

## Pigment Red 53:1

### 1. Product Information

**Product Name:** Pigment Red 53:1

**Colour Index No.:** C.I. PR53:1

**Chemical Name:** Dinitraniline Orange / Permanent Red Lake, Barium Salt Lake

**Chemical Class:** Azo Lake Pigment

**CAS No.:** [5160-02-1]

**EINECS No.:** 225-925-6

**Molecular Formula:** C<sub>18</sub> H<sub>12</sub>BaClN<sub>4</sub>O<sub>6</sub> S (May vary)

**Typical Structure:** Based on

4-Chloro-5-methyl-2-((2-methyl-4-((4-methylphenyl)sulfonyl)phenyl)azo)benzenesulfonic acid, barium salt

### 2. Typical Physical and Chemical Properties

Property	Specification / Description
<b>Appearance</b>	Bright red powder with orange undertones
<b>Hue</b>	Orange-red, similar to "scarlet"
<b>Density (g/cm<sup>3</sup>)</b>	Approx. 1.6 - 1.9
<b>Oil Absorption (g/100g)</b>	Approx. 40 - 55
<b>pH Value (10% slurry)</b>	6.5 - 8.5
<b>Lightfastness (1-8)</b>	4-5 (Moderate to Good)

Property	Specification / Description
<b>Heat Resistance (°C)</b>	140 - 160
<b>Water Resistance (1-5)</b>	5 (Excellent)
<b>Oil Resistance (1-5)</b>	4 (Good)
<b>Acid Resistance (1-5)</b>	3 (Moderate)
<b>Alkali Resistance (1-5)</b>	3 (Moderate)

\*(Note: 1=Poor, 5=Excellent; Actual performance depends on application media and processing conditions)\*

### 3. Application Characteristics

#### Primary Applications:

**Printing Inks:** One of the primary applications, especially in **flexographic and gravure inks** for packaging. Valued for its bright scarlet shade, transparency, and cost-effectiveness.**Plastics:** Used in PVC and other low-temperature processing plastics where its heat resistance is adequate.

**Coatings:** Limited to indoor applications due to moderate lightfastness.

**Rubber & Stationery:** Used in coloring rubber products, crayons, and pencils.

#### Key Advantages:

Bright, economical scarlet red pigment.

Good transparency ideal for process inks.

Strong tinting strength.

Good printability.

**Important Limitations:**

**Moderate heat resistance** restricts high-temperature processing.

**Barium content** is subject to increasing regulatory scrutiny and restrictions, particularly in food packaging and toys.

Not suitable for applications requiring high weatherability.