

## Introduction

Chiguard<sup>®</sup> R-455 belongs to the benzotriazole based UV absorber family which is the first line of additive to combat with UV light in coatings, sealants and plastics. Chiguard<sup>®</sup> R-455 has a proprietary primary diol structure which makes it act like polyol and hence is reactive to isocyanates. Once reacted with isocyanates, it becomes the backbone of polyurethane chain which completely solve the migration or blooming issue of UV absorbers observed frequently in PU based applications. Chiguard<sup>®</sup> R-455 can be used in aliphatic and aromatic PU system and can be used for TPU and PU coatings. It is also ideal for siloxane and fluoro polymeric system as well which migration and blooming issue of additives.

Figure 1. Thermogravimetric analysis (TGA) diagram

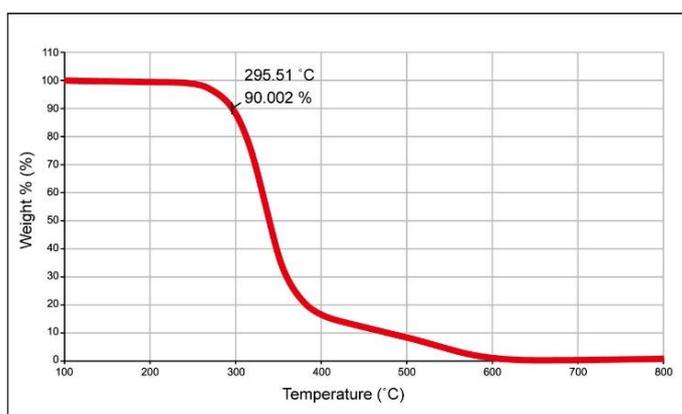
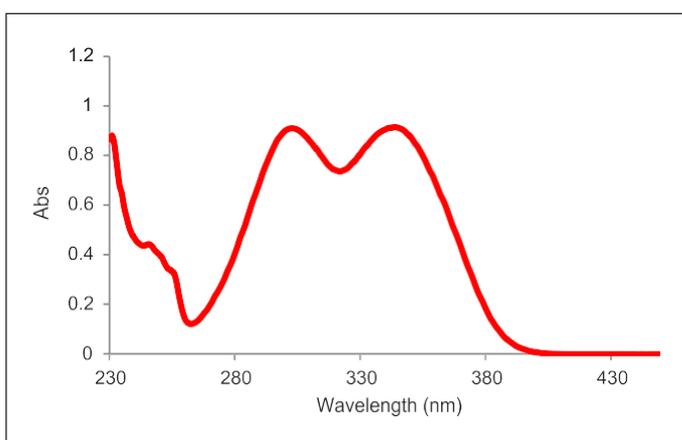
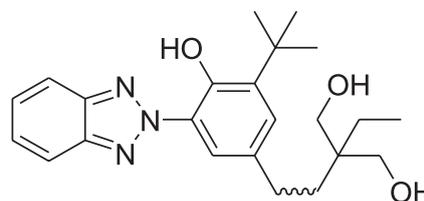


Figure 2. UV spectrum



## Chemical Information

### General structure :



**Molecular weight** : 455 g/mol

**CAS No.** : proprietary

## Physical Data

**Appearance** : Light yellow powder  
**Assay** : 98% min.  
**Melt point** : 128-132 °C  
**TGA (@10% weight loss)** : 295°C  
**Bulk Density** : 0.308 g/cm<sup>3</sup>  
**Transmittance (500 nm)** : 98% min.  
**Hydroxyl Value** : 242

## Specification

**Appearance** : Light yellow powder  
**Melt point** : 115 °C min.  
**Assay** : 98% min.  
**Volatile** : 0.5% max.

## Solubility (g in 100ml solvent)

**Methanol** : 10.0  
**Isopropanol** : 7.5  
**Xylene** : 1.5

## Regulatory status

**TSCA** : Under preparation  
**EU REACH** : Registered  
**TW REACH** : Listed

## Patent Number

TW1638039  
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