Uniplex® 214  
Plastic Additives / Plasticizer

Description
Uniplex 214 is a liquid sulfonamide plasticizer compatible with a number of resins and is mainly used as plasticizer for polyamides especially PA 11, PA 12 and copolyamides.

Chemical composition
N-Butylbenzolsulfonamid (N-BSA)

CAS Registry Number
3622-84-2

Supply form
Clear liquid

Typical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>clear liquid</td>
<td></td>
<td>Visual</td>
</tr>
<tr>
<td>Odour</td>
<td>mild</td>
<td></td>
<td>Sensoric</td>
</tr>
<tr>
<td>Content</td>
<td>min 99.0</td>
<td>%</td>
<td>Gas chromatography</td>
</tr>
<tr>
<td>Color Value</td>
<td>max 50</td>
<td></td>
<td>Hazen</td>
</tr>
<tr>
<td>Color Value 3 hours at 250°C</td>
<td>max. 250</td>
<td></td>
<td>Hazen</td>
</tr>
<tr>
<td>Water content</td>
<td>max. 0.1</td>
<td>%</td>
<td>Karl Fischer</td>
</tr>
<tr>
<td>Refractive index nD20</td>
<td>approx. 1.524</td>
<td></td>
<td>Refractometer</td>
</tr>
<tr>
<td>Relative density (20°C)</td>
<td>approx. 1.149</td>
<td></td>
<td>Gravimetric</td>
</tr>
<tr>
<td>Viscosity at 20°C, dynamic</td>
<td>approx. 165</td>
<td>mPas</td>
<td>Brookfield</td>
</tr>
<tr>
<td>Content inorganic chloride</td>
<td>max. 50</td>
<td>mg/kg</td>
<td>Titration</td>
</tr>
<tr>
<td>pH-value</td>
<td>7.5 – 8.5</td>
<td></td>
<td>Potentiometric in methanol / water</td>
</tr>
<tr>
<td>Basicity</td>
<td>max. 4</td>
<td>mEq/kg</td>
<td>Titration</td>
</tr>
</tbody>
</table>

The analytical data are general guide values.

Storage
Uniplex 214 is slightly hygroscopic. If stored properly, the product keeps for 2 years.

Packaging
Drums, bulk
Product description
Uniplex 214 is a liquid sulfonamide plasticizer compatible with a number of resins, such as polyacetals, polyacrylates, polycarbonates, polysulfones, cellulose derivatives, and polyamides. Uniplex 214 is especially used as plasticizer for PA 11 and PA 12. It is also compatible with PA 6, PA 6.6 and copolymides.

Applications
Uniplex 214 is the preferred primary plasticizer for polyamide resins, greatly enhancing low temperature flexibility. Uniplex 214 may be added either pre- or post-polymerization for PA 11 or PA 12, or in the extrusion of other polyamides (e.g. PA 6, PA 6.6). It is typically used at levels of 5 - 20%, based on the weight of the polymer. The addition of this plasticizer contributes the following properties:
1. Easier removal from moulds
2. Easier machining
3. Better finish
4. Good heat stability to 80°C
5. Better shape stability due to reduced water absorption
Uniplex 214 is used in such applications as moulded polyamide parts, nylon filaments, e.g. fishing and grass trimmer lines, nylon-based hot melt adhesives and adhesives for nonwoven interlinings, fuel lines, hoses, films and other high performance applications.

Handling & Safety
A receiving inspection is recommended. The product should be stored in its tightly sealed original container in a cool, dry place. Once opened, containers should be resealed tightly after removal of product. Consult material safety data sheet (MSDS) for additional handling information on Uniplex 214. The material recommended for piping, valves and transport and storage containers is stainless steel. As sealants materials should be used which are resistant to Uniplex 214 as Viton® or Tefzel® (fluoroelastomer or - plastic from DuPont). Storage tanks located outside in ambient conditions should be equipped with heating capability (e.g. internal heating coils, external tank coils or external heat exchangers). Tanks should be protected with a desiccation system and a conservation vent.

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