Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 06.05.2024 *Version number 7* *Revision: 07.08.2023*

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

· **1.1 Product identifier**

· **Trade name: Methylnadic anhydride**

· **Article number:** 29452
· **CAS Number:**
25134-21-8
· **EC number:**
246-644-8
· **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:** Product Safety Department Tel.: +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)

*
SECTION 2: Hazards identification

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

GHS06

Acute Tox. 3 H331 Toxic if inhaled.

GHS08

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

GHS05

Eye Dam. 1 H318 Causes serious eye damage.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

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· ***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:*** *GHS05, GHS06, GHS08*
· ***Signal word:*** *Danger*
· ***Hazard statements:***
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
· ***Precautionary statements***

P261	*Avoid breathing mist/vapours/spray.*
P264	*Wash thoroughly after handling.*
P280	*Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.*
P302+P352	*IF ON SKIN: Wash with plenty of water.*
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.*

· ***Labelling of packages where the contents do not exceed 125 ml***
· ***Hazard pictograms*** *GHS05, GHS06, GHS08*
· ***Signal word*** *Danger*
· ***Hazard statements***
H331 Toxic if inhaled.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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 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.*

· ***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.*

*
SECTION 3: Composition/information on ingredients

· ***3.1 Substances***
· ***CAS No. Description:***
25134-21-8 1,2,3,6-tetrahydromethyl-3,6-methanophthalicanhydride
· ***Identification number(s):***
· ***EC number:*** *246-644-8*
· ***Additonal information:***
3,6-Methylene-1,2,3,6-tetrahydrophthalic anhydride, CAS. no. 826-62-0; GB CLP index no.: 607-105-00-6;
Classification according to Regulation (EC) No. 1272/2008: Resp. Sens. 1, H334; Eye Dam. 1, H318; Skin Sens. 1, H317;
Quantity: < 20%
· ***Description:***
· ***Empirical formula:*** $C_{10}H_{10}O_3$

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· ***MW:*** *178.19*

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SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:***
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· ***After inhalation:*** *Provide fresh air. Consult a doctor immediately.*
· ***After skin contact:***
Wash off immediately with plenty of soap and water; rinse thoroughly; seek medical attention.
· ***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.*
· ***5.2 Special hazards arising from the substance or mixture:***
In case of fire, development of toxic vapours and gases possible.
In case of fire, the following can be formed, but not limited to:
Carbon monoxide and carbon dioxide
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Wear self-contained breathing apparatus.*

*
SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Wear protective clothing.
Ensure adequate ventilation
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.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· ***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:***
Avoid contact with eyes and skin.
Ensure good ventilation/exhaustion at the workplace.

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· ***Information about protection against explosions and fires:*** *No special measures required.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and receptacles:*** *Store only in unopened original receptacles.*
· ***Information about storage in one common storage facility:*** *Store away from oxidising agents.*
· ***Further information about storage conditions:***
Protect from humidity and water.
Keep container tightly closed.
· ***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.*
· ***DNELs***
Worker: Long term - systemic effects, inhalation: 0,23 mg/m³
Worker: Long term - systemic effects, dermal: 0,07 mg/kg/day
· ***PNECs***
PNEC fresh water: 0,4 mg/l
PNEC fresh water sediments: 4,64 mg/kg
PNEC marine water: 0,04 mg/l
PNEC marine water sediments: 0,464 mg/kg
PNEC soil: 0,694 mg/kg
PNEC sewage plant: 5,91 mg/l
· ***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.
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:***
Short term filter device:
Filter A/P3
· ***Hand protection:***
Neoprene gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Protective gloves.
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

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· ***Eye/face protection:*** *Tightly sealed goggles.*
· ***Body protection:*** *Protective work clothing.*

*
SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information:**	
· **Physical state:**	Fluid
· **Colour:**	light yellow
· **Odour:**	Pungent
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	undetermined
· **Boiling point or initial boiling point and boiling range:**	274.6 °C
· **Flammability:**	Not applicable.
· **Lower and upper explosion limit:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	140.7 °C
· **Decomposition temperature:**	Not determined.
· **pH:**	No information available
· **Viscosity:**	
· **Kinematic viscosity:**	Not determined.
· **Dynamic viscosity at 25 °C:**	220-300 mPas
· **Solubility:**	
· **Water:**	Hydrolized
· **Partition coefficient n-octanol/water (log value):**	log POW (40°C): 1,7
· **Vapour pressure:**	Not determined.
· **Density and/or relative density:**	
· **Density at 20 °C:**	1.24 g/cm³
· **Relative density:**	1,247 at 20°C
· **9.2 Other information**	Further physico-chemical data are not available.
· **Appearance:**	
· **Form:**	Viscous
· **Important information on protection of health and environment, and on safety:**	
· **Explosive properties:**	Product does not present an explosion hazard.
· **Molecular weight**	178.19 g/mol

*
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:**
Humidity
High temperatures
· **10.5 Incompatible materials:**
Avoid contact with:
Oxidising agents
Strong acids
strong bases
Amines
alcohols

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· **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:**
Harmful if swallowed.
Toxic if inhaled.

