Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 11.04.2025 *Version number 4* *Revision: 11.04.2025*

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name: 4',6-Diamidino-2-phenylindole-2HCl**

· **Article number:** 18860
· **CAS Number:**
28718-90-3
· **EC number:**
249-186-7
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Application of the substance / the mixture:** Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de

· **Information department:** Security Department Phone: +49 6221 13840-35
· **1.4 Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Centre Mainz-Tel: +49 (0) 6131 19240
(Counselling in German and English)

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008:**

GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008:**
The substance is classified and labelled according to the GB CLP regulation.
· **Hazard pictograms:** GHS07
· **Signal word:** Warning
· **Hazard statements:**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
· **Precautionary statements**
P261 Avoid breathing dust.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.

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P304+P340 *IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
P333+P313 *If skin irritation or rash occurs: Get medical advice/attention.*

· ***Labelling of packages where the contents do not exceed 125 ml***
· ***Hazard pictograms*** *GHS07*
· ***Signal word*** *Warning*
· ***Hazard statements***
H317 May cause an allergic skin reaction.
· ***Precautionary statements***
P280 *Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.*
P302+P352 *IF ON SKIN: Wash with plenty of soap and water.*
P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
P333+P313 *If skin irritation or rash occurs: Get medical advice/attention.*
· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment:***
· ***PBT:*** *PBT - Assessment not available.*
· ***vPvB:*** *vPvB - Assessment not available.*
· ***Determination of endocrine-disrupting properties*** *No further relevant information available.*

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SECTION 3: Composition/information on ingredients

· ***3.1 Substances***
· ***CAS No. Description:***
28718-90-3 2-phenylindole-4',6-dicarboxamidine dihydrohydrochloride (hydrate)
· ***Identification number(s):***
· ***EC number:*** *249-186-7*
· ***Description:***
· ***Empirical formula:*** $C_{16}H_{15}N_5 * 2\ H\ Cl$
· ***MW:*** *350.25*

SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***After inhalation:*** *Supply fresh air; consult doctor in case of complaints.*
· ***After skin contact:***
Wash off immediately with soap and water and rinse thoroughly. In case of complaints, consult a doctor.
· ***After eye contact:***
Rinse opened eye for several minutes with running water. Remove contact lenses if possible and continue rinsing. Consult an ophthalmologist immediately.
· ***After swallowing:***
Rinse out mouth and consult a doctor.
Do not induce vomiting!
· ***4.2 Most important symptoms and effects, both acute and delayed***
No further relevant information available.
· ***4.3 Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
CO_2*, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*

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· ***5.2 Special hazards arising from the substance or mixture:***
Formation of hazardous vapours and gases possible during heating or in case of fire.
In case of fire, the following can be formed, but not limited to:
Nitrogen oxides (NOx)
Hydrogen chloride (HCl)
Carbon monoxide and carbon dioxide
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Wear self-contained breathing apparatus.*
· ***Additional information***
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Ensure adequate ventilation
Wear protective clothing.
Avoid contact with eyes and skin.
· ***6.2 Environmental precautions:*** *Do not allow to enter sewers/ surface or ground water.*
· ***6.3 Methods and material for containment and cleaning up***
Dispose contaminated material as waste according to section 13.
Pick up mechanically.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling:***
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
· ***Information about protection against explosions and fires:*** *Keep ignition sources away - Do not smoke.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and receptacles:***
Store only in the original receptacle.
Storage at +2 to +8 °C
· ***Information about storage in one common storage facility:*** *Store away from oxidising agents.*
· ***Further information about storage conditions:***
Store containers tightly closed and dry.
Store in the dark.
· ***7.3 Specific end use(s):*** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***
· ***Components with limit values that require monitoring at the workplace:*** *Not required.*
· ***Additional information:*** *The lists that were valid during the creation were used as basis.*

· ***8.2 Exposure controls***
· ***Appropriate engineering controls:*** *No further data; see section 7.*
· ***Individual protection measures, such as personal protective equipment:***
· ***General protective and hygienic measures:***
Keep away from foodstuffs, beverages and feed.

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Store protective clothing separately.
Immediately remove all soiled and contaminated clothing
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.

· ***Breathing equipment:***
Short term filter device:
Filter P2.

