10071 **Han blue,** barium copper frit

Chemical composition: $BaCuSi_4O_{10}$

In nature there are only a few blue colors. In Mesopotamia near Ur and Assur there is cobalt ore - accordingly there they invented smalt. In Egypt there is no cobalt, only copper, therefore the Egyptians invented Egyptian-blue. For a long time the Chinese blue of the Han time was a mystery. Today can we offer this somewhat reddish blue barium copper frit.

Chinese-blue or magenta are full-synthetic pigments - they were created about 2600 years ago by early experiments of Chinese chemists. The chemical composition of Chinese-blue is $BaCuSi_4O_{10}$, and Chinese magenta $BaCuSi_2O_6$. Both of them are barium copper silicates, made from a barium mineral (for example barytes), a copper mineral (for example malachite or azurite) and sand (quartz) at about 1000°C. Investigations showed that Chinese magenta contains a copper-copper connection. Chemical bonds between metals are, except in metals themselves, a chemical peculiarity, and for today's experts this is kind of a sensation, that the early Chinese chemists could already produce this bond in Chinese magenta, chemically a ceramic material.
Probably the recipes of Chinese blue and Chinese magenta are based on Egyptian-blue ($CaCuSi_4O_{10}$), a man made pigment too, invented by the Egyptians 5000 years ago, obviously from lack of stable natural blue pigments.
(Source: www.unicom.unizh.ch/journal/archiv/3-99/terracotta.html)

Kremer Pigmente GmbH & Co. KG · Hauptstr. 41-47 · DE-88317 Aichstetten ·Tel. 0049 7565 914480 · info@kremer-pigmente.com · www.kremer-pigmente.com