**GPS Safety Summary**

**Melamincyanurate**

**Chemical Identity**

**Name:** Melamincyanurate  
**CAS number:** 37640-57-6  
**Molecular formula:** C₆H₉N₉O₃

**IUPAC name:**
1,3,5-triazinane-2,4,6-trione - 1,3,5-triazine-2,4,6-triamine (1:1)

**Structure**

![Chemical Structure of Melamincyanurate]

**Product Uses**

Melamincyanurate is suitable for flame retarding polyamides, PBT, TPU, technical glues (hotmelts and epoxy resins), rubber articles and as additive in oils to produce high temperature fire resistant lubricants. Melamincyanurate is primarily used for electrical & electronic applications (connectors, switches, housings, etc) made from polyamide or TPU.

**Benefits**

Melamincyanurate is a halogen-free flame retardant, cost efficient and with good thermal stability. Being halogen free also results in significant advantages in terms of fire safety, i.e. lower smoke density, lower smoke toxicity and less corrosion. Lower corrosivity offers advantages both in the processing stage and in case of a fire.
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 single ingestion. The components are non toxic upon single skin contact and short-term inhalation.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Not irritating to eyes and skin.</td>
</tr>
<tr>
<td>Sensitisation</td>
<td>Skin sensitising effects were not observed.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Not considered to be mutagenic.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>The product has not been tested for carcinogenic properties.</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>Damages the kidneys after repeated ingestion of low doses.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>Not considered to be toxic for reproduction. The statement is derived from studies performed with the components.</td>
</tr>
</tbody>
</table>

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 acutely not harmful to aquatic organisms.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Poorly biodegradable.</td>
</tr>
</tbody>
</table>
Bioaccumulation potential | Accumulation in organisms is not to be expected.

Physical/Chemical Properties

Phys/Chem Safety Assessment

➢ The concentrated substance is a white powder. It is slightly soluble in water. The substance 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 350°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>&gt; 400°C</td>
</tr>
</tbody>
</table>

Exposure Potential

➢ Workplace exposure: Exposure can occur either in a melamincyanurate manufacturing facility or in the various industrial facilities that use melamincyanurate. Those working with melamincyanurate in industrial operations could be exposed during maintenance, sampling, testing, or other procedures. Each industrial facility should have a thorough training program for employees and appropriate work processes and safety equipment in place to limit unnecessary exposure. Safety showers and eye-wash stations should be accessible nearby. Workers should follow the recommended safety measures in the Extended Safety Data Sheet (eSDS).

➢ Consumer exposure: There is no intended use of melamincyanurate in consumer products. Therefore, a health hazard due to exposure for the consumer is negligible.
Environmental exposure: Melamincyanurate is practically nontoxic to aquatic organisms and has little tendency to accumulate in the food chain. Though it is of low biodegradability, the uses of the substance are exclusively limited to industrial settings where handling of the substance is strictly controlled and releases to the environment are negligible. 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 Labelling

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 labelling. 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

Signal word:
Warning

Hazard statement:
H373: May cause damage to kidneys through prolonged or repeated exposure.

Additional information

1. IFA GESTIS-database on hazardous substances
   http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp

Most commonly used synonyms

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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:
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