deposit, Cape Smith, Ungava region, Canada

Louis J. Cabri

Pd_2Sb

Orthorhombic: $Cmc2_1$

a 3.3906, b 17.5551, c 6.957 Å

2.407(34), 2.303(35), 2.245(100), 2.057(52), 2.001(40), 1.367(35), 1.284(42), 1.212(50)

IMA No. **2004-008**

Eveslogchorr Mountain, Khibiny massif, Kola Peninsula, Russia

Igor V. Pekov



Labuntsovite group

Monoclinic: *Cm*; Structure determined

a 14.490, *b* 14.23, *c* 7.881 Å, β 117.28°

7.10(90), 6.45(50), 5.01(40), 3.230(100), 3.135(80), 2.510(80), 1.728(50), 1.570(45)

IMA No. **2004-009**

Dora-Maira massif, Vallone di Gilba, Val Varaita, Piemonte, Italy

Christian Chopin



Triplite-triploidite group

Monoclinic: *P2₁/c*

a 9.646, *b* 12.7314, *c* 11.980 Å, β 108.38°

3.292(50), 3.117(66), 2.984(100), 2.851(80), 2.752(28), 2.710(19), 2.484(14)

IMA No. **2004-010**

Shergotty SNC meteorite

Charles T. Prewitt



Polymorphous with quartz

Orthorhombic: *Pbcn* or *Pb2n*; Structure determined

a 4.097, *b* 5.0462, *c* 4.4946 Å

3.181(72), 2.596(100), 1.970(25), 1.938(64), 1.514(31), 1.499(44), 1.288(19), 1.265(15)

IMA No. **2004-011**

Kumdy-Kul, Kokchetav, Kazakhstan

Shyh-Lung Hwang



Feldspar group

Hexagonal: probably *P6/mmm*

a 5.27, *c* 7.82 Å

7.82, 4.56, 3.94, 2.97, 2.63, 2.50, 2.26, 1.80

IMA No. **2004-012**

Dara-i-Pioz glacier, Tajikistan

Leonid A. Pautov



Mica group

Monoclinic: *C2/m*, *C2* or *Cm*

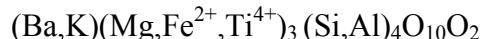
a 5.182, *b* 9.005, *c* 10.692 Å, β 99.82°

3.897(49), 3.682(80), 3.418(65), 3.174(100), 2.980(41), 2.634(79), 2.582(66), 2.107(94)

IMA No. **2004-013**

Fernando-do-Noronha Island, Brazil

Frank C. Hawthorne



Mica group

Monoclinic: $C2/m$; Structure determined

a 5.3516, b 9.2817, c 10.0475 Å, β 100.337°

3.646(7), 3.383(6), 3.130(7), 2.902(5), 2.637(10), 2.435(5), 2.172(9), 1.988(5)

IMA No. **2004-014**

Le Coreux, Ardennes, Belgium

Werner Schreyer

$\text{La}_3\text{Mn}^{2+}_3\text{Cu}^{2+}(\text{Mn}^{3+}, \text{Fe}^{3+}, \text{Mn}^{4+})_{26}(\text{Si}_2\text{O}_7)_6\text{O}_{30}$

New structure type determined

Trigonal: $P3_1$

a 11.525, c 33.347 Å

11.116(18) 5.446(31), 3.1873(19), 2.7789(40), 2.7232(100), 2.3702(29), 1.6887(28),

1.6635(40)

IMA No. **2004-015**

Central Pyrenees, France

Christian Chopin

$(\text{Mn}^{2+}, \text{Ca})(\text{REE})\text{V}^{3+}\text{AlMn}^{2+}(\text{Si}_2\text{O}_7)(\text{SiO}_4)\text{O}(\text{OH})$, with Ce as dominant REE

Epidote group

Monoclinic: $P2_1/m$; Structure determined

a 8.856, b 5.729, c 10.038 Å, β 113.088°

3.5004, 2.8891, 2.8645, 2.7114, 2.7023, 2.6124, 2.5916

IMA No. **2004-016**

Silver Gill mine, Cumbria, United Kingdom

Joseph J. Pluth

$\text{Cu}_6(\text{OH})_{10}(\text{SO}_4)\cdot\text{H}_2\text{O}$

Langite group

Monoclinic: $P2_1/c$; Structure determined

a 3.155, b 10.441, c 19.436 Å, β 90.089°

9.72(90), 7.11(100), 4.60(30), 4.068(20), 2.880(30), 2.318(50), 2.000(15), 1.941(15)

