

# MATERIAL SAFETY DATA SHEET

According to EC Regulation No. 1907/2006



Version: 1  
Date of Issue: 06.03.2014  
Revision Date:

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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### 1.1 Identification of the product

Substance Name: 4',6-Diamidino-2-phenylindol (DAPI solid powder)  
Catalogue No.: F-0408  
EC No.: 249-186-7  
CAS No.: 28718-90-3

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use: Laboratory chemical  
Uses advised against: Not known.

### 1.3 Detail of the supplier of the safety data sheet

Company: emp Biotech GmbH  
Robert-Roessle-Str. 10  
D-13125 Berlin

Telefon: +49-30-9489-2201 (Monday-Friday, 9:00 am-5:00 pm)  
Telefax: +49-30-9489-3201  
E-Mail: info@empbiotech.com

### 1.4 Emergency Number

INFOTRAC: +1-352-323-3500 (Phone) or in the US 800-535-5053 (toll-free), 24 hours/day, 7 days/week

## 2. HAZARDOUS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

<i>Hazard classes and Hazard categories</i>	<i>Hazard Statements</i>
Skin Sens. 1	H315
Skin Irrit. 2	H317
STOT SE 3	H335

(For the full text of the listed hazard classes, hazard categories and hazard statements see section 16)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

<i>Hazard symbol code(s)</i>	<i>R-phrase(s)</i>
Xi	R36/37/38

(For the full text of the listed hazard symbol code(s) and R-phrase(s) see section 16)

### 2.2 Label elements

Label elements according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

#### *Pictograms*



GHS07

#### *Signal Word*

Warning

#### *Hazard Statements*

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.

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H335 May cause respiratory irritation.

## Precautionary statements

P261 Avoid breathing dust.  
P262 Do not get in eyes, on skin, or on clothing  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+352 IF ON SKIN: Wash with soap and water

## Supplemental Hazard information (EU)

None

## Label elements according to European Directive 67/548/EEC or 1999/45/EC

### Hazard symbol(s)



Xi

### R-phrases(s)

R36/37/38 Irritating to eyes, respiratory system and skin.

### S-phrases(s)

S22 Do not breathe dust.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S28 After contact with skin, wash immediately with plenty of water.  
S24/25 Avoid contact with skin and eyes.  
S36/37/39 Wear suitable protective clothing, gloves and eye protection.

## 2.3 Other hazards

None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

#### Main component of the substance

Substance Name: 4',6-Diamidino-2-phenylindole  
Synonyms: 2-phenylindole-4',6-dicarboximidine dihydrochloride (hydrate)  
2-(4-carbamimidoylphenyl)- 1H-indol-6-carboximidamid  
2-(4-Amidinophenyl)-6-indolecarbamidine dihydrochloride  
4',6-Diamidino-2-phenylindole dihydrochloride  
DAPI  
Formula C<sub>16</sub>H<sub>15</sub>N<sub>5</sub> x 2HCl  
Molecular Weight: 350.25 g/mol  
EC No.: 249-186-7  
CAS No.: 28718-90-3

#### Hazardous ingredients

Component	Classification		Percentage
	according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]	according to EU Directives 67/548/EWG	
4',6-Diamidino-2-phenylindole			
EC No.: 249-186-7 CAS-No.: 28718-90-3	Skin Sens. 1, Skin Irrit. 2, STOT SE 3 H315, H317, H335	Xi, R36/37/38	≤100% (Mass )

(For the full text of the listed hazard classes and hazard categories, hazard statements, hazard symbol code(s), R-phrases(s) see section 16)

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## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**General advice:**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**After inhalation:**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**After skin contact:**

Wash off with soap and plenty of water. Consult a physician.

**After eye contact:**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**After swallowing:**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in section 2.2 and/or in section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media**

CO<sub>2</sub>, powder, alcohol-resistant foam, water in large amounts.

**Extinguishing media not to be used**

No data available

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride gas.

### 5.3 Advice for firefighters

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus. In order to avoid skin contact, keep a safe distance and wear suitable protection clothing. Mouth respiratory protective device. Wear self-contained respiratory protective device. Wear fully protective suit.

### 5.4 Additional information

No data available

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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## 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust. In case of dust formation care appropriate exhaust ventilation. Handling corresponding to laboratory safety guidelines.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry, cool and well-ventilated place.

