Other Condi1on

becomes sicky and acts dust, fibers and other airborne particles. Thicker So^ening paint is a major conservation issue since the paint surface often becomes sticky and attracts dust, fibers and other airborne particles. Thicker applied paints may accumulate so much unattached medium components that they start to ooze and form drips. Removal of these drips is not impossible but actually disturbs the outer surface shine leaving esthetically displeasing tracks. Softening paint is a major conservation issue since the paint surface often becomes sticky and attracts dust, fibers and other airborne particles. Thicker applied paints may accumulate so much unattached medium components that they start to ooze and form drips. Removal of these drips is not impossible but actually disturbs the outer surface shine leaving esthetically displeasing tracks.

Other features: Paints that drip are completely soluble in alcohol or acetone. The solutions are fluorescent. Drips and exudates on the painting are sticky and fluorescent! Drips and exudates on the painting are sticky and fluorescent!

Negative ion ESIMS of Soulages drip material shows polar fractions

Diacids:
C8:7, C8:8, C9, C10, C11
Fatty acids:
C16:0, C16:1, C18:0
1ox:1 (high intensity)
2ox:1 (C18:1)
3ox:1 (C18:1)
Azeleic acid (micelle formation)
Acyl-glycerols
MG dCO and MG dOCl
DG C16 & dC18FA
DG C16 & dC18FA

SEM-8SE of bone black paint S1 taken from the Soulages painting. Lead appears to be sequestered in lead carbonate phases. Micro-XRD studies reveal a poor crystallinity pointing to low manufacturing temperatures

Comparative studies

The DTMS fingerprint is very similar in many different dripping paintings. Here we present the drips of Soulages and compare those with paint and drips from a Riopelle painting from 1952

DTMS analysis of Soulages painting samples

Soulages Composition 1952

Observations:
1. Polar fractions exudate from the paint mass. The remaining paint mass is less polar.
2. Oleic acid is still a main compound pointing to a slow process oxidation of oxidation possibly due to high carbon content.
3. The paint is completely soluble in alcohol or acetone pointing to a presently non-consolidated oil paint. There is insufficient viscous cross linked material to form a solid hard oil paint.
4. The bone black is poorly crystalline pointing to a low charring temperature which may lead to carbon deposits on the crystal surfaces. This indicates a poor quality carbon black oil paint.
5. Lead that could bind the polar fractions appears to be sequestered in crystalline phases.
6. The polar fraction of the oxidising binding medium fails to anchor inside the paint mass due to blocked binding sites.

Conclusions:

Pierre Soulages must have used a poor quality bone black oil paint with insufficient lead to stabilize the oxided fractions developing in the drying paint. Additions of semi-drying oil either by himself or the paint manufacturer will have increased the fraction of non-cross linked oxidised material that failed to anchor.

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Low temperature charring leads to poor crystallinity which is evident in the Soulages paint

Inhibitions of anchoring of acid groups prevent the stabilization of aging oil paint and causes accumulation of binding medium fractions in polar micelles.

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