IMA No. **2004-017**

Dara-i-Pioz glacier, Tajikistan

Leonid A. Pautov

$\text{CsKNaCa}_2\text{TiO}[\text{Si}_7\text{O}_{18}(\text{OH})]$

Cs-dominant analogue of tinaksite

Triclinic: $P\bar{1}$; Structure determined

a 10.4191, b 12.2408, c 7.0569 Å, α 90.857, β 99.193, γ 91.895°

4.08(13), 3.33(11), 3.25(16), 3.14(21), 3.06(100), 2.959(20), 2.038(17)

IMA No. **2004-018**

Mariposa mine, Texas, USA

Andrew C. Roberts

$\text{Hg}^{2+}_3\text{O}_2\text{Cl}_2$

Oxyhalide with Hg

Orthorhombic: $Imam$, $Imcm$, $Ima2$, or $I2cm$

a 6.737, b 25.528, c 5.533 Å

5.413(30), 4.063(80), 3.201(50), 3.023(50), 2.983(60), 2.858(30), 2.765(50), 2.518(100)

IMA No. **2004-019**

Qaqarssuk complex, Greenland

Joel D. Grice

Ba(Ce,REE)(CO₃)₂F

Polymorph of huanghoite-(Ce)

Trigonal: *P3*; Structure determined

a 7.2097, *c* 18.187 Å

4.552(43), 3.674(32), 3.539(41), 3.351(100), 3.096(40), 2.571(35), 2.109(39), 2.080(60)

IMA No. **2004-020**

Mesamax Northwest deposit, Québec, Canada

Louis J. Cabri

Pd₄Sb₃

Pd-dominant analogue of genkinite

Tetragonal: *P4*₁*2*₁*2*, *P4*₁*22*, *P4*₃*2*₁*2*, *P4*₂*2*₁*2*, or *P4*₂*22*

a 7.7388, *c* 24.145 Å

3.0077(90), 2.2633(100), 2.1471(30), 1.9404(60), 1.2465(30), 1.2002(30), 0.9221(30)

IMA No. **2004-021**

Kovdor massif, Kola Peninsula, Russia

Victor N. Yakovenchuk

Co₃(PO₄)₂·8H₂O

Vivianite group

Monoclinic: *C2/m*

a 10.034, *b* 13.341, *c* 4.670 Å, β 105.02°

6.67(10), 4.85(4), 3.84(4), 3.195(6), 2.948(7), 2.691(7), 2.521(6), 2.408(6)

IMA No. **2004-022**

Horní Halže, Krušné Hory Mts., Czech Republic

Jiří Sejkora

Pb₂(UO₂)₁₁(BiO)₈(PO₄)₅(OH)₁₉·6H₂O

P-dominant analogue of asselbornite

Cubic: *Im3m*, *I432*, *Im3* or *I23*

a 15.5728 Å

5.513(53), 4.499(48), 4.163(100), 3.671(77), 3.484(31), 3.179(99), 2.596(54), 1.9776(30)

IMA No. **2004-023**

Kara-Oba deposit, Kazakhstan

Leonid A. Pautov

Ca₃(Nd,Y)Al₂(SO₄)F₁₃·12H₂O

Nd-dominant analogue of chukhrovite

Cubic: *Fd3*

a 16.759 Å

9.7(10), 5.92(7), 4.20(4), 3.22(8), 2.555(7), 2.240(5), 2.180(6), 1.827(5)

IMA No. **2004-024**

Kara-Tangi deposit, Kyrgyzstan

Leonid A. Pautov

ZnAl₄(SO₄)(OH)₁₂·3H₂O

Zn-dominant analogue of chalcoalumite

Monoclinic: $P2_1/n$

a 10.246, b 8.873, c 17.22 Å, β 96.41°

8.60(100), 7.93(70), 4.83(80), 4.27(100), 2.516(70), 2.292(80), 1.998(95), 1.896(65)

IMA No. **2004-025**

Tolbachik volcano, Kamchatka Peninsula, Russia

Sergey V. Krivovichev

$\text{Cu}^+\text{Cu}^{2+}_5\text{PbO}_2(\text{SeO}_3)_2\text{Cl}_5$

New structure type determined

Monoclinic: $C2/m$

a 18.468, b 6.1475, c 15.314 Å, β 119.284°

3.86(80), 3.55(80), 3.08(100), 2.504(20), 1.710(30), 1.543(50), 1.448(30), 1.348(40)