Recommended storage temperature: 2 - 8 °C

### 7.3 Specific end uses

No data available

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

No data available

### 8.2 Exposure controls

#### *Appropriate engineering controls*

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### *Personal protection equipment*

Ensure that eyewash stations and safety showers are close to the workstation location. Use with local exhaust ventilation. Prevent vapor buildup by providing adequate ventilation during and after use. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

*Respiratory protection:* 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 must be tested and approved under appropriate government standards such as NIOSH (U.S.) or CEN (EU).

*Eye protection:* Use safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

*Hand protection:* Use gloves. Gloves must be inspected prior to use. Replace when worn. The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374. Due to missing tests no recommendation to the glove material can be given for the product.

*Skin and body protection:* The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

*Hygiene measures:* When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Do not swallow. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Important health, safety and environmental information

- |                     |                              |
|---------------------|------------------------------|
| a) Physical state:  | yellow / crystalline         |
| b) Odour:           | no data available            |
| c) Odour Threshold: | no data available            |
| d) pH value:        | 4.0 - 5.0 at 10 g/l at 20 °C |

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e) Melting point:	no data available
f) Boiling point:	no data available
g) Flash point:	no data available
h) Evaporation rate:	no data available
i) Flammability (solid, gas):	no data available
j) Explosion limits:	no data available
k) Vapour pressure (20 °C):	no data available
l) Vapour density:	no data available
m) Relative density (20°C):	no data available
n) Solubility in water:	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Autoignition temperature:	no data available
q) Decomposition temperature:	> 330 °C
r) Viscosity:	no data available
s) Explosive properties:	no data available
t) Oxidizing properties:	no data available

## 9.2 Other safety information

No data available.

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available.

### 10.4 Conditions to avoid

Avoid heat. Very slow decomposition with high humidity and / or in presence of water. Product is light sensitive and may decompose upon exposure to light.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### **Acute toxicity**

No data available.

#### **Skin corrosion/irritation**

Causes skin irritation. May cause an allergic skin reaction.

#### **Serious eye damage/eye irritation**

No data available.

#### **Respiratory sensitization**

No data available.

#### **Germ cell mutagenicity**

No data available

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## ***Carcinogenicity***

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

## ***Reproductive toxicity***

No data available

## ***Specific target organ toxicity - single exposure***

No data available

## ***Specific target organ toxicity - repeated exposure***

No data available

## ***Aspiration hazard***

May cause respiratory irritation.

## ***Potential health effects***

**Inhalation:** May cause respiratory irritation.

**Ingestion:** No data available.

**Skin:** May be causes skin irritation. May cause an allergic skin reaction.

**Eyes:** No data available.

## ***Signs and Symptoms of Exposure***

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## ***Other information***

RTECS numbers (NIOSH): No data available

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## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

No data available

### **12.2 Persistence and degradability**

No data available

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

No data available

### **12.6 Other adverse effects**

No data available

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## **13. DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

#### ***Product***

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### ***Contaminated packaging***

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### 14.1 UN number

ADR/RID: IMDG: IATA:

### 14.2 UN proper shipping name

ADR/RID: NOT DANGEROUS GOODS.  
IMDG: NOT DANGEROUS GOODS.  
IATA: NOT DANGEROUS GOODS.

### 14.3 Transport hazard class(es)

ADR/RID: IMDG: IATA:

### 14.4 Packaging group

ADR/RID: IMDG: IATA:

### 14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

### 14.6 Special precautions for user

No data available

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## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

### 15.2 Chemical Safety Assessment

No data available

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## 16. OTHER INFORMATION

Used abbreviations and acronyms can be looked up under [www.wikipedia.de](http://www.wikipedia.de)

**Full text of the listed hazard classes, hazard categories, hazard symbol code(s) and R-phrase(s) in section 2 to 15**

#### According to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Skin Irrit. 2	Skin irritation, Catégorie 2
Skin Sens. 1	Sensibilisierung der Haut, Catégorie 2
STOT SE 3	Specific target organ toxicity - single exposure, Respiratory tract, Category 3

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

#### According to European Directive 67/548/EEC or 1999/45/EC

Xi	Irritant
R36/37/38	Irritating to eyes, respiratory system and skin.

#### Additional information

This information is given without any warranty or representation. It is believed to be correct but does not claim to be all inclusive and shall be used only as a guide. emp Biotech GmbH shall not be held liable for any damage resulting from handling or contact with the above product. It is offered solely for your consideration, investigation and verification.

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