· **LD/LC50 values that are relevant for classification:**		
Oral	LD50	>918 mg/kg (rat)

· **Skin corrosion/irritation:** Causes skin irritation.
· **Serious eye damage/irritation:** Causes serious eye damage.
· **Respiratory or skin sensitisation:**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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.
· **Additional toxicological information:**
· **Acute effects (acute toxicity, irritation and corrosivity)** Respiratory irritation is possible.
· **11.2 Information on other hazards:**
· **Endocrine disrupting properties:** No relevant information available

*
SECTION 12: Ecological information

· **12.1 Toxicity:**
· **Aquatic toxicity:**
NOEC (21d,Daphnia magna): > 20 mg/l
EC50 (48h, Daphnia magna): > 100 mg/l
· **12.2 Persistence and degradability:** Not easily biodegradable
· **12.3 Bioaccumulative potential:**
Bioconcentration factor (BCF):
5,5
log Pow (40°C): 1,7
The bioaccumulative potential is considered to be low.
· **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.
Water danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water.

*
SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Dispose of in accordance with official regulations.

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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.

*
SECTION 14: Transport information

· ***14.1 UN number or ID number***	
· ***ADR, IMDG, IATA***	*UN2810*
· ***14.2 UN proper shipping name***	
· ***ADR***	*2810 TOXIC LIQUID, ORGANIC, N.O.S. (1,2,3,6-tetrahydromethyl-3,6-methanophthalicanhydride)*
· ***IMDG, IATA***	*TOXIC LIQUID, ORGANIC, N.O.S. (1,2,3,6-tetrahydromethyl-3,6-methanophthalicanhydride)*
· ***14.3 Transport hazard class(es)***	
· ***ADR, IMDG, IATA***	
· ***Class:***	*6.1 Toxic substances.*
· ***Label:***	*6.1*
· ***14.4 Packing group***	
· ***ADR, IMDG, IATA***	*II*
· ***14.5 Environmental hazards***	
· ***Marine pollutant:***	*No*
· ***14.6 Special precautions for user***	*Warning: Toxic substances.*
· ***Hazard identification number (Kemler code):***	*60*
· ***EMS Number:***	*F-A,S-A*
· ***Stowage Category***	*B*
· ***Stowage Code***	*SW2 Clear of living quarters.*
· ***14.7 Maritime transport in bulk according to IMO instruments***	*Not applicable.*
· ***Transport/Additional information:***	
· ***ADR***	
· ***Limited quantities (LQ)***	*100 ml*
· ***Excepted quantities (EQ)***	*Code: E4* *Maximum net quantity per inner packaging: 1 ml* *Maximum net quantity per outer packaging: 500 ml*
· ***Transport category***	*2*
· ***Tunnel restriction code***	*D/E*
· ***IMDG***	
· ***Limited quantities (LQ)***	*100 ml*
· ***Excepted quantities (EQ)***	*Code: E4* *Maximum net quantity per inner packaging: 1 ml* *Maximum net quantity per outer packaging: 500 ml*

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· ***UN "Model Regulation":*** *UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (1,2,3,6-TETRAHYDROMETHYL-3,6-METHANOPHTHALICANHYDRIDE), 6.1, II*

*
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.*
· ***Seveso category*** *H2 ACUTE TOXIC*
· ***Qualifying quantity (tonnes) for the application of lower-tier requirements*** *50 t*
· ***Qualifying quantity (tonnes) for the application of upper-tier requirements*** *200 t*
· ***REGULATION (EC) No 1907/2006 ANNEX XVII*** *Conditions of restriction: 3, 75*
· ***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.
· ***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:***

· ***Technical instructions (air):***

Class	Share in %
I	80-100

· ***Water hazard class:*** *Water danger class 3 (Self-assessment): extremely 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:*** *27.05.2021*
· ***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

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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)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3