IMA No. **2004-026**

Poudrette Quarry, Mont Saint-Hilaire, Rouville County, Quebec, Canada

Joel D. Grice

$\text{Na}_{12}(\text{Ce,REE,Sr})_3\text{Ca}_6\text{Mn}_3\text{Zr}_3\text{W}(\text{Si}_{25}\text{O}_{73})(\text{OH})_3(\text{CO}_3)\cdot\text{H}_2\text{O}$

Eudialyte group

Trigonal: $R3m$; Structure determined

a 14.249, c 30.06 Å

11.308(95), 9.460(81), 3.547(36), 3.395(38), 3.363(32), 3.167(75), 2.968(100), 2.849(81)

IMA No. **2004-028**

Mina Challacollo, Chile

Jochen Schlüter

KPb_2Cl_5

New structure type determined

Monoclinic: $P2_1/c$

a 8.864, b 7.932, c 12.491 Å, β 90.153°

8.8547(39), 5.3350(14), 3.9614(31), 3.6859(100), 3.6093(13), 2.6691(42), 2.5483(18)

IMA No. **2004-029**

La Creusaz, Valais, Switzerland, and Radium Ridge, South Australia

Joël Brugger

$(\text{Ce,Nd,Ca})[(\text{UO}_2)_3\text{O}(\text{OH})(\text{PO}_4)_2]\cdot 6\text{H}_2\text{O}$

Related to phosphuranyllite group

Monoclinic: $P2_1/c$

a 9.295, b 15.53, c 13.718 Å, β 112.39°

7.76(100), 5.77(60), 4.42(30), 4.37(30), 3.87(60), 3.43(70), 3.14(80), 2.038(40)

IMA No. **2004-030**

Greenbushes, Western Australia

Roberta Oberti

$\square\text{Li}_2(\text{Fe}^{2+}_3\text{Al}_2)_{\Sigma 5}(\text{Si}_8\text{O}_{22})(\text{OH})_2$

Amphibole group

Orthorhombic: $Pnma$; Structure determined

a 18.287, b 17.680, c 5.278 Å

8.11(100), 4.42(26), 3.62(13), 3.00(48), 2.797(17), 2.648(14), 2.536(11)

IMA No. **2004-031**

Nagybörzsöny ore deposit, Börzsöny Mountains, Hungary

Werner Paar



Monoclinic: $F2/m$, $F2$ or Fm

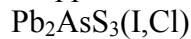
a 18.329, b 4.108, c 13.974 Å, β 100.90°

9.002(40), 6.876(30), 6.046(20), 3.460(30), 3.382(40), 2.959(100), 2.101(50), 2.086(50)

IMA No. **2004-032**

Mutnovsky volcano, Kamchatka Peninsula, Russia

Filippo Vurro



Orthorhombic: $Pnma$; Structure determined

a 11.543, b 6.6764, c 9.359 Å

4.690(32), 4.370(67), 3.340(73), 3.190(100), 2.715(61), 2.648(66), 2.539(31), 1.894(30)

IMA No. **2004-033**

Koashva Mountain, Khibiny massif, Kola Peninsula, Russia

Igor Pekov



Orthorhombic: $Pmmm$

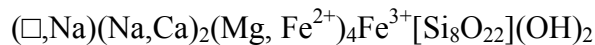
a 5.147, b 7.289, c 5.889 Å

5.12(40), 4.21(40), 3.69(30), 3.104(100), 2.727(50), 2.292(50), 1.897(70), 1.828(50)

IMA No. **2004-034**

Ilmen Mountain Ridge, South Ural, Russia

Alfred G. Bazhenov



Amphibole group

Monoclinic: $C2/m$

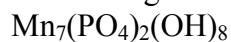
a 9.811, b 18.014, c 5.295 Å, β 104.10°

8.42(100), 3.391(10), 3.268(13), 3.116(60), 2.800(10), 2.711(20)

IMA No. **2004-035**

Iron Monarch quarry, Iron Knob, South Australia

Allan Pring



Monoclinic: $P2_1/c$; Structure determined

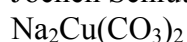
a 11.364, b 5.570, c 10.455 Å, β 96.61°

4.436(70), 3.621(100), 3.069(50), 2.941(40), 2.890(20), 2.842(20), 2.780(35), 2.718(20)

