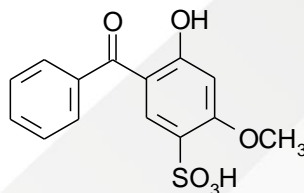


**TECHNICAL DATA SHEET****Product Name****GalSORB Benzophenone-4****DESCRIPTION**

Chemical Name	: 2-Hydroxy-4-methoxybenzophenone-5-sulfonic acid
INCI Name	: Benzophenone-4
CAS Number	: 4065-45-6
EINECS Number	: 223-772-2

Chemical structure

:

**TECHNICAL SPECIFICATIONS**

Appearance/nature	: Light tan powder
Odour	: Faint, characteristic
Identification by IR	: The IR spectrum of sample to match that of the reference standard
Colour (Gardner), maximum	: 4
Loss on drying, % w/w, maximum	: 5.0
Spectrophotometric Extinction coefficient	
E <sup>1%</sup> / 1 cm, at λ <sub>max</sub> 286 nm in water	: 460 – 490
(5 µg/ml)	
Assay,(dry product by titration), % w/w	: 97 - 103

## GalSORB Benzophenone-4

### TECHNICAL DATA SHEET

#### PROPERTIES

Solubility (at 5 % solution using the desired solvent) : Soluble in water, Propylene Glycol, Glycerin, Ethyl alcohol and Isopropyl alcohol  
Insoluble in Mineral oil and Isopropyl Myristate

**GalSORB Benzophenone-4** is readily soluble in water because of the presence of sulfonic acid group. The sulfonic acid group must be neutralized with one of the usual neutralizing agents like triethanolamine or sodium hydroxide.

It must be noted that the neutralizing agent has no effect on the UV-absorption characteristics. However, in case of over neutralization (pH > 9), the absorption shifts towards shorter wavelength. The colour of **GalSORB Benzophenone-4** is intensified by neutralization and thus it may alter the hue of coloured solutions.

The neutralized product has a pH value between 5.5 and 6.0.

#### APPLICATIONS

**GalSORB Benzophenone-4** is used as a UV-filter in sunscreen formulations. To get highest Sun Protection Factor (SPF), a combination of **GalSORB Benzophenone-4** with other oil-soluble UV-filters like GalSORB Benzophenone-3 is recommended.

**GalSORB Benzophenone-4** can also be used in other applications like:

- As a colourant protector in transparent packaging (the recommended concentration is 0.05 – 0.5%)
- As a viscosity stabilizer for gels based on polyacrylic acid (Carbopol) when exposed to UV- radiation (the recommended concentration is 0.1%)
- As a stabilizer for fragrance oils in conditioning shampoos and body cleansers
- As a protector of hair against the ill effects of UV radiation in hair gels, shampoos and hair setting lotions, mousses and sprays

## GalSORB Benzophenone-4

### TECHNICAL DATA SHEET

- As a protection against the sunburn in aqueous based formulations
- As a colour fastness improver of dye fabrics in textiles
- As a preventer of yellowing of wool
- As a preventer of discolouration of synthetic fibers

It must be noted that **GalSORB Benzophenone-4** is incompatible with Magnesium salts, particularly in W/O type emulsions.

#### **PACKING**

**GalSORB Benzophenone-4** is available in 25 kg paper fiber drums. 9 MT can be shipped in palletized 20 ft. full container load.

#### **HANDLING AND STORAGE**

Store in a clean, dry place away from sunlight and heat. The container should be kept tightly closed when not in use. In original, sealed containers, the product can be stored for at least 2 years. Avoid ingestion, inhalation and contact with eyes, skin and clothing. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Product Name : **GalSORB Benzophenone-4**

Version : 02

Date of issue : 25.5.2010

TDS Updated by : Mr. Sanjay Joshi

Authorised by : Mr. Milind Patil

Ref. Doc. FGSM-IBC : 12.7.01

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