PALIOTOL™ YELLOW K 0961 HD

General Properties

Chemical Structure
Colour Index Part I
Colour Index Part II
CAS Number
Physical Form
Colour Shade

Preparations

Luprofil™ Yellow 09-6105 C 4
Rakusol Yellow 09-6107
Eupolen® Yellow 09-6101

(Other) preparations can be made on special request.

Colouristical Properties Org.

Hue Grade in PVC 1/3 SD
Chroma in PVC 1/3 SD
Red. Ratio in PVC 1/3 SD
Hue Grade in PVC 1/9 SD
Chroma in PVC 1/9 SD
Red. Ratio in PVC 1/9 SD
Hue Grade in PE-LD 1/3 SD
Chroma in PE-LD 1/3 SD
Red. Ratio PE-LD 1/3 SD
Hue Grade in PE-LD 1/9 SD
Chroma in PE-LD 1/9 SD
Red. Ratio in PE-LD 1/9 SD

Ease of Dispersion <10

Physical Properties

Density 1.8 g/cm³
Bulk Density 0.4 g/cm³
Index of pH 3-7
Conductivity 30 µS/cm
Specific Surface 28 m²/g

Fastness properties

Heat stability 260 °C
Light fastness 7
Weather fastness
Migration fastness 4-5

All data is subject to the producer’s disclaimer
Infl. on warping of PE-HD  

Fastness to chemicals:

- HCl conc.  >6 Months
- HCl 10%  >6 Months
- H2SO4 conc.  5 Months
- H2SO4 10%  >6 Months
- HNO3 conc.  Instable
- HNO3 10%  >6 Months
- NaOH conc.  >6 Months
- Na2CO3 sat.  >6 Months

Criteria for the fastness to chemicals was a possible colour change of the coloured plastic material during the storage in the test medium.

Recommendations for applications:

- PVC-p  Suitable
- PVC-u  Suitable
- PUR  Suitable
- LD-PE  Suitable
- HD-PE  Suitable
- PP  Suitable
- PS  Suitable
- SB  Suitable
- SAN  Suitable
- ABS/ASA  UCC
- PMMA  Not suitable
- PC  Not suitable
- PA  Not suitable
- PETP  Not suitable
- CA/CAB  Suitable
- UP  Suitable

Restrictions for usage  

Maybe sensitive to alkalis

UCC: Under certain conditions

Recommendations for food applications:

- BgVV  Suitable
- FDA  Suitable
- France  Suitable

UCC: Under certain conditions
Product Specification - PALIOTOL™ YELLOW K 0961 HD

PROPERTIES
Pigment type: Quinophthalone yellow
Colour Index: Pigment Yellow 138
Application: Colourant for plastics
Physical form: Powder
Storage: practically unlimited shelf life
Food packaging: approved according to "Empfehlung IX des BgVV".

SPECIFICATION
Colour tolerances: dH* ± 0.7; dC* ± 0.7; dL* ± 0.7; dE* <= 1.0;
da* ± 0.7; db* ± 0.7
Strength equivalence: 100 ± 5 %
Test method: BASF test method 11.3.1

Please note:
The above data will be warranted by us. These data, however, as well as
the properties of any product samples do not imply any legally binding
assurance of certain properties or of suitability for a specific purpose so that any
liability for damages cannot be derived therefrom.
Microscopy - PALIOTOL™ YELLOW K 0961 HD
Reflection Curve
PALIOTOL™ YELLOW K 0961 HD

Note: The program stores curve points (see table). The diagram shows approximations.

Test medium: PVC-p

All data is subject to the producer's disclaimer.
Particle Size Distribution
PALIOTOL™ YELLOW K 0961 HD

Note: The program stores curve points (see table). The diagram shows approximations.

Susp. Fluid: H2O
Disp. Agent: Tetronic
Mixer Time: 60 s
Median Size: 0.459 µ
CILAS
Heat Stability
PALIOTOL™ YELLOW K 0961 HD

Test medium:
PE-HD (Lupolen 6031M)
According to
DIN 53772

Note: The program stores curve points (see table). The diagram shows approximations.
Weather fastness
P Aliotol™ Yellow K 0961 HD

<table>
<thead>
<tr>
<th>Hours</th>
<th>1:50</th>
<th>1:10</th>
<th>0.2%</th>
<th>0.05%</th>
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<tr>
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<tr>
<td>0</td>
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</table>

Test medium:
PE-HD (Lupolen 6031M)
According to DIN 53387, 54001

All data is subject to the producer's disclaimer
LUCOLOR 2.0 - BASF Colourants for Plastics (Oct.1998) - Printed: 8/24/99
Light fastness
PALIOTOL™ YELLOW K 0961 HD