IMA No. **2004-036**

Mina Santa Rosa, Iquique, Chile

Jochen Schlüter



Monoclinic: $P2_1/a$

a 6.171, b 8.171, c 5.645 Å, β 116.23°

5.06(66), 4.57(57), 4.30(37), 4.26(75), 2.666(100), 2.619(65), 2.450(33), 2.390(25)

IMA No. **2004-037**

Mány coal deposit, Tatabánya, Hungary

István E. Sajó

$\text{CaAl}_2(\text{CO}_3)_2(\text{OH})_4 \cdot \text{H}_2\text{O}$

Dresserite group

Orthorhombic: *Pnma*

a 15.564, *b* 5.591, *c* 9.112 Å

7.86(87), 7.78(62), 5.92(100), 4.37(86), 2.957(48), 2.946(44), 2.569(17), 1.902(26)

IMA No. **2004-038**

Krásno near Horní Slavkov, Bohemia, Czech Republic

Jiří Sejkora

$\text{Cu}_{13}(\text{AsO}_4)_6(\text{AsO}_3\text{OH})_4 \cdot 23\text{H}_2\text{O}$

Triclinic: $P\bar{1}$; Structure determined

a 6.408, *b* 14.491, *c* 16.505 Å, α 102.87, β 101.32, γ 97.13°

15.70(3), 11.98(100), 6.99(3), 5.99(6), 3.448(5), 2.967(5), 2.895(3), 2.400(4)

IMA No. **2004-040**

Iron Mine, Kovdor massif, Kola Peninsula, Russia

Nikita V. Chukanov

$\text{Na}_9(\text{Ca},\text{Na})_6\text{Ca}_6\text{Fe}_2\text{Zr}_3\text{Si}_{25}\text{O}_{72}(\text{CO}_3)(\text{OH})_4$

Eudialyte group

Trigonal: $R3m$; Structure determined

a 14.232, *c* 30.210 Å

4.31(64), 3.213(100), 3.163(44), 3.027(65), 2.977(91), 2.859(79), 2.703(46), 2.595(45)

IMA No. **2004-041**

Linópolis, Divino das Laranjeiras, Minas Gerais State, Brazil

Nikita V. Chukanov

$\text{Ca}_2\text{Fe}^{2+}\text{Mg}_2\text{Fe}^{2+}_2\text{Be}_4(\text{PO}_4)_6(\text{OH})_4 \cdot 6\text{H}_2\text{O}$

Related to roscherite

Triclinic: $P\bar{1}$; Structure determined

a 6.668, *b* 9.879, *c* 9.883 Å, α 73.53, β 85.60, γ 86.93°

9.47(41), 5.92(100), 3.31(34), 3.17(53), 2.784(86), 2.639(30), 2.225(26), 2.202(32)

IMA No. **2004-043**

Farnese, Viterbo province, Latium, Italy

Giancarlo Della Ventura

$(\text{Na}_{37}\text{K}_9\text{Ca}_{10})_{\Sigma 56}(\text{Si}_{42}\text{Al}_{42})_{\Sigma 84}\text{O}_{168}(\text{SO}_4)_{12} \cdot 6\text{H}_2\text{O}$

Cancrinite-sodalite group

Hexagonal: $P6_3/m$; Structure determined

a 12.8784, *c* 37.0078 Å

5.404(20), 3.862(23), 3.722(100), 3.668(26), 3.485(65), 3.119(36), 2.648(32), 2.149(34)

IMA No. **2004-044**

Fianel Alp, Ferrera valley, Graubünden, Switzerland

Joël Brugger

$\text{Na}(\text{Mn},\text{Mg},\text{Zn})_9[\text{VSi}_9\text{O}_{28}(\text{OH})](\text{OH})_3$

Related to saneroite

Triclinic: $P\bar{1}$; Structure determined

a 9.831, b 10.107, c 13.855 Å, α 86.222, β 73.383, γ 71.987°
8.68(50), 7.91(70), 4.83(30), 3.94(30), 3.22(40), 3.09(80), 2.92(40), 2.71(100)

IMA No. **2004-045**

Arnold mine, Fowler, St. Lawrence Co., New York, USA

Roberta Oberti



Amphibole group

Monoclinic: $C2/m$; Structure determined

a 9.7807, b 18.0548, c 5.2928 Å, β 104.19°

9.027(54), 8.395(62), 3.395(62), 3.269(56), 3.113(80), 2.950(51), 2.713(100), 2.531(59)

IMA No. **2004-046**

Skaergaard Intrusion, Greenland

Andy McDonald



Tetragonal: $I4/mmm$

a 3.715, c 14.651 Å

3.657(60), 2.138(100), 1.8604(70), 1.8337(40), 1.3049(60), 1.1188(55), 1.0655(30),
0.8459(25)

IMA No. **2004-047**

Buraco do Ouro gold mine, Cavalcante, Goiás State, Brazil.

