



Sediment Paint

Marine sediment based paint



Sediment Paint

“**Clay paint**” also known as “**earthen**” **paint** has existed for thousands of years dating back to prehistoric times, when many cave paintings were made using a mixture of **clay soils combined with fats, earth minerals and natural pigments**.

Clay paint has been used by ancient civilisations , indigenous cultures across America and Africa and in rural areas of Europe -usually mixed with lime- it has long been valued for its **breathability and natural aesthetic**. It is a completely **natural, non-toxic alternative to regular paint**, affordable, easy to apply and can be made in hundreds of shades. **It has a matte earthy finish and very low environmental impact.**



Prehistoric cave paintings in China using a mix of earthen paint with animal fats



Sweden's traditional “falu red” paint contains clay and iron oxides that give it the characteristic colour and properties.

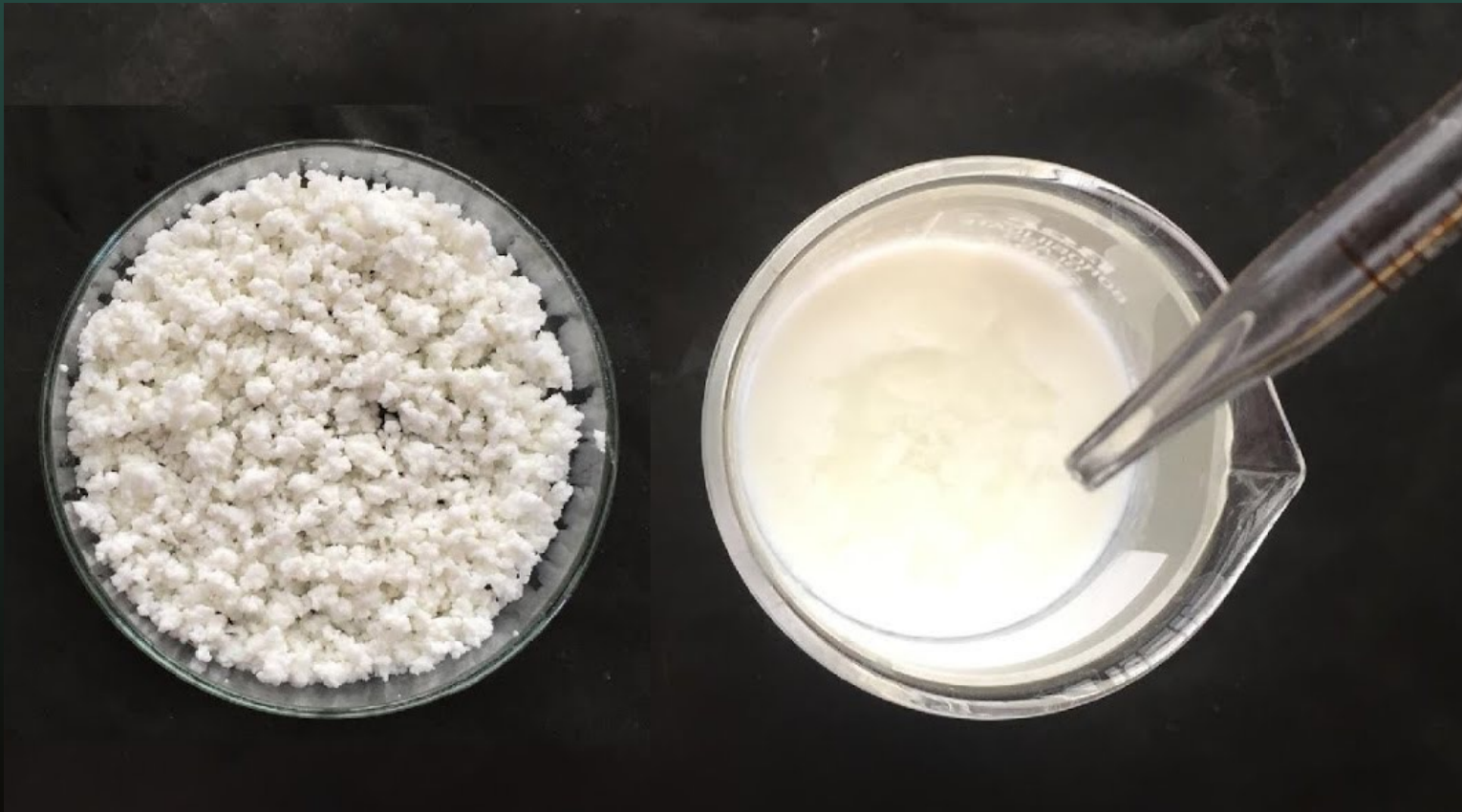
Casein

Milk contains many molecules of a protein called casein. Each casein molecule is a monomer and a chain of casein monomers is a polymer. The polymer can be scooped up and molded.