Test medium:
PE-HD (Lupolen 6031M)
According to
DIN 53387, 54004
<table>
<thead>
<tr>
<th>Name of product</th>
<th>PALIOTOL™ Yellow K 0961 HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.I. No. / Name</td>
<td>56 300 / C.I. Pigment Yellow 138, Quinophthalone yellow</td>
</tr>
<tr>
<td>CAS No.</td>
<td>30125-47-4</td>
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<tr>
<td>EINECS No.</td>
<td>250-063-5</td>
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</table>

<table>
<thead>
<tr>
<th>Name of product</th>
<th>PALIOTOL™ Yellow K 1841</th>
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</thead>
<tbody>
<tr>
<td>C.I. No. / Name</td>
<td>56 298 / C.I. Pigment Yellow 139, Isoindoline yellow</td>
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<tr>
<td>CAS No.</td>
<td>36888-99-0</td>
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<tr>
<td>EINECS No.</td>
<td>253-256-2</td>
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</table>

Chemical nature
One of these, a greenish yellow pigment based on C.I. Pigment Yellow 138, has a quinophthalone structure with eight chlorine atoms in the molecule. Another, C.I. Pigment Yellow 139, contains an isoindoline ring structure bonded to two symmetrical substituents by methine bridges.

Toxicology
The data for these pigments indicate that they do not have any acute toxic effects, nor do they irritate the skin and mucous membranes.

Ecology
Because they are chemically inert and practically insoluble in water, PALIOTOL™ pigments are not environmentally hazardous. They can be removed from waste water by mechanical means. PALIOTOL™ pigment waste should be disposed of in an incineration plant. In the case of the chlorine-containing pigment based on C.I. Pigment Yellow 138 this may result in the emission of hydrogen chloride, which must be removed from the flue gas by appropriate means.

Water hazard class
WGK 1 (slightly water hazardous according to German legislation - KBwS - group classification organic colours)

Labelling
The above listed products are not dangerous substances in the sense of the German Ordinance on Dangerous Substances or of corresponding EU regulations.

Classification as dangerous goods
The products are not classified as hazardous under transport regulations.

MAK value
The general threshold value for dust, i.e. 6 mg/m³, must be observed. (Proposal of the MAK commission for the alveolar passing dust fraction, i.e. 1.5 mg/m³, is not yet valid) (Germany)

Heavy metal content
PALIOTOL™ pigments do not contain any lead, cadmium, chromium(VI) and mercury compounds in their formulations. The sum of the total contents of these elements, according to tests on standard samples, is less than 100 mg/kg. It is thus below the limit in the EU packaging directives and the American CONEG model. The average values for the total contents of technically unavoidable impurities are as follows:
Antimony < 20 mg/kg  Chromium < 50 mg/kg
Arsenic < 20 mg/kg  Selenium < 20 mg/kg
Lead < 20 mg/kg  Mercury < 20 mg/kg
Cadmium < 30 mg/kg  Zinc < 20 mg/kg
Prim. aromatic amines < 100 mg/kg

The metal levels quoted are based on the detection limit of the analytical determination method used (X-ray fluorescence spectroscopy). The actual levels may lie well below these values.

Halogen content

PALIOTOL™ Yellow K 0961 HD contains appr. 41 % organically combined chlorine. Yellow K 1841 does not contain any chemically combined halogen.

Food legislation

According to tests on standard samples (Type 8081) the listed PALIOTOL™ pigments conform to the demands on purity in the following food legislation (see also "Heavy metal content"):

Europe: Resolution AP (89)
Germany: BgVV Empfehlung IX., 190. Mitteilung vom 1.6.1994
France: Brochure No. 1227
Italy: Decreto Ministeriale dated 21.3.1973
Spain: Resolución del 4.11.82 de la Subsecretaría de Sanidad
USA: PALIOTOL™ Yellow K 0961 HD:
PALIOTOL™ Yellow K 1841: Not listed.
Current use only on evidence of "non migration".

Toys

According to tests on standard samples (Type 8082), the listed PALIOTOL™ pigments conform to the demands on purity in the European standard on toys, i.e. EN 71, Part 3.

Registration status

The components of the products are listed in the chemical inventories of the following countries: EU (EINECS), USA (TSCA), Canada (DSL), Japan (MITI), Australia (AICS), Korea (ECL), Philippines (PICCS, Final Version 1995), and Switzerland (BAGT No. 612200, Class free).

Other legislation on chemicals

The products do not fall under the provisions of the agreement on chemical weapons and do not contain any substances that are mentioned in the German Ordinance on the Prohibition of Certain Chemicals (ChemVerbotsV). They are produced without using substances that destroy ozone (Montreal Agreement - Ozone Depleting Substances).

TA Luft

Para 3.1.3 - Total dust (Germany)

Further information can be found in our Material Safety Data Sheets, Technical Information Bulletins and in the Product Safety Info No. 9 "Organic pigments containing chlorine in the heat of discussion". The Product Safety Department in our Organic Pigments Division will gladly reply to your queries and can be reached under the following address:

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