

Materiały pomocnicze do ćwiczenia XRF

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Próbki farb: krążki tektury pomalowane są farbami akrylowymi. Informacje z opakowania: farby akrylowe 12x12ml, wyprodukowano w Chinach, Shanghai siic marie painting materials co. ltd., strona producenta: www.chinamaries.com

Nazwy kolorów często związane są z używanymi pigmentami i bardzo ułatwiają rozpoznanie jaki pigment – związek chemiczny został użyty. Nazwy popularnych kolorów farb akrylowych (ze strony <http://www.art-paints.com/Paints/Acrylic/Maries/Maries-Artist.html>)

	<u>Burnt Sienna</u>		<u>Vermilion Color</u>		<u>Crimson Color</u>		<u>Scarlet Color</u>
	<u>Orange Yellow</u>		<u>Yellow Ochre</u>		<u>Raw Sienna</u>		<u>Lemon Yellow</u>
	<u>Viridian Color</u>		<u>Emerald Green</u>		<u>Sap Green</u>		<u>Ultramarine Color</u>
	<u>Cobalt Blue</u>		<u>Black Color</u>		<u>Phthalocyanine Color</u>		<u>Vandyke Brown</u>
	<u>Burnt Umber</u>		<u>Titanium White</u>				

Obszerna baza danych pigmentów <http://www.artiscreation.com/blue.html>

Znacznie uproszczona lista http://en.wikipedia.org/wiki/List_of_inorganic_pigments

Trzeba pamiętać że istnieją również innego rodzaju związki używane jako barwniki.

List of inorganic pigments

From Wikipedia, the free encyclopedia

The following is a list of inorganic [pigments](#) of natural and synthetic origin, which are distinct from [dyes](#), only dyes which are derived directly from inorganic pigments are mentioned:

[Purple](#) Pigments

Aluminum pigments

- [Ultramarine violet](#): (PV15) Silicate of sodium and aluminum containing sulfur.

Copper pigments:

- [Han Purple](#): $\text{BaCuSi}_2\text{O}_6$.

Cobalt pigments:

- [Cobalt Violet](#): (PV14) cobalt phosphate.

Manganese pigments:

- [Manganese Violet](#): (PV16) Manganese ammonium phosphate; see also the mineral [purpurite](#).

[Blue](#) Pigments

Aluminum pigments:

- [Ultramarine](#) (PB29): a complex naturally occurring pigment of [sulfur](#)-containing [sodio-silicate](#) ($\text{Na}_{8-10}\text{Al}_6\text{Si}_6\text{O}_{24}\text{S}_{2-4}$)

Cobalt pigments:

- Cobalt Blue (PB28) and [Cerulean Blue](#) (PB35): cobalt(II) stannate

Copper pigments:

- [Egyptian Blue](#): a synthetic pigment of calcium copper silicate ($\text{CaCuSi}_4\text{O}_{10}$). Thought to be the first synthetically produced pigment.
- [Han Blue](#): $\text{BaCuSi}_4\text{O}_{10}$

Iron pigments:

- [Prussian Blue](#) (PB27): a synthetic pigment of ferric hexacyanoferrate ($\text{Fe}_7(\text{CN})_{18}$). The dye [Marking blue](#) is made by mixing Prussian Blue and alcohol.

Manganese pigments:

- $\text{YIn}_{1-x}\text{Mn}_x\text{O}_3$: a synthetic pigment made from inserting Mn into the trigonal bipyramidal atomic site of the YInO_3 crystal structure.

[Green](#) Pigments

Cadmium pigments:

- [Cadmium Green](#): a light green pigment consisting of a mixture of Cadmium Yellow (CdS) and Viridian (Cr_2O_3)

Chromium pigments:

- [Chrome Green](#) (PG17)
- [Viridian](#) (PG18): a dark green pigment of hydrated chromium(III) oxide (Cr_2O_3)

Copper pigments:

- [Paris Green](#): copper(II) acetoarsenite

($\text{Cu}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 3\text{Cu}(\text{AsO}_2)_2$)

- [Scheele's Green](#) (also called Schloss Green): copper arsenite CuHAsO_3

[Yellow](#) Pigments

Arsenic pigments:

- [Orpiment](#) natural monoclinic arsenic sulfide (As_2S_3),

Cadmium pigments:

- [Cadmium Yellow](#) (PY37): cadmium sulfide (CdS)

Chromium pigments:

- [Chrome Yellow](#) (PY34): natural pigment of lead(II) chromate (PbCrO_4).

Cobalt pigments:

- [Aureolin](#) (also called Cobalt Yellow) (PY40): Potassium cobaltinitrite ($\text{Na}_3\text{Co}(\text{NO}_2)_6$).

Iron Pigments:

- [Yellow Ochre](#) (PY43): a naturally occurring clay of hydrated iron oxide ($\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$)

Lead pigments:

- Naples Yellow (PY41)

Titanium pigments:

- Titanium Yellow (PY53)

Tin Pigments:

- [Mosaic gold](#): [stannic sulfide](#) (SnS_2)

[Orange](#) Pigments

Cadmium pigments:

- [Cadmium Orange](#) (PO20): an intermediate between cadmium red and cadmium yellow: cadmium sulfoselenide.

Chromium pigments:

- [Chrome Orange](#): a naturally occurring pigment mixture composed of [lead\(II\) chromate](#) and [lead\(II\) oxide](#). ($\text{PbCrO}_4 + \text{PbO}$)

Red Pigments

Cadmium pigments:

- [Cadmium Red](#) (PR108): cadmium selenide (CdSe)

Iron oxide pigments:

- Sanguine, [Caput Mortuum](#), Venetian Red, Oxide Red (PR102)
- [Red Ochre](#) (PR102): anhydrous Fe_2O_3
- [Burnt Sienna](#) (PBr7): a pigment produced by heating Raw Sienna.

Lead pigments (toxic):

- [Red Lead](#): lead tetroxide, Pb_3O_4

Mercury pigments (toxic):

- [Vermilion](#) (PR106): Synthetic and natural pigment: Occurs naturally in mineral cinnabar. Mercuric sulfide (HgS)

Brown Pigments

Clay earth pigments (naturally formed iron oxides)

- [Raw Umber](#) (PBr7): a natural clay pigment consisting of iron oxide, manganese oxide and aluminum oxide: $\text{Fe}_2\text{O}_3 + \text{MnO}_2 + \text{nH}_2\text{O} + \text{Si} + \text{AlO}_3$. When calcined (heated) it is referred to as Burnt Umber and has more intense colors.
- [Raw Sienna](#) (PBr7): a naturally occurring yellow-brown pigment from limonite clay. Used in art since [prehistoric](#) times.

Black Pigments

Carbon pigments:

- [Carbon Black](#) (PBk7)
- [Ivory Black](#) (PBk9)
- [Vine Black](#) (PBk8)
- [Lamp Black](#) (PBk6)

Iron Pigments:

- Iron black (PBk11) (C.I. No.77499) : Fe_3O_4

Titanium pigments:

- [Titanium Black](#)

White Pigments

Antimony pigments:

- [Antimony White](#): Sb_2O_3

Barium pigments:

- [Barium sulfate](#) (PW5)

Lead pigments: (toxic)

- [White Lead](#) (PW1): $(\text{PbCO}_3)_2 \cdot \text{Pb}(\text{OH})_2$

Titanium pigments:

- [Titanium White](#) (PW6): titanium(IV) oxide TiO_2

Zinc pigments:

- [Zinc White](#) (PW4): Zinc Oxide (ZnO)