

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Silberverstärker Stammlösung B**

Revision date: 21.12.2015

Product code: 10378.xxxxx

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**
**1.1. Product identifier**

Silberverstärker Stammlösung B

**1.2. Relevant identified uses of the substance or mixture and uses advised against**
**Use of the substance/mixture**

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

**Uses advised against**

Any non-intended use.

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

Company name:	MORPHISTO GmbH	
Street:	Weismüllerstr. 45	
Place:	D-60314 Frankfurt am Main	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
e-mail:	info@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**
**Regulation (EC) No. 1272/2008**

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

**2.2. Label elements**
**Regulation (EC) No. 1272/2008**
**Special labelling of certain mixtures**

EUH208	Contains 1,4-dihydroxybenzene; hydroquinone; quinol. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

**Additional advice on labelling**

Labelling according to Regulation (EC) No. 1272/2008 [CLP]: none

**2.3. Other hazards**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.  
 No risks worthy of mention. Please observe the information on the safety data sheet at all times.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Chemical characterization**

wässrige Lösung.

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
123-31-9	1,4-dihydroxybenzene; hydroquinone; quinol			< 1 %
	204-617-8	604-005-00-4		
	Carc. 2, Muta. 2, Acute Tox. 4, Eye Dam. 1, Skin Sens. 1, Aquatic Acute 1 (M-Factor = 10); H351 H341 H302 H318 H317 H400			

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

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#### Further Information

1,4-dihydroxybenzene; hydroquinone; quinol: M-Faktor = 10

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

#### After inhalation

@1501.B015819 In case of respiratory tract irritation, consult a physician.

#### After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

#### After contact with eyes

Rinse cautiously with water for several minutes. In case of troubles or persistent symptoms, consult an ophthalmologist.

#### After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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

No information available.

### 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

Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. alcohol resistant foam. Atomized water.

#### Unsuitable extinguishing media

High power water jet.

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

Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

### 5.3. Advice for firefighters

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

#### Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

## SECTION 6: Accidental release measures

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

Safe handling: see section 7

Personal protection equipment: see section 8

### 6.2. Environmental precautions

Discharge into the environment must be avoided.

### 6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

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Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

Disposal: see section 13

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

Wear suitable protective clothing. (See section 8.)

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Further information on handling**

General protection and hygiene measures: See section 8.

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

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

**Hints on joint storage**

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff

**Further information on storage conditions**

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Recommended storage temperature: 20°C

Protect against: frost. UV-radiation/sunlight. heat. Humidity

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

See section 1.

**SECTION 8: Exposure controls/personal protection**
**8.1. Control parameters**
**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
123-31-9	Hydroquinone	-	0.5		TWA (8 h)	WEL

**Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls**
**Appropriate engineering controls**

Use extractor hood (laboratory).

**Protective and hygiene measures**

Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

**Eye/face protection**

Wear safety glasses; chemical goggles (if splashing is possible). DIN EN 166

**Hand protection**

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm

 Breakthrough time  $\geq$  8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

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Breakthrough time  $\geq$  8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time  $\geq$  8 h

PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

**Skin protection**

Suitable protective clothing: Lab apron.

**Respiratory protection**

With correct and proper use, and under normal conditions, breathing protection is not required.

**Environmental exposure controls**

@1501.B015774

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

Physical state:	liquid
Colour:	colourless
Odour:	characteristic
pH-Value:	~ 7

**Changes in the physical state**

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	not determined
Sustaining combustion:	Not sustaining combustion

**Explosive properties**

none

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined

**Auto-ignition temperature**

Gas: not determined

Decomposition temperature: not determined

**Oxidizing properties**

none

Vapour pressure: not determined

Density: ca 1 g/cm<sup>3</sup>

Water solubility: completely miscible

**Solubility in other solvents**

not determined

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Partition coefficient:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Flow time:	not determined
Vapour density:	not determined
Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	0%

**9.2. Other information**

Solid content:	not determined
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**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

Reacts with :

**10.4. Conditions to avoid**

Keep away from heat. May cause decomposition by long-term light influence.

