

SERVA Lightning SciDye Set

Article number : 43407

Safety Data Sheets of the following Kit Components:

43404	SERVA Lightning Sci2
43405	SERVA Lightning Sci3
43406	SERVA Lightning Sci5
2027101	Dimethylformamide

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

1 Identification

- **Product identifier**
- **Trade name:** SERVA Lightning Sci2
- **Article number:** 43404
- **Application of the substance / the mixture:** Laboratory chemicals
- **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:** Product Safety Department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)



2 Hazard(s) identification

- **Classification of the substance or mixture**
The substance is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms:** Void
- **Signal word:** Void
- **Hazard statements:** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - Assessment not available.
- **vPvB:** vPvB - Assessment not available.

3 Composition/information on ingredients

- **Chemical characterization:** Substances
- **CAS No. Description:**
Substance name: Cyanine2 NHS ester
- **Identification number(s):** -

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

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Trade name: SERVA Lightning Sci2

(Contd. of page 1)

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **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 existing contact lenses, if possible, and continue rinsing. In case of complaints, consult an ophthalmologist.
- **After swallowing:** Rinse out mouth. In case of complaints, consult a doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Formation of hazardous vapors and gases possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
- **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.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Avoid formation of dust.
Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to section 13.
Pick up mechanically.
- **Protective Action Criteria for Chemicals**

· PAC-1:

Substance is not listed.

· PAC-2:

Substance is not listed.

· PAC-3:

Substance is not listed.

- **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.

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(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

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Trade name: SERVA Lightning Sci2

(Contd. of page 2)

7 Handling and storage

- **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.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
 - Storage temperature: -15 to -25 °C
 - Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Store container tightly closed and dry.
 - Protect from exposure to the light.
- **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

- **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.
- **Exposure controls**
- **Additional information about design of technical systems:** No further data; see section 7.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - 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:** Suitable respiratory protective device recommended.
- **Protection of hands:**
 - 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 through 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 protection:** Safety glasses
- **Body protection:** Protective work clothing

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci2

(Contd. of page 3)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information:

· Color:	Yellow
· Odor:	Odorless
· Odor threshold:	No information available
· Melting point/Melting range:	No information available
· Boiling point/Boiling range:	No information available
· Flammability (solid, gaseous):	No information available
· Explosion limits:	
· Lower:	No information available
· Upper:	No information available
· Flash point:	No information available
· Decomposition temperature:	No information available
· pH-value:	No information available
· Viscosity:	
· Kinematic viscosity:	No information available
· Dynamic viscosity:	No information available
· Solubility in / Miscibility with:	
· Water:	Slightly soluble.
· Partition coefficient (n-octanol/water):	No information available
· Vapor pressure:	No information available
· Vapor pressure:	
· Density:	No information available
· Relative density:	No information available

· Other information

· Appearance:

· Form: Powder

· Important information on protection of health and environment, and on safety:

· Danger of explosion: The product is not explosive, but the formation of explosive dust/air mixtures is possible.

· VOC content: 0.00 %

10 Stability and reactivity

· Reactivity: No further relevant information available.

· Chemical stability:

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions: No further relevant information available.

· Conditions to avoid:

Exposure to light

High temperatures

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: In case of fire: see section 5

11 Toxicological information

· Information on toxicological effects

· Acute toxicity: Based on available data, the classification criteria are not met.

· on the skin: Based on available data, the classification criteria are not met.

· on the eye: Based on available data, the classification criteria are not met.

· Sensitization: Based on available data, the classification criteria are not met.

· Germ cell mutagenicity: Based on available data, the classification criteria are not met.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci2

(Contd. of page 4)

- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **Specific target organ toxicity - single exposure:**
Based on available data, the classification criteria are not met.
- **Specific target organ toxicity - repeated exposure:**
Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
According to the information available to us, the toxicological properties of this product have not been fully investigated.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

* 12 Ecological information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:**
- **Other information:** There are no known environmental hazards associated with this substance.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (Self-assessment): hazardous for water

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with official regulations.
- **Uncleaned packagings:**
- **Recommendation:**
Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.

