



Safety Data Sheet: *Pyocyanin*

1. Identification of the Substance and the Manufacturer

1.1. Product identifiers

Product name	Pyocyanin	Formula	C ₁₃ H ₁₀ N ₂ O
Product Code	PY	Molecular weight	211.10
CAS #	85-66-5	Substance? Mixture?	Substance
RTECS	SG1760000		
CHEBI	CHEBI:8653	Pubchem	6817
Comptox EPA	DTXSID9041108	EC Number #	687-347-7
Synonyms	5-Methylphenazin-1(5H)-one		
	Sanazin;	5-Methyl-1(5H)-phenazinone	
Source	<i>Pseudomonas aeruginosa</i>	Version Date	15 October, 2024

1.2. Intended uses of the Substance and uses advised against

1.2.1. Intended use:	1.2.2. Uses advised against:
<i>Research and development. Laboratory reagent. Reference material. Manufacturing of substances. To be used by professionals only</i>	<i>Not a drug, Not a food additive Not to be used in humans or animals.</i>

1.3. Contacts

1.3.1. Details of the supplier of the SDS	
FERMENTEK ltd 4 Yatziv street, POB 47120 Jerusalem 97800, Israel	Tel: +972 2 5853953 Fax: +972 2 5853943 eMail: Fermentek@Fermentek.com Safety@Fermentek.com Website: Fermentek.com

This company is the manufacturer of the product and the supplier of the safety data sheet

1.3.2. Emergency Telephone number
<i>For chemical emergency spill, leak, fire, exposure, or accident calls CHEMTREC day or night: Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887</i>



Safety Data Sheet: *Pyocyanin*

2. Hazards' identification

2.1. Classification of the substance or mixture

2.1.1. GHS Classification: According to EU Reg. 1272/2008 and US OSHA 1910.1200)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Acute Toxicity, Ingestion	Category 4	H302	Harmful if swallowed
Eye Irritation	Category 1	H318	Causes serious eye irritation

2.2. GHS Label elements, including precautionary statements

2.2.1. Pictogram: {   } Signal word: {warning}

2.2.2. Hazard Statements

H302	Harmful if swallowed
H318	Causes serious eye irritation

2.2.3. GHS Precautionary Statements

P203	Obtain, read and follow all safety instructions before use.
P261	Avoid breathing dust or mist.
P264+265	Wash {hands} thoroughly after handling. Do not touch eyes.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection

2.2.4. GHS Response Phrases:

P301+P310, P330	IF SWALLOWED: Get emergency medical help. Rinse mouth
P305+P354+P338,	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. Composition/information on ingredients

Substance	
Substance name:	Pyocyanin
Concentration	<=100%
CAS Registry#:	85-66-5
EC#:	687-347-7
Molecular Formula:	C ₁₃ H ₁₀ N ₂ O
Molecular Weight:	211.10
Classification	Acc O:4(H304), eye 1(H318)
Mixture?	Substance .



Safety Data Sheet: *Pyocyanin*

4. First Aid Measures

4.1. Description of First Aid Measures

<i>General advice:</i>	<i>First-aiders need to protect themselves. If medical attention is required, show this safety data sheet to the doctor in attendance.</i>
<i>Eye contact:</i>	<i>Rinse out with plenty of water. Remove contact lenses.</i>
<i>Skin Contact:</i>	<i>In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.</i>
<i>Ingestion:</i>	<i>If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.</i>
<i>Inhalation:</i>	<i>If inhaled, move the person into fresh air.</i>

4.2. Most important symptoms and effects, both acute and delayed

<i>General symptoms</i>	<i>None known</i>
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4.3. Indication of any immediate medical attention and special treatment needed

<i>Note to physicians</i>	<i>No data available</i>
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5. Fire-fighting measures

5.1. Extinguishing media

<i>Suitable extinguishing media</i>	<i>Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.</i>
<i>Unsuitable extinguishing media</i>	<i>None known</i>

5.2. Other information

<i>Hazardous combustion products</i>	<i>Carbon oxides, Nitrogen oxides (NO_x)</i>
<i>Advice for firefighters</i>	<i>Wear self-contained breathing apparatus for fire fighting if necessary. Wear protective suit.</i>

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

<i>Personal precautions</i>	<i>Use personal protective equipment as required. Keep people away from and upwind of spill/leak.</i>
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6.2. Environmental precautions

<i>Environmental precautions</i>	<i>Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.</i>
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6.3. Methods and material for containment and cleaning up

<i>Methods for containment:</i>	<i>Prevent further leakage or spillage if safe to do so. Cover the powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.</i>
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Safety Data Sheet: *Pyocyanin*

<i>Methods for cleaning up:</i>	<i>Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Cover liquid spill with sand, earth or other non-combustible absorbent material (e.g., sand, earth, diatomaceous earth, and vermiculite). Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.</i>
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7. Handling and storage

7.1. Precautions for safe handling

<i>Advice on safe handling:</i>	<i>Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.</i>
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7.2. Conditions for safe storage, including any incompatibilities

<i>Storage Conditions:</i>	<i>Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Store at -20 °C.</i>
<i>Suitable packaging</i>	<i>Must only be kept in original packaging.</i>
<i>Incompatible materials:</i>	<i>None known based on information available.</i>

8. Exposure Controls/Personal Protection

8.1. Control parameters

<i>Control parameters</i>	<i>Components with workplace control parameters</i>
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8.2. Exposure controls