**10.5. Incompatible materials**

Materials to avoid:

**10.6. Hazardous decomposition products**

 Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

**SECTION 11: Toxicological information**
**11.1. Information on toxicological effects**
**Toxicokinetics, metabolism and distribution**

@1718.B017281.

**Acute toxicity**

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
123-31-9	1,4-dihydroxybenzene; hydroquinone; quinol				
	oral	ATE 500 mg/kg			

**Irritation and corrosivity**

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

**Sensitising effects**

Contains 1,4-dihydroxybenzene; hydroquinone; quinol. May produce an allergic reaction.

**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.

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**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.

**Specific effects in experiment on an animal**

@1718.B017281.

**Additional information on tests**

Enthält Hydrochinon &lt; 0,5 %. Avoid contact during pregnancy and while nursing.

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

The product has not been tested.

**12.2. Persistence and degradability**

The product has not been tested.

CAS No	Chemical name	Method	Value	d	Source
		Evaluation			
123-31-9	1,4-dihydroxybenzene; hydroquinone; quinol				
	@1203.B120930	70%	14	ECHA Dossier	
	Readily biodegradable (according to OECD criteria).				

**12.3. Bioaccumulative potential**

@1718.B017281

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
123-31-9	1,4-dihydroxybenzene; hydroquinone; quinol	0,59

**12.4. Mobility in soil**

@1718.B017281.

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

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6. Other adverse effects**

@1718.B017281.

**Further information**

Do not allow to enter into surface water or drains.

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

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.

Non-contaminated packages may be recycled.

According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

**List of Wastes Code - residues/unused products**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

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**List of Wastes Code - used product**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

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

**14.1. UN number:** Not restricted  
**14.2. UN proper shipping name:** Not restricted  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

**14.1. UN number:** Not restricted  
**14.2. UN proper shipping name:** Not restricted  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

**14.1. UN number:** Not restricted  
**14.2. UN proper shipping name:** Not restricted  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**Other applicable information (marine transport)**

Not restricted

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

**14.1. UN number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**Other applicable information (air transport)**

Not restricted

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

Refer to section 6-8

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

not relevant

**SECTION 15: Regulatory information**

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

2010/75/EU (VOC): 0 % (calculated.)  
2004/42/EC (VOC): 0 g/L (calculated.)  
Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**Additional information**

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].  
Not subject to 96/82/EC (SEVESO II) , 2012/18/CE (SEVESO III)  
REACH 1907/2006 Appendix XVII: not relevant

**National regulatory information**

Water contaminating class (D): 2 - clearly water contaminating

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

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

21.12.2015; Rev.1.0 Neuerstellung

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen  
AGW: Arbeitsplatzgrenzwert  
AVV: Abfallverzeichnisverordnung  
CAS: Chemical Abstracts Service  
CLP: Classification, Labelling and Packaging of substances and mixtures  
DNEL: Derived No Effect Level  
d: day(s)  
EAKV: Europäisches Abfallverzeichnis gemäß Entwurf Abfallverzeichnisverordnung  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
ECHA: European Chemicals Agency  
EWC: European Waste Catalogue  
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)  
h: hour  
LOAEL: Lowest observed adverse effect level  
LOAEC: Lowest observed adverse effect concentration  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
NOAEL: No observed adverse effect level  
NOAEC: No observed adverse effect level  
NLP: No-Longer Polymers  
N/A: not applicable  
OECD: Organisation for Economic Co-operation and Development  
PNEC: predicted no effect concentration



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PBT: Persistent bioaccumulative toxic  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail )  
REACH: Registration, Evaluation, Authorisation of Chemicals  
SVHC: substance of very high concern  
TRGS Technische Regeln fuer Gefahrstoffe  
UN: United Nations  
VOC: Volatile Organic Compounds  
VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe  
WGK: Wassergefaehrungsklasse

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

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
EUH208	Contains 1,4-dihydroxybenzene; hydroquinone; quinol. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*