14 Transport information

- | | |
|------------------------------------|------|
| · UN-Number | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: *SERVA Lightning Sci2*

(Contd. of page 5)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

Substance is not listed.

· Hazardous Air Pollutants

Substance is not listed.

· Proposition 65

Substance is not listed.

· Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

Substance is not listed.

· TLV (Threshold Limit Value)

Substance is not listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

- GHS label elements** Void
- Hazard pictograms** Void
- Signal word** Void
- Hazard statements** Void

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci2

(Contd. of page 6)

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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 preparation / last revision** 10/02/2024 / -

· **Abbreviations and acronyms:**

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

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

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

1 Identification

- **Product identifier**
- **Trade name:** SERVA Lightning Sci3
- **Article number:** 43405
- **Application of the substance / the mixture:** Laboratory chemicals
- **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:** Product Safety Department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)

SERVA
■ serving scientists ■

2 Hazard(s) identification

- **Classification of the substance or mixture**
The substance is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms:** Void
- **Signal word:** Void
- **Hazard statements:** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - Assessment not available.
- **vPvB:** vPvB - Assessment not available.

3 Composition/information on ingredients

- **Chemical characterization:** Substances
- **CAS No. Description:**
Substance name: Cyanine3 NHS ester
- **Identification number(s):** -

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci3

(Contd. of page 1)

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **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 existing contact lenses, if possible, and continue rinsing. In case of complaints, consult an ophthalmologist.
- **After swallowing:** Rinse out mouth. In case of complaints, consult a doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Formation of hazardous vapors and gases possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
- **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.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Avoid formation of dust.
Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to section 13.
Pick up mechanically.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

Substance is not listed.

- **PAC-2:**

Substance is not listed.

- **PAC-3:**

Substance is not listed.

- **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.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci3

(Contd. of page 2)

7 Handling and storage

- **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.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Storage temperature: -15 to -25 °C
Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Store container tightly closed and dry.
Protect from exposure to the light.
- **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

- **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.
- **Exposure controls**
- **Additional information about design of technical systems:** No further data; see section 7.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Store protective clothing separately.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Suitable respiratory protective device recommended.
- **Protection of hands:**
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 through 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 protection:** Safety glasses
- **Body protection:** Protective work clothing

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci3

(Contd. of page 3)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information:

· Color:	reddish
· Odor:	Odorless
· Odor threshold:	No information available
· Melting point/Melting range:	No information available
· Boiling point/Boiling range:	No information available
· Flammability (solid, gaseous):	No information available
· Explosion limits:	
· Lower:	No information available
· Upper:	No information available
· Flash point:	No information available
· Decomposition temperature:	No information available
· pH-value:	No information available
· Viscosity:	
· Kinematic viscosity:	No information available
· Dynamic viscosity:	No information available
· Solubility in / Miscibility with:	
· Water:	Slightly soluble.
· Partition coefficient (n-octanol/water):	No information available
· Vapor pressure:	No information available
· Vapor pressure:	
· Density:	No information available
· Relative density:	No information available

· Other information

· Appearance:

· Form: lyophilisate

· Important information on protection of health and environment, and on safety:

· Danger of explosion: The product is not explosive, but the formation of explosive dust/air mixtures is possible.

· VOC content: 0.00 %

10 Stability and reactivity

· Reactivity: No further relevant information available.

· Chemical stability:

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions: No further relevant information available.

· Conditions to avoid:

Exposure to light

High temperatures

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: In case of fire: see section 5

11 Toxicological information

· Information on toxicological effects

· Acute toxicity: Based on available data, the classification criteria are not met.

· on the skin: Based on available data, the classification criteria are not met.