<i>Appropriate engineering controls</i>	<i>Showers, Eyewash stations, Ventilation systems Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Use fumehood for routine work.</i>
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8.3. Personal protective equipment

<i>[PPE=Personal Protection Equipment]</i>	
<i>PPE: Respiratory protection</i>	<i>Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).</i>
<i>PPE: Hand Protection:</i>	<i>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands</i>
<i>PPE: Eye Protection:</i>	<i>Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)</i>



Safety Data Sheet: *Pyocyanin*

PPE: Skin and Body Protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
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9. Physical and chemical properties

9.1. Physical/chemical properties

Physical State at room temperature	Solid / powder
Color	Blue
No further safety-relevant data are available	

10. Stability and reactivity

Reactivity:	No information available.
Chemical stability:	Stable under normal conditions.
Conditions to avoid	Heat, flames and sparks. Sunlight.
Incompatible materials	Strong reducers and oxidizers
Possibility of Hazardous Reactions	None under normal processing
Hazardous combustion products	See section 5

11. Toxicological information

11.1. Information on toxicological effects

To the best of our knowledge, the toxicological effects of this product have not been thoroughly studied yet.

11.1.1. Acute Toxicity

Acute toxicity:	ESTIMATE : Oral, rat; LD50 > 500 mg/kg {external SDS}
Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	REPORTED to cause serious eye damage/eye irritation No data experimental available
Respiratory or skin sensitization/corrosion:	No data available

11.1.2. Chronic toxicity

Chronic toxicity	No data available
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11.1.3. CRM (Carcinogene, Mutagene, Reproductive hazards)

Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available



Safety Data Sheet: *Pyocyanin*

Reproductive toxicity / Teratogenicity:	No data available
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11.2. Additional information

RTECS number	SG1760000
General symptoms	

12. Ecological Information

Eco-Toxicity	No data available
Other adverse effects	No data available

13. Disposal Considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations
Contaminated packaging	Dispose of as unused product

14. Transport information

14.1. UN number, Proper Shipping Name, Transport Hazard Class, packing group

	US DOT	ADR/RID	IATA	IMDG
UN Number UN proper shipping name	Not classified as dangerous in the meaning of transport regulations (Pyocyanin)	Not classified as dangerous in the meaning of transport regulations (Pyocyanin)	Not classified as dangerous in the meaning of transport regulations (Pyocyanin)	Not classified as dangerous in the meaning of transport regulations (Pyocyanin)
Transport Hazard Class & Packing Group	Not regulated	Not regulated	Not regulated	Not regulated
Additional information			Not marine pollutant	
De Minimis exemption	Not applicable			

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation

USA EPA / TSCA	This product is not listed on the USA EPA TSCA (it is for research)
SARA 302 Components	
SARA 313	
SARA 311/312 Hazard Categories	Acute health hazard Yes Chronic Health Hazards No
California Proposition 65	



Safety Data Sheet: Pyocyanin

<i>EU ECHA Status</i>	<i>This product is REGISTERED with the EU ECHA, Number 687-347-7 ANNEX III (criteria for 1 - 10 tonne registered substances): Listed REACH: Preregistered</i>

16. Other information

16.1. Department issuing this SDS

Quality systems and regulatory affairs

16.2. General Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.

The information given here is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

16.3. The users'/employers' responsibility:

A risk assessment should be performed by the employer/user prior to use of this product.

All recommendations included in this document, are advisory in nature.

The type of protective equipment must be selected based on the amount and concentration of all dangerous materials being used in the workplace.

16.4. No-Copyright statement

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16.5. Abbreviations and acronyms:

<i>Acute Tox.:</i>	<i>Acute toxicity</i>
<i>CAS:</i>	<i>Chemical Abstracts Service (division of the American Chemical Society)</i>
<i>DOT:</i>	<i>US Department of Transportation</i>
<i>EINECS:</i>	<i>European Inventory of Existing Commercial Chemical Substances</i>
<i>Eye Dam.:</i>	<i>Serious eye damage/eye irritation</i>
<i>HMIS:</i>	<i>Hazardous Materials Identification System (USA)</i>
<i>IATA:</i>	<i>International Air Transport Association</i>
<i>IMDG:</i>	<i>International Maritime Code for Dangerous Goods</i>
<i>LC50:</i>	<i>Lethal concentration, Median</i>
<i>LD50:</i>	<i>Lethal dose, Median</i>
<i>NFPA:</i>	<i>National Fire Protection Association (USA)</i>
<i>NIOSH:</i>	<i>National Institute for Occupational Safety</i>
<i>OSHA:</i>	<i>Occupational Safety & Health</i>
<i>PBT:</i>	<i>Persistent, Bioaccumulative and Toxic</i>
<i>PEL:</i>	<i>Permissible Exposure Limit</i>



Safety Data Sheet: Pyocyanin

<i>REL:</i>	<i>Recommended Exposure Limit</i>
<i>Repr.:</i>	<i>Reproductive toxicity</i>
<i>RTECS:</i>	<i>Registry of Toxic Effects of Chemical Substances</i>
<i>Skin Irrit:</i>	<i>Skin corrosion/irritation</i>
<i>STOT RE:</i>	<i>Specific target organ toxicity (repeated exposure)</i>
<i>TLV:</i>	<i>Threshold Limit Value</i>
<i>vPvB:</i>	<i>Very Persistent and Very Bioaccumulative</i>

16.6. End of SDS