10300 and more - Malachite

Chemical composition : $CuCO_3.Cu(OH)_2$

10300	Malachite, 0 - 120 µ
10310	Malachite, 0 - 80 µ
10341	Malachite MP, 100 - 125 µ
10343	Malachite MP, 80 - 100 µ
10344	Malachite MP, 63 - 80 µ
10345	Malachite MP, 0 - 63 µ
10346	Malachite MP, 0 - 20 µ
103600	Malachite fibres, 0 - 120 µ
103601	Malachite fibres, 0 - 80 µ
103700	Malchite, Arabian, 0 - 120 µ
103701	Malchite, Arabian, 0 - 80 µ
1674108	Malachite MATSUBA-ROKUSYOU, Nr. 8
1674110	Malachite MATSUBA-ROKUSYOU, Nr. 10
1674112	Malachite MATSUBA-ROKUSYOU, Nr. 12
1674114	Malachite MATSUBA-ROKUSYOU, Nr. 14
44400	Malachite synthetic

Malachite is perhaps the oldest known bright green pigment. It is the natural basic copper carbonate and is similar in composition to the blue basic copper carbonate, azurite, except that it contains a greater amount of combined water. Like azurite it occurs in many parts of the world and is associated with secondary copper ore deposits.
Malachite was used in ancient Egypt for eye-paint as early as predynastic times and was found on Fourth Dynasty tomb paintings. Curiously, malachite was not used in paintings extensively as azurite in Europe. It is also less frequently mentioned in written sources. Malachite was found to be used extensively along with azurite in Western Chinese paintings of the ninth to the tenth centuries. It was also reported on seventh- to eight-century Buddhist wall paintings in Japan.

Classical and medieval writings refer to malachite as "chrysocolla", a word derived from the Greek words for *gold* and *glue* because the ancients used it in soldering gold. The current term chrysocolla was given my mineralogists to the blue-green natural cryptocrystalline hydro silicate of copper (see chrysocolla). Malachite is prepared as a pigment by careful selection, grinding and sieving. In transmitted light coarse particles are dark green and fine particles are a pale green. If the particles are too finely ground it becomes too pale for practical use. Because malachite is produced by crushing and grinding, all the particles have a fractured appearance. Many larger particles have a fibrous structure and it is not uncommon to find particles of associated minerals such as azurite, chrysocolla and cuprite. Under the microscope malachite particles show a pale greenish color by transmitted light.
Malachite is stable to light and normal atmosphere. Malachite has a moderately low refractive index, and is thus more satisfactory in tempera and in an oil-medium.

Malachite is also suitable for the technique of true fresco. It is the most important green up until the 18th century. Its properties are similar to azurite: it turns yellowish green in oil, is permanent in frescos when mixed up fresh with lime, and is suitable for tempera.

Our raw malachite is from eastern Congo in Africa.
This is a very crude ore. We first separate by hand, then we separate by shaking table method, and finally by levitation. The MP-process is orientated on old recipes of European and Chinese treatments of mineral pigments. This process inactivates the reactivity of the minerals – to a certain extent – and “cleans” the surface.

On every crystal there are points of lower perfection. These points have a higher reactivity. The MP-process covers and reduces the reactivity at these areas. Little particles are attached to bigger particles, making the separation of different size particles difficult. The MP-process facilitates this separation.

Dr. Georg Kremer, Dipl.-Chemiker, Farbmühle, D-88317 Aichstetten/Allgäu, Telefon +49-7565-914480, Telefax +49-7565-1606
kremer-pigmente@t-online.de, www.kremer-pigmente.com