· on the eye: Based on available data, the classification criteria are not met.

· Sensitization: Based on available data, the classification criteria are not met.

· Germ cell mutagenicity: Based on available data, the classification criteria are not met.

(Contd. on page 5)

Safety Data Sheet

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Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci3

(Contd. of page 4)

- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **Specific target organ toxicity - single exposure:**
Based on available data, the classification criteria are not met.
- **Specific target organ toxicity - repeated exposure:**
Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
According to the information available to us, the toxicological properties of this product have not been fully investigated.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

* 12 Ecological information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:**
- **Other information:** There are no known environmental hazards associated with this substance.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (Self-assessment): hazardous for water

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with official regulations.
- **Uncleaned packagings:**
- **Recommendation:**
Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.

14 Transport information

- | | |
|------------------------------------|------|
| · UN-Number | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |

(Contd. on page 6)

US

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Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: **SERVA Lightning Sci3**

(Contd. of page 5)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

- Section 355 (extremely hazardous substances):**

Substance is not listed.

- Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- TSCA (Toxic Substances Control Act):**

Substance is not listed.

- Hazardous Air Pollutants**

Substance is not listed.

- Proposition 65**

Substance is not listed.

- Chemicals known to cause cancer:**

Substance is not listed.

- Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

- Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- Chemicals known to cause developmental toxicity:**

Substance is not listed.

- Carcinogenicity categories**

- EPA (Environmental Protection Agency)**

Substance is not listed.

- TLV (Threshold Limit Value)**

Substance is not listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

- GHS label elements** Void

- Hazard pictograms** Void

- Signal word** Void

- Hazard statements** Void

(Contd. on page 7)

Safety Data Sheet

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Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci3

(Contd. of page 6)

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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 preparation / last revision** 10/02/2024 / -

· **Abbreviations and acronyms:**

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

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

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

1 Identification

- **Product identifier**
- **Trade name:** SERVA Lightning Sci5
- **Article number:** 43406
- **Application of the substance / the mixture:** Laboratory chemicals
- **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:** Product Safety Department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)

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2 Hazard(s) identification

- **Classification of the substance or mixture**
The substance is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms:** Void
- **Signal word:** Void
- **Hazard statements:** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - Assessment not available.
- **vPvB:** vPvB - Assessment not available.

3 Composition/information on ingredients

- **Chemical characterization:** Substances
- **CAS No. Description:**
Substance name: Cyanine5 NHS ester
- **Identification number(s):** -

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci5

(Contd. of page 1)

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **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 existing contact lenses, if possible, and continue rinsing. In case of complaints, consult an ophthalmologist.
- **After swallowing:** Rinse out mouth. In case of complaints, consult a doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Formation of hazardous vapors and gases possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
- **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.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Avoid formation of dust.
Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to section 13.
Pick up mechanically.
- **Protective Action Criteria for Chemicals**

· PAC-1:
Substance is not listed.

· PAC-2:
Substance is not listed.

· PAC-3:
Substance is not listed.

- **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.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci5

(Contd. of page 2)

7 Handling and storage

- **Precautions for safe handling:**
No special measures required.
Prevent formation of dust.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Storage temperature: -15 to -25 °C
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Store container tightly closed and dry.
Protect from exposure to the light.
- **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

- **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.
- **Exposure controls**
- **Additional information about design of technical systems:** No further data; see section 7.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Store protective clothing separately.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Suitable respiratory protective device recommended.
- **Protection of hands:**
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 through 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 protection:** Safety glasses
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information:**
- **Color:** Blue

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci5

(Contd. of page 3)

