GPS Safety Summary
Phthalonitrile

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.

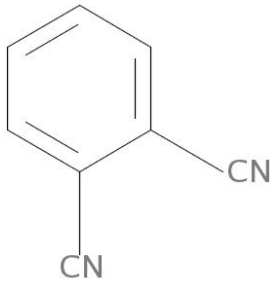
Chemical Identity

Name: Phthalonitrile

CAS number: 91-15-6

Molecular formula: $C_8H_4N_2$

Structure



IUPAC name:
Phthalonitrile

BASF brand names:
ortho-Phthalonitrile

For synonyms see end of document

Uses and Applications

Phthalonitrile is used as an intermediate for chemical synthesis in the production of building blocks for colorants and coatings, life science and agricultural chemicals.

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 does not replace the data given in the (M)SDS. For more information and recommended protective measures please refer to the (M)SDS.

Effect Assessment	Result
Acute Toxicity	Of high toxicity after single ingestion, short-term skin contact and short-term inhalation.
Irritation	Not irritating to skin and eyes.
Sensitization	Not considered to be sensitizing.
Mutagenicity	Not considered to be mutagenic.

Environmental Information

Environmental 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 does not replace the data given in the (M)SDS. For more information and recommended protective measures please refer to the (M)SDS.

Effect Assessment	Result
Aquatic Toxicity	Acutely harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Persistence and degradability	Not readily biodegradable; moderately biodegradable.
Bioaccumulation potential	Not bioaccumulative.

Physical/Chemical Properties

Phys/Chem Safety Assessment

- Phthalonitrile is an off-white crystalline and odorless solid. It's solubility in water is limited. Phthalonitrile is non-flammable and it possesses no explosive properties.

Note: The results in the table below refer to testing performed with the concentrated substance. The data does not replace the data given in the (M)SDS. For more information and recommended protective measures please refer to the (M)SDS.

Property	Value
Physical state	Solid
Melting / freezing point	140.55 - 141.45°C
Boiling point	304.5°C
Flash point	Not relevant since the substance is a solid.
Flammability	Non flammable
Explosive properties	Non explosive
Self-ignition temperature	The substance is a solid with a melting point < 160°C.

Exposure Potential

- **Workplace exposure:** Phthalonitrile is used as an intermediate in industrial or laboratory settings only. Intermediates are generally used under controlled conditions, usually in closed systems. Therefore, releases and exposure of the workers are unlikely. Therefore, the occupational use of this substance is considered to be safe for the worker. Nevertheless, workers should follow the recommended safety measures in the Material Safety Data Sheet (M)SDS. Generally a thorough training program for employees and appropriate work processes and safety equipment to limit unnecessary exposure shall be in place.

- **Consumer exposure**: There is no intended use of Phthalonitrile in consumer products. The substance is designed for chemical synthesis and used in industrial or laboratory settings only. In addition, there is no indirect exposure via the environment to be expected. Consequently there is, not any relevant consumer exposure caused by intended uses.

- **Environmental exposure:** Phthalonitrile is exclusively used as an intermediate in industrial or laboratory settings. Releases to the environment are unlikely. 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: Danger

Hazard Statements:

H301	**Toxic if swallowed**
H311	**Toxic in contact with skin**
H331	**Toxic if inhaled**
H402	**Harmful to aquatic life**
H412	**Harmful to aquatic life with long lasting effects**

Additional information

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

2. **Information on registered substance (ECHA)**
   http://apps.echa.europa.eu/registered/registered-sub.aspx

Most commonly used synonyms

» Phthalodinitrile
» Ortho-Phthalodinitril
» o-Dicyanobenzene
» o-Cyanobenzonitrile
» o-Benzenedinitrile

Disclaimer

IMPORTANT: While the data and information contained herein are presented in good faith and believed to be accurate at the date of printing, it is provided for your guidance only and may be revised in the future. No warranties of any kind, either express or implied, of merchantability, fitness for a particular purpose or of any other nature are made regarding the data or information provided. Further, it is expressly understood that the data and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability whatsoever resulting from use of or reliance on the data and information given.

Contact

For further information on this substance or GPS safety summaries in general, please contact:
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