Nilson F. Botelho



Gersdorffite group

Cubic: $Pa\bar{3}$

a 6.089 Å

3.027(75), 2.725(65), 2.478(65), 1.838(100), 1.077(80), 0.988(70), 0.929(90), 0.918(70)

IMA No. **2004-048**

Skrikerum, Sweden

Luca Bindi



Tetragonal: $I4_1/amd$

a 8.939, c 11.844 Å

4.47(60), 2.891(85), 2.813(80), 2.552(50), 2.473(75), 2.426(100), 2.162(70), 2.034(60)

IMA No. **2004-049**

Kasagu-mura, Gifa Prefecture, Japan

Yasuyuki Banno



Mica group

Monoclinic: $C2/m$; Structure determined

a 5.291, b 9.16, c 10.12 Å, β 105.1°

9.77(100), 4.59(25), 3.26(50), 2.61(100), 2.55(25), 2.45(20), 2.19(20)

Triclinic: $C\bar{1}$; Structure determined

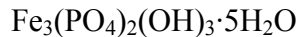
a 5.289, b 9.16, c 9.892 Å, α 94.45, β 97.74, γ 90.0°

9.73(80), 4.57(40), 3.26(40), 2.62(100), 2.55(30), 2.43(25), 2.19(25), 2.17(25)

IMA No. **2004-050**

Grube Mark near Essershausen, Taunus, Hesse, Germany

Uwe Kolitsch



Wavellite group

Monoclinic: $P2_1/n$; Structure determined

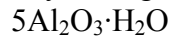
a 9.777, b 7.358, c 17.830 Å, β 92.19°

8.90(100), 8.41(60), 5.870(50), 4.873(30), 3.600(50), 3.357(40), 3.231(80), 2.177(20)

IMA No. **2004-051**

Kulet Kol region, Kokchetav massif, Kazakhstan

Shyh-Lung Hwang



Hexagonal: $P6_3mc$; Structure determined

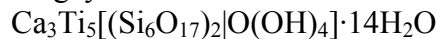
a 5.58, c 8.86 Å

4.839, 4.423, 4.231, 2.783, 2.530, 2.361, 1.673, 1.435, 1.417

IMA No. **2004-052**

Chivruai river valley, Lovozero massif, Kola Peninsula, Russia

Sergey V. Krivovichev



Zorite group

Orthorhombic: $Cmmm$; Structure determined

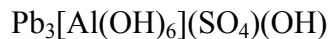
a 7.17, b 22.98, c 6.94 Å

11.6(10), 6.91(9), 5.23(5), 3.41(5), 3.35(5), 3.04(8), 2.97(4), 2.58(5)

IMA No. **2004-053**

Mt. Lepkhe-Nelm, Lovozero massif, Kola Peninsula, Russia

Victor N. Yakovenchuk



New structure type determined

Trigonal: $R3c$

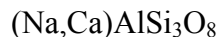
a 7.693, c 31.57 Å

3.58(10), 3.10(6), 2.591(9), 2.216(5), 2.048(7), 1.893(5), 1.859(4), 1.704(8)

IMA No. **2004-054**

Sixiangkou L6 chondrite

Ahmed El Goresy



Feldspar group

Tetragonal: $I4/m$

a 9.263, c 2.706 Å

6.55(66), 4.63(60), 2.931(100), 2.265(35), 2.032(85), 1.737(37), 1.543(33), 1.450(42)

OLDER PROPOSALS

IMA No. **2003-031a**

Aitern-Süd, Black Forest, Germany

Kurt Walenta



Mixite group

Hexagonal: $P6_3/m$

a 13.77, c 5.94 Å

12.01(10), 4.51(6), 3.60(8), 3.31(5), 2.98(6), 2.74(5), 2.61(5), 2.49(7), 1.817(5)

IMA No. **99-004a**

Kudriavy volcano, Iturup Island, Kuriles, Russia

Ilya V. Chaplygin

ReS₂

Triclinic: $P\bar{1}$; Structure determined

a 6.470, b 6.368, c 6.401 Å, α 105.0, β 91.59, γ 118.90°

2.7834(10), 2.764(10), 2.733(10), 2.642(8), 2.404(8), 2.371(9), 2.1035(8), 2.0914(9)