· Odor:	Odorless
· Odor threshold:	No information available
· Melting point/Melting range:	No information available
· Boiling point/Boiling range:	No information available
· Flammability (solid, gaseous):	No information available
· Explosion limits:	
· Lower:	No information available
· Upper:	No information available
· Flash point:	No information available
· Decomposition temperature:	No information available
· pH-value:	No information available
· Viscosity:	
· Kinematic viscosity:	No information available
· Dynamic viscosity:	No information available
· Solubility in / Miscibility with:	
· Water:	Slightly soluble.
· Partition coefficient (n-octanol/water):	No information available
· Vapor pressure:	No information available
· Vapor pressure:	
· Density:	No information available
· Relative density:	No information available

· Other information	
· Appearance:	
· Form:	Powder
· Important information on protection of health and environment, and on safety:	
· Danger of explosion:	The product is not explosive, but the formation of explosive dust/air mixtures is possible.
· VOC content:	0.00 %

10 Stability and reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No further relevant information available.
- **Conditions to avoid:**
 - Exposure to light
 - High temperatures
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** In case of fire: see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.
- **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.
- **Specific target organ toxicity - single exposure:**
 - Based on available data, the classification criteria are not met.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci5

(Contd. of page 4)

- **Specific target organ toxicity - repeated exposure:**
Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
According to the information available to us, the toxicological properties of this product have not been fully investigated.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

12 Ecological information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:**
- **Other information:** There are no known environmental hazards associated with this substance.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (Self-assessment): hazardous for water

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with official regulations.
- **Uncleaned packagings:**
- **Recommendation:**
Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.

14 Transport information

- | | |
|---|------|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, ADR, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT, ADR, ADN, IMDG, IATA · Class | Void |

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: *SERVA Lightning Sci5*

(Contd. of page 5)

- | | |
|--|-----------------|
| · Packing group | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

Substance is not listed.

- **Hazardous Air Pollutants**

Substance is not listed.

- **Proposition 65**

Substance is not listed.

- **Chemicals known to cause cancer:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- **Chemicals known to cause developmental toxicity:**

Substance is not listed.

- **Carcinogenicity categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

- **TLV (Threshold Limit Value)**

Substance is not listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

- **GHS label elements** Void

- **Hazard pictograms** Void

- **Signal word** Void

- **Hazard statements** Void

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/02/2024

Reviewed on 10/02/2024

Trade name: SERVA Lightning Sci5

(Contd. of page 6)

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 preparation / last revision** 10/02/2024 / -

· **Abbreviations and acronyms:**

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

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

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/01/2024

Reviewed on 10/01/2024

1 Identification

- **Product identifier**
- **Trade name:** Dimethylformamide
- **Article number:** 20271
- **CAS Number:**
68-12-2
- **EC number:**
200-679-5
- **Index number:**
616-001-00-X
- **Application of the substance / the mixture:** Laboratory chemicals
- **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:** Product Safety Department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)

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2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02

Flammable Liquids 3

H226 Flammable liquid and vapor.



GHS08

Toxic to Reproduction 1B

H360 May damage fertility or the unborn child.



GHS07

Acute Toxicity - Dermal 4

H312 Harmful in contact with skin.

Acute Toxicity - Inhalation 4

H332 Harmful if inhaled.

Eye Irritation 2A

H319 Causes serious eye irritation.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:** GHS02, GHS07, GHS08

- **Signal word:** Danger

- **Hazard statements:**

Flammable liquid and vapor.

Harmful in contact with skin or if inhaled.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/01/2024

Reviewed on 10/01/2024

Trade name: Dimethylformamide

(Contd. of page 1)

Causes serious eye irritation.

May damage fertility or the unborn child.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Avoid breathing mist/vapours/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of soap and water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 2

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 2

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment:**

· **PBT:** PBT - Assessment not available.

· **vPvB:** vPvB - Assessment not available.

* 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description:**

68-12-2 N,N-dimethylformamide

· **Identification number(s):**

· **EC number:** 200-679-5

· **Index number:** 616-001-00-X

· **Description:**

· **Empirical formula:** C₃H₇N O

· **MW:** 73.1

* 4 First-aid measures

· **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 existing contact lenses, if possible, and continue rinsing. In case of complaints, consult an ophthalmologist.

