

42000 Vermilion, synthetic, Mercuric Sulfide

Chemical name:	Mercuric sulfide; HgS
Common name:	Vermilion
Formula:	HgS (C.I. 77766)
CAS no.:	1344-48-5
Chemical family:	C.I. Pigment Red 106

Physical properties:

Appearance:	yellowish red, very fine, odorless powder, without crystallines
Molecular weight:	232.68
Theoretical content:	86.22 % Hg
Solubility:	soluble in a mixture of HCl / HNO ₃ , under separation of sulphur

Specifications:

Humidity:	0.5 % max.
Oil absorption:	7 - 12 %
Remainder through 300 mesh:	1.5 % max.

Application:

Vermilion can be used as pigment, as part of fluorescent products on the basis of cadmium sulfide, as catalyst for organic synthesis.

Storage:

Store in a tightly closed container, protect from light.

Method of Measuring the Content of Vermilion

Generally, the content of Vermilion is 99 %

The method of measuring the content of Vermilion is by using effective liquid phase chromatography (HPLC) method to measure the content of Vermilion.

The principal constituent of Vermilion is HgS. After the sample is dissolved, take two ethyl dithio-amino sodium formate sodium formate (DEDTC) as the synergist, use again HPLC to carry on the separation measurement to the Hg-DEDTC preparation.

The condition of chromatograph should be: Waters X-Terra the C18 column, (adjust pH take the methyl alcohol - 0.01 mol/L sodium hydrogen phosphate with phosphoric acid to 7.5) (including 0.01% (quality score) DEDTC) (comparison of volume to as 73:27) as the flowing, the speed of flow is 0.8 ml/min, the examination wave length is 270 nm, the column warm is 35 °C.

When the mass concentration of Hg²⁺ is 10.1 mg/L~100.9 mg/L, its density and the Hg-DEDTC preparation peak area will present good linear relations, the correlation coefficient is 0.9996. The average of return-ratio is 97.0%~100.8%, RSD is 1.8%~2.3%.

(The above method of measuring the content of Vermilion is given in good faith but without obligation.)