IMA No. **2003-045a**

Heftetjern pegmatite, southern Norway

Frank C. Hawthorne

(Sc,Ca)₂KBe₃Si₁₂O₃₀

Milarite group

Hexagonal: $P6/mmc$; Structure determined

a 10.097, c 13.991 Å

7.012(4), 5.044(5), 4.097(7), 3.504(5), 3.229(10), 2.880(8), 1.836(4), 1.751(4)

IMA No. **2002-042a**

Aris intrusion, Namibia

Fernando Cámara

Na₃La[Si₆O₁₅]·2H₂O

La-dominant analogue of sazhinite

Orthorhombic: $Pmm2$; Structure determined

a 7.415, b 15.515, c 7.164 Å

7.42(59), 6.50(48), 5.36(60), 5.26(68), 3.411(100), 3.345(45), 3.252(83), 3.226(45)

NOMENCLATURE OF A MINERAL GROUP

Application and status of the amphibole nomenclature: discrimination between approved amphiboles and named amphiboles

New root names for amphibole species can only be proposed when new heterovalent substitutions (= substitutions not mentioned in the 1997 and 2003/4 amphibole reports) have been observed in natural material; such material consists of a new amphibole species, and **it must be submitted to the CNMMN with its new root or trivial name, and it should fulfil the requirements asked for all new mineral species**. If approved, these new amphiboles receive *A* status in IMA listings.

New amphibole names originating from new homovalent substitutions are always formed by use of an appropriate prefix to an existing root or trivial name, according to the schemes of the 1997 and 2003/4 reports. **The status of such new amphibole names will depend on their authors: they will have the choice to submit the new amphibole to the CNMMN for approval, or not.**

This will lead to two categories of amphibole species:

Approved amphiboles

An amphibole is considered as an approved species and receives *A* status in the IMA listing if it has been submitted to, and approved by the CNMMN, according to the usual rules applied to all new mineral species. New root names need CNMMN approval.

Named amphiboles

Those researchers who have not enough data to prepare a regular new-mineral proposal, or just are not willing to submit a proposal for whatever reason, may give a name to their amphibole according to the 1997 and 2003/4 amphibole nomenclature schemes and publish it. These amphibole names, however, will not receive *A* status and will not be included in the official IMA listings, because the material to which such a name was applied has not been investigated according to the rules for a new species. **Authors not seeking approval run the risk that other researchers will submit their own material for species approval with the same name.**

A proper order for the use of prefixes in amphibole names

The approved ordering scheme does not split any of the 'end-member' names, as listed in 1997 & 2003/04 amphibole reports, nor any of the names that appear in the nomenclature figures. It is not possible to implement any scheme of prefix order based on systematically increasing or decreasing elements according to valencies, or of M1, M2, M3 & M4 order, without splitting the existing 'end-member' names. So the approved scheme is:

1. Any magnesio or ferro prefixes come immediately in front of the root name.
2. Alumino, ferri, ferric, mangani or chromio prefixes come next in front.
[More than one together is not known].
3. The very first (*i.e.*, at the front) prefix is proto, parvo or magno.
4. Next after (3) come any anions, chloro, or fluoro.
5. Finally any remaining prefixes come after (4) and before (2) being in alphabetical order.

Prefixes are hyphenated except that the prefix immediately before the root name is joined to the root name without a hyphen, unless two vowels would then come together or it would be unclear (see 1997 amphibole report).

The decisions on named amphiboles and the order of prefixes in amphibole names have been published by Burke & Leake [Canadian Mineralogist, 42 (2004), 1881-1883; American Mineralogist, 90 (2005), 516-517].

MONTHLY ANNOUNCEMENT OF NEW MINERALS ON THE CNMMN WEBSITE

After approval of a new mineral by the CNMMN, the following data will be published one month after the approval date of the CNMMN website:

- IMA number
- Type locality
- Corresponding author
- Chemical formula
- Relationship to other minerals
- Crystal system, Space group, Unit-cell parameters
- Structure determined, yes or no
- Strongest lines in the X-ray powder-diffraction pattern

DISCREDITATION

The approval of proposal 2004-002 implies the official discreditation of clinoholmquistite, as holotype material from the latter mineral was used for the description of the former, new mineral. Clinoholmquistite is now only a theoretical name in the amphibole nomenclature system.

RENAMED MINERAL

IMA No. 04-A: cesium kupletskite is renamed as kupletskite-(Cs).