Milk casein is a **byproduct of milk processing** and can even be extracted from milk **past its expiration date** which can be a way to repurpose this “waste”.

From the early 1900s until about 1945, milk was commonly used to make many **different plastic ornaments**, including **buttons, beads and other jewelry, fountain pens, comb and brush sets**. Milk plastic (usually called casein plastic) can even be used to produce threads and textiles.

Our recipe for sediment tiles uses casein to add the properties of plasticity, durability waterproofness, and binding of materials together.



Sodium silicate

Sodium silicate also known as “water glass” is derived from natural materials namely **sand and soda ash**.

It is widely used in **ceramics, casting and tile making, food preparations and water purification**. It will add to our recipe the properties of a **binder and waterproofness**.

Sodium Borax

Borax or Sodium Borax is a naturally occurring mineral found in **dried lake beds and salt flats**. It is a mild **preservative and mold, fungi and bacteria inhibitor**,. It is used in **ceramics** and as an **all purpose home cleaner**, a **laundry booster** and an insect repellent. It will help **avoid pigment degradation** over time and **improve paint workability**.

Natural Earth Pigments and Oxide Pigments

Natural earth pigments are naturally occurring **coloured minerals and soils ground into a fine powder** and used as colorants in arts and crafts. They are **breathable, non toxic (most types) don't fade when exposed to sunlight** and compatible with most natural binders like **lime, casein, egg, oils and gums**.

Oxide pigments are made from metal oxides such as iron and cobalt. **Some are found in soils and rocks and some are made by heating certain metals**. They have similar uses with earth pigments and similar properties, iron oxides of cosmetic grade are also used in body paints and other cosmetics.

Sediment Paint Recipe (for 250 ml paint)

- 57g prepared marine sediment (cleaned and soaked overnight in water 1:1)
- 15 g Casein mixed in 43g of water
- 6 g Borax mixed in 43g water
- 4 g Sodium Silicate
- 10 - 30 g natural color pigments (depends on the color hue, a suggestion is that if you wish to make a lighter hue half of these could be titanium white)