· ***Hand protection:***
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· ***Material of gloves:***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· ***Penetration time of glove material:***
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· ***For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:***
Natural rubber, NR
Nitrile rubber, NBR

· ***Eye/face protection:*** *Safety glasses*

· ***Body protection:*** *Protective work clothing.*

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***General Information:***	
· ***Physical state:***	*Solid.*
· ***Colour:***	*Yellow*
· ***Odour:***	*Characteristic*
· ***Odour threshold:***	*not determined.*
· ***Melting point/freezing point:***	*No information available*
· ***Boiling point or initial boiling point and boiling range:***	*No information available*
· ***Flammability:***	*No information available*
· ***Lower and upper explosion limit:***	
· ***Lower:***	*No information available*
· ***Upper:***	*No information available*
· ***Flash point:***	*No information available*
· ***Decomposition temperature:***	*No information available*
· ***pH:***	*No information available*
· ***Viscosity:***	
· ***Kinematic viscosity:***	*No information available*
· ***Dynamic viscosity:***	*No information available*
· ***Solubility:***	
· ***Water:***	*Soluble*
· ***Partition coefficient n-octanol/water (log value):***	*No information available*
· ***Vapour pressure:***	*No information available*
· ***Density and/or relative density:***	
· ***Density:***	*No information available*
· ***Relative density:***	*No information available*
· ***Particle characteristics***	*No information available*

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· ***9.2 Other information***
· ***Appearance:***
· ***Form:*** *Powder*
· ***Important information on protection of health and environment, and on safety:***
· ***Explosive properties:*** *The product is not explosive, but the formation of explosive dust/air mixtures is possible.*
· ***Molecular weight*** *350.25 g/mol*

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SECTION 10: Stability and reactivity

· ***10.1 Reactivity:*** *No further relevant information available.*
· ***10.2 Chemical stability:***
· ***Thermal decomposition / conditions to be avoided:*** *No decomposition if used according to specifications.*
· ***10.3 Possibility of hazardous reactions:*** *No further relevant information available.*
· ***10.4 Conditions to avoid:***
High temperatures
Exposure to light
· ***10.5 Incompatible materials:*** *Avoid contact with strong oxidising agents, strong acids, strong alkalis.*
· ***10.6 Hazardous decomposition products:*** *In case of fire: see section 5*

SECTION 11: Toxicological information

· ***11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:***
· ***Acute toxicity:*** *Based on available data, the classification criteria are not met.*
· ***Skin corrosion/irritation:*** *Causes skin irritation.*
· ***Serious eye damage/irritation:*** *Causes serious eye irritation.*
· ***Respiratory or skin sensitisation:*** *May cause an allergic skin reaction.*
· ***Germ cell mutagenicity:*** *Based on available data, the classification criteria are not met.*
· ***Carcinogenicity:*** *Based on available data, the classification criteria are not met.*
· ***Reproductive toxicity:*** *Based on available data, the classification criteria are not met.*
· ***STOT-single exposure:*** *May cause respiratory irritation.*
· ***STOT-repeated exposure:*** *Based on available data, the classification criteria are not met.*
· ***Aspiration hazard:*** *Based on available data, the classification criteria are not met.*
· ***11.2 Information on other hazards:***
· ***Endocrine disrupting properties:*** *No relevant information available*

*
SECTION 12: Ecological information

· ***12.1 Toxicity:***
· ***Aquatic toxicity:*** *No further relevant information available.*
· ***12.2 Persistence and degradability:*** *No further relevant information available.*
· ***12.3 Bioaccumulative potential:*** *No further relevant information available.*
· ***12.4 Mobility in soil:*** *No further relevant information available.*
· ***12.5 Results of PBT and vPvB assessment:***
· ***PBT:*** *PBT - assessment not available.*
· ***vPvB:*** *vPvB - assessment not available.*
· ***12.6 Endocrine disrupting properties:*** *For information on endocrine disrupting properties see section 11.*
· ***12.7 Other adverse effects:***
· ***Additional ecological information:***
· ***General notes:***
Do not allow product to reach ground water, water course or sewage system.

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Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:**
Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **Class:**	Void
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	Void

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SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Poisons Act**
· **Regulated explosives precursors** Substance is not listed.
· **Regulated poisons** Substance is not listed.
· **Reportable explosives precursors** Substance is not listed.
· **Reportable poisons** Substance is not listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.
· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
· **REGULATION (EU) 2019/1148**
· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.

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· ***Annex II - REPORTABLE EXPLOSIVES PRECURSORS*** *Substance is not listed.*
· ***Regulation (EC) No 273/2004 on drug precursors*** *Substance is not listed.*
· ***Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors***
Substance is not listed.

· ***National regulations:***

· ***Water hazard class:*** *Water hazard class 2 (Self-assessment): hazardous for water.*
· ***15.2 Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· ***Department issuing SDS:*** *Product Safety Department*
· ***Contact:*** *+49 6221 13840-35*
· ***Date of previous version:*** *02.05.2018*
· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
PBT: persistent, bioaccumulative, toxic substance (UK REACH)
vPvB: very persistent, very bioaccumulative substance (UK REACH)
UK REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
GB CLP: Regulation on classification, labelling and packaging of substances and mixtures
bw: body weight
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3