GPS Safety Summary
C.I. Pigment Yellow 13

Chemical Identity

Name: C.I. Pigment Yellow 13

CAS number: 5102-83-0

Molecular formula: C₃₆H₃₄Cl₂N₆O₄

Structure: R = H, R¹ = CH₃, R² = CH₃, R³ = H

IUPAC name:
2,2'‐[(3,3'‐dichlorobiphenyl‐4,4'‐diyl)didiazene‐2,1‐diyl]bis[N‐(2,4‐dimethylphenyl)‐3‐oxobutanamide]

BASF brand names:
Irgalite® Yellow D 1133
Irgalite® Yellow D 1122
Irgalite® Yellow D 1115
Irgalite® Yellow D 1121

For synonyms see end of document

Product Uses

C.I. Pigment Yellow 13 is a coloring agent for inks.

Benefits

Irgalite® Yellow D 1133 - medium-viscosity highly transparent mid-shade yellow with good flow properties, high gloss and good fastness to light

Irgalite® Yellow D 1122 - low-viscosity transparent process yellow delivering a comprehensive solution for solvent-based packaging inks
Irgalite® Yellow D 1115 - strong yellow for water-based inks, can also be used for offset

Irgalite® Yellow D 1121 - high-strength transparent and resistant-to-flocculation yellow, especially designed for solvent-based packaging inks

Health Information

Human Health Safety Assessment

Note: The information contained in the table below may be useful to someone handling the concentrated substance such as a manufacturer or transporter. Consumers are not likely to come in contact with the concentrated substance. The data, while verifiable, are not intended to be comprehensive nor replace the data found in the (M)SDS.

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>Virtually nontoxic after a single ingestion, a single skin contact and by inhalation.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Not irritating to the skin and eyes.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Skin sensitizing effects were not observed in animal studies.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>The substance was not mutagenic in bacteria, in mammalian cell culture and in a test with mammals. The statements have been derived in parts from products of a similar structure or composition.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>In long-term animal studies in which the substance was given in high doses by feed, a carcinogenic effect was not observed. The statement has been derived from products of a similar structure or composition.</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>No adverse effects were observed after repeated oral exposure in animal studies. The statement has been derived from products of a similar structure or composition. Pigment Yellow 13 did not elicit relevant toxicological effects in animal studies after subacute inhalation exposure except for some local effects in the lungs of the treated animals probably due to the particulate matter of the test item and not due to inherent toxicity.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>The results of animal studies gave no indication of a</td>
</tr>
</tbody>
</table>
fertility impairing or a developmental toxic / teratogenic effect. The statements have been derived in parts from products of a similar structure or composition.

Environmental Information

Environment Safety Assessment

Note: The information in this chapter is intended to provide brief and general information of this substance’s environmental impact. The results in the table below refer to testing performed with the concentrated substance. The data contained in this section explain the relative effect of the concentrated substance on the environment, as defined by certain tests.

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>With high probability not harmful to aquatic life in the range of water solubility.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Poorly biodegradable.</td>
</tr>
<tr>
<td>Bioaccumulation potential</td>
<td>Not bioaccumulative.</td>
</tr>
</tbody>
</table>

Physical/Chemical Properties

Phys/Chem Safety Assessment

- C.I. Pigment Yellow 13 is a yellow powder which is insoluble in water. It is non flammable non explosive and has no oxidising properties.

Note: The results in the table below refer to testing performed with the concentrated substance. It is not intended to be comprehensive or to replace information found in the (M)SDS.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>Decomposes at 330°C before melting</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non explosive</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>280°C</td>
</tr>
</tbody>
</table>
Exposure Potential

- **Workplace exposure:** Pigments are often handled in a dusty form, so general precautions against dust inhalation need to be observed. Based on the very low toxicity of C.I. Pigment Yellow 13 exposures are considered to be without risk other than that related to inert inhalable dust. Nevertheless, workers should follow the recommended safety measures in the extended Safety Data Sheet (eSDS).

- **Consumer exposure:** Based on the very low toxicity of C.I. Pigment Yellow 13 exposures are considered to be without risk. C.I. Pigment Yellow 13 released during handling is of no concern for the health of consumers since consumers will not come into contact with harmful levels of C.I. Pigment Yellow 13. Nevertheless, consumers should always read product information before use and follow the label/use instructions.

- **Environmental exposure:** Though C.I. Pigment Yellow 13 is not biodegradable, the substance is not considered to pose an unacceptable risk for the environment. Due to its limited water solubility, the substance is not considered to be bioavailable in concentrations that cause adverse effects in aquatic organisms. Tests demonstrated that with high probability C.I. Pigment Yellow 13 is not harmful to aquatic organisms in the range of its water solubility. Further, the chemical is not expected to accumulate in the food chain. Conclusively, all identified uses are safe for the environment based on the scientific facts summarized above and when carried out in compliance with recommended risk management measures and applicable regulations.

Recommended Handling Measures

*The recommended safety measures generally apply in contact with the concentrated substance. It is NOT intended to replace the comprehensive guidance found in the (M)SDS, only supplement it. Please refer to the (M)SDS for specific safety and first aid measures.*

When using concentrated chemicals always make sure that there is adequate ventilation. Always use appropriate chemical resistant gloves to protect your hands and skin and always wear eye protection such as chemical goggles. Do not eat, drink, or smoke where chemicals are handled, processed, or stored. Wash hands and skin following contact. If the substance gets into your eyes, rinse eyes thoroughly for at least 15 minutes with tap water and seek medical attention. For specific advice please consult the corresponding (Material) Safety Data Sheet of the substance.
All effluent releases that may include the substance must be directed to a (municipal) waste water treatment plant that removes the substance from the final releases to the receiving water.

**Regulatory Information / Classification and Labeling**

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the (M)SDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use.

*Note: The hazard statements and symbols presented here refer to the hazard properties of the concentrated substance and are meant to provide a brief overview of the substance’s labeling. It is not intended to be comprehensive or to replace information found in the (M)SDS.*

**Labeling according to UN GHS**

UN GHS is the basis for country specific GHS labeling

**Based on available data, labeling is currently not required.**

**Additional information**

1. IFA GESTIS-database on hazardous substances  

2. Information on registered substance (ECHA)  

**Most commonly used synonyms**

- 2,2'-(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(azo))bis[N-(2,4-dimethylphenyl)-3-oxobutyramide]
- Butanamide, 2,2'-(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(azo))bis[N-(2,4-dimethylphenyl)-3-oxo-
Disclaimer

This Product Safety Summary is intended to provide a general overview of the chemical substance. It contains basic information and is not intended to provide emergency response information, medical information or treatment information. The summary cannot be relied on to provide in-depth safety and health information. In-depth safety and health information must be obtained from the Material Safety Data Sheet ((M)SDS) for the chemical substance.

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Contact

For further information on this substance or GPS safety summaries in general, please contact: info.gps@basf.com