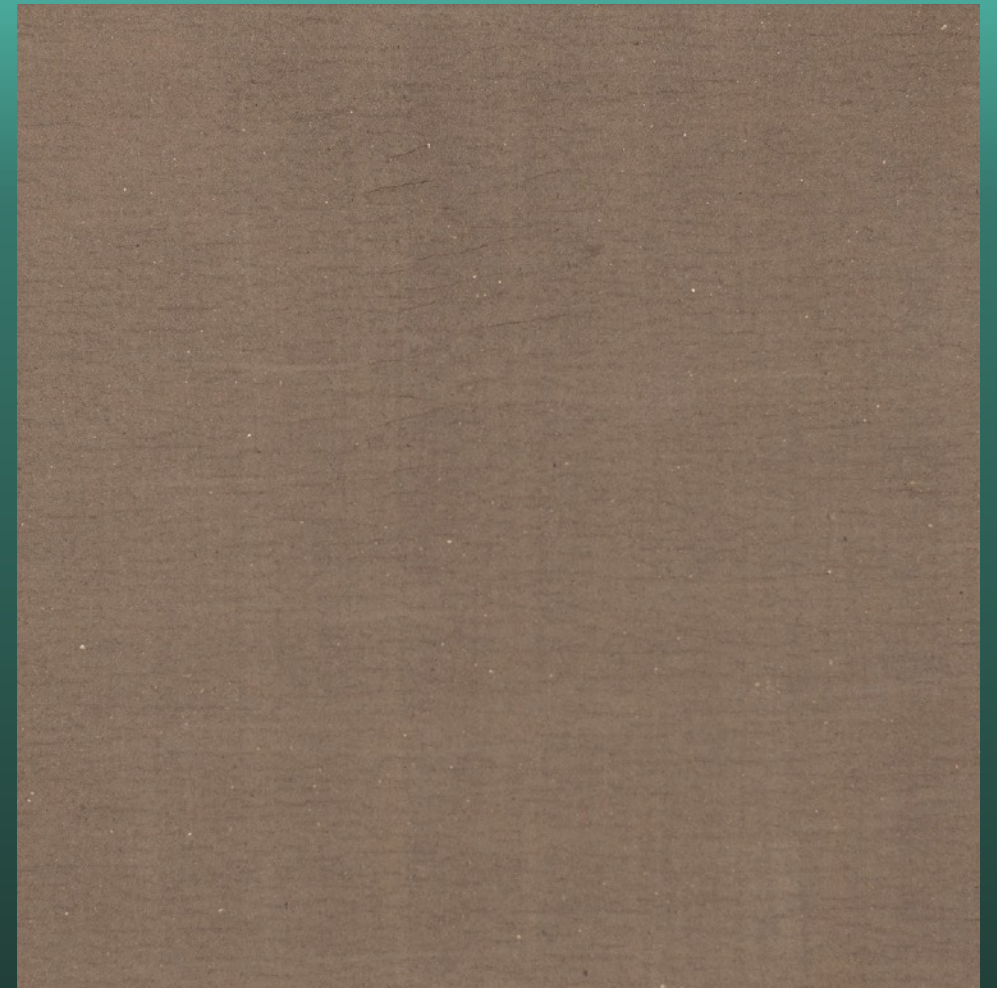
Instructions:

1. **Put on protective gear.**
2. Clean the sediment and gradually add water 1:1 in weight, leave overnight to avoid clumps, and mix again until the mixture is smooth (already premixed)
3. Mix water with casein and leave overnight for the casein molecules to fully absorb the water, mixing well in the morning (already premixed)
4. Mix the Borax with hot water and stir until thoroughly mixed (already premixed)
5. **Weigh and combine the liquids in the following order, mixing thoroughly after every addition: 58 g of prepared Casein, 49 g of prepared Borax and 61 g of prepared Sediment, stir meticulously until well combined.**
6. **Gradually add color pigments, again mixing thoroughly after every addition, start with titanium white to create a lighter base and add the rest of the colors in small increments**
7. **When you are done with adding color pigments , add 4g of Sodium Silicate to your paint**
8. **Choose a marine organism to document your paint colour contribution to the project, apply the paint using 1 or 2 thin coats allowing to dry between each application.**
9. **Apply the paint can lid sticker on a lid and make a small paint dub in the empty spot to remember the colour hue it contains**
10. **Wipe the paint can clean and stick the paint can label.**

Color Mixing Basics with Natural Pigments

Use these basic rules with your earth pigments:

- The sediment already has a natural brown-ochre colour with a greenish hue
- Add titanium white to lighten the colour hues and add vibrancy to earthy tones
- **Red** + **Yellow** = **Orange** (ex. Red iron oxide + Yellow ochre)
- **Yellow** + **Blue** (or **Green earth**) = **Olive** / Mute Green
- **Red** + **Black** = **Burgundy** / **Deep Rust**
- **Red** + **Blue** = **Purple** (add titanium white to reveal the colour best)



Natural sediment paint colour

List of colours by **potency** (weaker to stronger tinting effect) use more of weaker pigments (1-2 level teaspoons), use strong pigments very, very sparingly (small amount just on the tip of a teaspoon)

- Yellows (ochre, iron oxides)
- Oranges and pinks (ochre, iron oxides)
- Greens (Green Earth is very weak use a large amount and be very careful adding strong colorants)
- Blue (medium tinting strength)
- Red (ochres are weaker than oxides, but very strong generally, use very sparingly)
- Black (charcoal, oxides etc. very strong tinting, use vary sparingly)



MSP
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Marine Sediment Paint
from Koper Bay

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Marine Sediment Paint
from Koper Bay
A 100% natural
for indoor use
Ingredients
Borax, milk
sediment from
ports and harbors
friction - which
where new
This paint is