

## Safety Data Sheet

according to UK REACH Regulation

### Methylene Blue purif. (CI no. 52015)

Revision date: 13.11.2023

Product code: 16048.xxxxx

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

##### 1.1. Product identifier

Methylene Blue purif. (CI no. 52015)

Substance name: methylene blue  
CAS No: 61-73-4  
EC No: 200-515-2  
UFI: DTEE-N1H0-9006-DTVE

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

###### Use of the substance/mixture

laboratory reagent

##### 1.3. Details of the supplier of the safety data sheet

Company name: MORPHISTO GmbH  
Street: Schumannstr. 142/144  
Place: D-63069 Offenbach  
Telephone: +49 (0) 69 / 400 3019-60      Telefax: +49 (0) 69 / 400 3019-64  
E-mail: info@morphisto.de  
Contact person: Morphisto GmbH  
E-mail: gefahrstoffmanagement@morphisto.de  
Internet: http://www.morphisto.de

##### 1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### GB CLP Regulation

Acute Tox. 4; H302

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### GB CLP Regulation

Signal word: Warning

Pictograms:



###### Hazard statements

H302 Harmful if swallowed.

###### Precautionary statements

P264 Wash hands thoroughly after handling.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

###### Labelling of packages where the contents do not exceed 125 ml

Signal word: Warning

Pictograms:



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#### 2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Sum formula: C16H18ClN3S  
Molecular weight: 319,86 g/mol

#### Hazardous components

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	Classification (GB CLP Regulation)	
61-73-4	methylene blue	70 < 90 %
	200-515-2	
	Acute Tox. 4; H302	

Full text of H and EUH statements: see section 16.

#### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
61-73-4	200-515-2	methylene blue	70 < 90 %
		oral: LD50 = 1180 mg/kg	

#### Further Information

This product contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

Show this safety data sheet to the attending physician.

##### After inhalation

Provide fresh air.

##### After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

##### After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

##### After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Medical treatment necessary.

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

Refer to section 2 of the safety data sheet.

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**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

There are no extinguishing agent restrictions for this substance/mixture.

**5.2. Special hazards arising from the substance or mixture**

Combustible. In case of fire may be liberated: Sulphur oxides, Nitrogen monoxide, nitrogen dioxide, nitrous oxide, ammonia., Hydrochloric gas.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Provide adequate ventilation. Avoid: Inhalation of dust/particles Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. No special environmental measures are necessary. Clean contaminated articles and floor according to the environmental legislation.

**6.3. Methods and material for containment and cleaning up****For cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**Other information**

Avoid generation of dust.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid generation of dust., Do not breathe dust.

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

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**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed.

**Hints on joint storage**

No special measures are necessary.

**Further information on storage conditions**

Recommended storage temperature: 15-25 °C

**7.3. Specific end use(s)**

laboratory reagent

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls****Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Material: Nitrilkautschuk

Minimale Schichtdicke: 0,11 mm

Durchbruchzeit: &gt; 480 min

Material getestet: KCL 741 Dermatril® L

**Skin protection**

Use of protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Filter type: P2

**Environmental exposure controls**

Do not empty into drains.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid	
Colour:	blue	
Odour:	odourless	
Melting point/freezing point:		180 °C
Boiling point or initial boiling point and boiling range:		not determined
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not determined
Auto-ignition temperature:		not determined

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Decomposition temperature:	180 °C
pH-Value (at 20 °C):	3 (10 g/L)
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	50 g/L
Solubility in other solvents not determined	
Dissolution rate:	not determined
Partition coefficient n-octanol/water:	log Pow: 5,85
Vapour pressure:	not determined
Density:	not determined
Bulk density:	400-600 kg/m <sup>3</sup>
Relative vapour density:	not determined
Particle characteristics:	not applicable

**9.2. Other information**
**Information with regard to physical hazard classes**

Explosive properties

The product is not: Explosive

Oxidizing properties

The product is not: oxidising.

**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions. dust explosive.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Violent reaction with: Oxidizing agent, Alkalis. Reducing agent, Alkalis, Iodide, Kaliumdichromat.

**10.4. Conditions to avoid**

heat.

**10.5. Incompatible materials**

No information available.

**10.6. Hazardous decomposition products**

see section: 5

**SECTION 11: Toxicological information**
**11.1. Information on hazard classes as defined in GB CLP Regulation**
**Acute toxicity**

Harmful if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
61-73-4	methylene blue				
	oral	LD50 mg/kg	1180	Rat.	ECHA

**Irritation and corrosivity**

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

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**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

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

**11.2. Information on other hazards**
**Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to humans.

**Other information**

Absorption in the body leads to the formation of methemoglobin, which in increased concentrations causes cyanosis. The latency period may be 2 to 4 hours or longer., Vomiting, diarrhea, nausea, dizziness, headache (methylene blue). To our knowledge, the chemical, physical and toxicological properties have not been comprehensively investigated. (methylene blue)

**Further information**

This substance is classified as hazardous according to Regulation (EC) No 1272 (2008).

**SECTION 12: Ecological information**
**12.1. Toxicity**

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

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
61-73-4	methylene blue					
	Acute fish toxicity	LC50	45 mg/l	96 h	Pimephales promelas	ECOTOX Database
	Acute crustacea toxicity	EC50	2260 mg/l	48 h	Daphnia magna Straus	ECOTOX Database

**12.2. Persistence and degradability**

No data available

**12.3. Bioaccumulative potential**
**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
61-73-4	methylene blue	5,85

**12.4. Mobility in soil**

No data available

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

This substance does not meet the PBT/vPvB criteria of UK REACH.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

No data available

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

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**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

**14.7. Maritime transport in bulk according to IMO instruments**

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to 2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

2 - obviously hazardous to water

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**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Changes**

Rev. 1,0; 13.11.2023; Initial release

**Abbreviations and acronyms**

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

IMDG: International Maritime Code for Dangerous Goods

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Acute Tox: Acute toxicity

**Relevant H and EUH statements (number and full text)**

H302 Harmful if swallowed.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.