

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Crystals typically tabular on {001}, to 10 cm; porphyroblastic, granular. *Twinning:* Lamellar on {010}, simple on {001}, uncommon.

Physical Properties: *Cleavage:* Perfect on {110}, { $\bar{1}10$ }, (110) \wedge ($\bar{1}10$) = 92°; poor on {010}, {001}. Hardness = 5.5–6 D(meas.) = 3.61–3.80 D(calc.) = [3.75]

Optical Properties: Semitransparent. *Color:* Pink, red, commonly covered with brown or black oxidation products; colorless to faint lilac in thin section. *Luster:* Pearly to vitreous. *Optical Class:* Biaxial (+). *Dispersion:* $r > v$, moderate. $\alpha = 1.728$ – 1.748 $\beta = 1.730$ – 1.742 $\gamma = 1.746$ – 1.758 $2V(\text{meas.}) = 37^\circ$ – 46°

Cell Data: *Space Group:* $C\bar{1}$. $a = 9.690$ $b = 10.505$ $c = 17.391$ $\alpha = 112.17^\circ$ $\beta = 102.85^\circ$ $\gamma = 82.93^\circ$ $Z = 14$

X-ray Powder Pattern: Synthetic.

2.967 (100), 2.188 (45), 4.73 (35), 2.680 (35), 1.422 (30), 3.47 (25), 3.04 (25)

Chemistry:

| | |
|--------------------------------------|--------|
| | (1) |
| SiO ₂ | 45.74 |
| Al ₂ O ₃ | trace |
| Fe ₂ O ₃ | trace |
| FeO | 0.39 |
| MnO | 52.42 |
| MgO | 0.68 |
| CaO | 0.46 |
| Na ₂ O + K ₂ O | 0.05 |
| H ₂ O | 0.32 |
| Total | 100.06 |

(1) Ajiro mine, Gifu Prefecture, Japan; corresponds to (Mn_{0.93}²⁺Mg_{0.02}Ca_{0.01})_{Σ=0.96}Si_{0.96}O₃.

Polymorphism & Series: Forms a series with pyroxferroite.

Occurrence: In regionally metamorphosed manganese ore deposits and manganese rocks, perhaps with lower temperature history than rhodonite-bearing rocks.

Association: Spessartine, tephroite, alleghanyite, hausmannite, pyrophanite, alabandite, rhodonite, rhodochrosite.

Distribution: Exceptional material in the Taguchi and other mines, Shidara, Aichi Prefecture; from Iwaizumi, Iwate Prefecture; and at many other places in Japan. Large crystals at Broken Hill, New South Wales, Australia. From Simsiö, Lapua, Finland. In Sweden, at Fillinge. From Glen Beag, Glenelg district, Inverness-shire, Scotland. In the USA, in Colorado, from the American tunnel, Silverton, San Juan Co., the Galena district, Hinsdale Co., and the Idarado mine, Ouray Co.

Name: A combination of PYROXene and MANGanese, in allusion to the mineral's structure and composition.

Type Material: "Type material" from Iva, South Carolina, USA, has been redefined as pyroxferroite, as Fe > Mn.

References: (1) Ford, W.E. and W.M. Bradley (1913) Pyroxmangite, a new member of the pyroxene group and its alteration product, skemmatite. *Amer. J. Sci.*, 36, 169–174. (2) Deer, W.A., R.A. Howie, and J. Zussman (1978) *Rock-forming minerals*, (2nd edition), v. 2A, single-chain silicates, 601–613. (3) Ohashi, Y. and L.W. Finger (1975) Pyroxenoids: a variation in chemistry of natural rhodonites and pyroxmangites. *Carnegie Inst. Washington, Ann. Rep.*, 1974–1975, 561–564. (4) Maresch, W.V. and A. Mottana (1976) The pyroxmangite-rhodonite transformation for the MnSiO₃ composition. *Contr. Mineral. Petrol.*, 55, 69–79.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.