· **After swallowing:** Rinse mouth immediately. Drink plenty of water and fresh air. Call a doctor immediately.

· **Most important symptoms and effects, both acute and delayed**

Headache

Dizziness

Gastric or intestinal disorders

Nausea

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/01/2024

Reviewed on 10/01/2024

Trade name: Dimethylformamide

(Contd. of page 2)

- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Flammable substance, vapors are heavier than air and spread over the ground.
Vapors may form flammable and explosive mixtures with air.
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide and carbon dioxide
Formaldehyde
Ammonia (NH₃)
- **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.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Avoid contact with eyes and skin.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to section 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 2 ppm
- **PAC-2:** 91 ppm
- **PAC-3:** 530 ppm
- **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.

7 Handling and storage

- **Precautions for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about protection against explosions and fires:**
Protect against electrostatic charges.
Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
Store under lock and key and with access restricted to technical experts or their assistants only.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/01/2024

Reviewed on 10/01/2024

Trade name: Dimethylformamide

(Contd. of page 3)

- This product is hygroscopic.
 Store in dry conditions.
 Keep container tightly closed.
 · **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

68-12-2 N,N-dimethylformamide (80-100%)

PEL	Long-term value: 30 mg/m ³ , 10 ppm Skin
REL	Long-term value: 30 mg/m ³ , 10 ppm Skin
TLV	Long-term value: 5 ppm Skin; BEI, A3

· **Ingredients with biological limit values:**

68-12-2 N,N-dimethylformamide (80-100%)

BEI	30 mg/L Medium: urine Time: end of shift Parameter: Total N-Methylformamide (sum of N-Methylformamide and N-(Hydroxymethyl)-N-Methylformamide)
	30 mg/L Medium: urine Time: end of shift at end of workweek Parameter: N-Acetyl-S-(N-methylcarbamoyl) cysteine

· **Additional information:**

resorbable by skin contact
 The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Additional information about design of technical systems:** No further data; see section 7.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
 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 ABEK-P2

· **Protection of hands:**

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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/01/2024

Reviewed on 10/01/2024

Trade name: Dimethylformamide

(Contd. of page 4)

- **Penetration time of glove material:**
The exact break through 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:**
Butyl rubber, BR
- **Eye protection:** Tightly sealed goggles
- **Body protection:** Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information:

- **Color:** Colorless
- **Odor:** Amine-like
- **Odor threshold:** Not determined.
- **Melting point/Melting range:** -61 °C (-77.8 °F)
- **Boiling point/Boiling range:** 153 °C (307.4 °F)
- **Flammability (solid, gaseous):** Flammable liquid and vapor according to CLP Regulation (EU) No. 1272/2008: Flam. Liq. 3 H226
- **Explosion limits:**
- **Lower:** 2.2 Vol %
- **Upper:** 16 Vol %
- **Flash point:** 58 °C (136.4 °F)
- **Auto igniting:** 435 °C (815 °F) (DIN 51794)
- **Decomposition temperature:** > 350 °C
- **pH-value:** 7
- **Viscosity:**
- **Kinematic viscosity:** 0.895 mm²/s
No information available
- **Dynamic viscosity at 20 °C (68 °F):** 0.86 mPas
- **Solubility in / Miscibility with:**
- **Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Vapor pressure at 20 °C (68 °F):** 3.77 hPa (2.8 mm Hg)
- **Vapor pressure at 50 °C (122 °F):** 23 hPa (17.3 mm Hg)
- **Density at 20 °C (68 °F):** 0.95 g/cm³ (7.92775 lbs/gal)
- **Relative density:** No information available

· Other information

- **Appearance:**
- **Form:** Liquid
- **Important information on protection of health and environment, and on safety:**
- **Danger of explosion:** Not determined.
- **Molecular weight:** 73.1 g/mol

10 Stability and reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** Vapors may form flammable and explosive mixtures with air.
- **Conditions to avoid:** Avoid high temperatures, flames, sparks
- **Incompatible materials:**
Avoid contact with:

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/01/2024

Reviewed on 10/01/2024

Trade name: Dimethylformamide

(Contd. of page 5)

- Strong oxidizers
- various plastics, metals, metal alloys
- **Hazardous decomposition products:** In case of fire: see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Harmful in contact with skin or if inhaled.

- **LD/LC50 values that are relevant for classification:**

Oral	LD50	3,010 mg/kg (rat)
Dermal	LD50	1,500 mg/kg (rat)
Inhalative	LC50/4h	11.1 mg/l (rat)

- **on the eye:** Causes serious eye irritation.
- **Reproductive toxicity:** May damage fertility or the unborn child.
- **Other information (about experimental toxicology)**
The classification of N,N-dimethylformamide as toxic for reproduction (Repr. 1B); H360D "may damage the unborn child" according to Regulation (EC) No. 1272/2008 (CLP Regulation) and the inclusion in Annex VI, Part 3 (Index No. 616-001-00-X),
Table 3.1 (List of harmonized classification and labelling of dangerous substances):
N,N-dimethylformamide (DMF) meets the criterion for classification as toxic for reproduction in accordance with Article 57(c) of REACH.
(ECHA SVHC Support Document - DMF; 6)
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer) 2A**
- **NTP (National Toxicology Program) Substance is not listed.**
- **OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.**

12 Ecological information

- **Toxicity:**

- **Aquatic toxicity:**

EC50/48h	13,100 mg/l (Daphnia magna)
----------	-----------------------------

- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:**
- **Remark:** EC50 / 96 h (Scenedesmus subspicatus): > 500 mg / l
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (Assessment by list): hazardous for water

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Dispose of in accordance with official regulations.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/01/2024

Reviewed on 10/01/2024

Trade name: *Dimethylformamide*

(Contd. of page 6)

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.*

14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA** UN2265

· **UN proper shipping name**

· **DOT** *N,N-Dimethylformamide*
 · **ADR** *2265 N,N-DIMETHYLFORMAMIDE*
 · **IMDG, IATA** *N,N-DIMETHYLFORMAMIDE*

· **Transport hazard class(es)**

· **DOT**



· **Class** *3 Flammable liquids*
 · **Label** *3*

· **ADR, IMDG, IATA**



· **Class:** *3 Flammable liquids*
 · **Label:** *3*

· **Packing group**

· **DOT, ADR, IMDG, IATA** *III*

· **Environmental hazards**

· **Marine pollutant:** *No*

· **Special precautions for user**

Warning: Flammable liquids

· **Hazard identification number (Kemler code):** *30*

· **EMS Number:** *F-E,S-D*

· **Stowage Category** *A*

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Excepted quantities (EQ)** *Code: E1*
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **IMDG**

· **Limited quantities (LQ)** *5L*

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/01/2024

Reviewed on 10/01/2024

Trade name: Dimethylformamide

(Contd. of page 7)

· Excepted quantities (EQ)	Code: EI Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Hazardous Air Pollutants** Substance is listed.
- **Proposition 65** Substance is not listed.
- **Chemicals known to cause cancer:** Substance is listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value) A4**
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS02, GHS07, GHS08
- **Signal word** Danger
- **Hazard statements**
Flammable liquid and vapor.
Harmful in contact with skin or if inhaled.
Causes serious eye irritation.
May damage fertility or the unborn child.
- **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Avoid breathing mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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 preparation / last revision** 10/01/2024 / -
- **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

(Contd. on page 9)

Safety Data Sheet

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Trade name: Dimethylformamide

(Contd. of page 8)

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

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

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flammable Liquids 3: Flammable liquids – Category 3

Acute Toxicity - Dermal 4: Acute toxicity – Category 4

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B

US