

**Safety Data Sheet**

according to UK REACH Regulation

**KLEMM stock solution**

Revision date: 05.10.2023

Product code: 18859.xxxxx

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

KLEMM stock solution

UFI: 447P-D1QW-800A-UEWS

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

Use as laboratory reagent. For use as an etchant in metallography. Intended for scientific research and development.

**Uses advised against**

Any non-intended use.

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

Company name:	MORPHISTO GmbH	
Street:	Schumannstr. 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:**

Morphisto GmbH, Tel: +49(0)69 400 3019-60, Mo-Fr.: 09-16 Uhr

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

This mixture is not classified as hazardous in accordance with GB CLP Regulation.

**2.2. Label elements****Additional advice on labelling**

This mixture is classified as not hazardous according to Regulation (EC) 1272/2008 [CLP].

**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****3.2. Mixtures****Hazardous components**

none (according to UK REACH Regulation)

**Further Information**

This product contains no substances of very high concern (SVHC) (&gt;0,1%) which are included in the Candidate

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List according to Article 59 of REACH.

#### SECTION 4: First aid measures

##### 4.1. Description of first aid measures

###### General information

Get medical advice/attention if you feel unwell.

###### After inhalation

Provide fresh air. In case of irritation or shortness of breath: Medical treatment necessary.

###### 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. Seek medical advice.

###### After ingestion

Observe risk of aspiration if vomiting occurs. Let water be drunken in little sips (dilution effect). 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

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

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

Non-flammable.

##### 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.

#### SECTION 6: Accidental release measures

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

###### General advice

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.

##### 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

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**7.1. Precautions for safe handling****Advice on safe handling**

No special measures are necessary.

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**Advice on general occupational hygiene**

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

**Further information on handling**

Always close containers tightly after the removal of product.

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

Keep container tightly closed.

**Hints on joint storage**

Do not store together with: food and feed. pharmaceuticals. Infectious substances. Radioactive substances. Explosive substances. Oxidizing substances. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Pyrophoric solids. Substances which in contact with water form flammable gases. Ammonium nitrate and preparations containing ammonium nitrate.

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

Use as laboratory reagent. Intended for scientific research and development.

**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****Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment. Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection. Wear safety glasses; chemical goggles (if splashing is possible). Safety glasses according to EN 166.

**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.

**Skin protection**

Use of protective clothing. Lab apron.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Suitable respiratory protection apparatus: particulates filter device (DIN EN 143). P1, Identification color: white.

**Environmental exposure controls**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

Physical state:	Liquid	
Colour:	colourless, clear	
Odour:	odourless	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		100 °C
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not determined
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value (at 20 °C):		6-8
Viscosity / kinematic:		not determined
Water solubility:		easily soluble
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		23 hPa
(at 20 °C)		
Density (at 20 °C):		1,12 g/cm <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.

**Other safety characteristics**

Evaporation rate: not determined

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

No hazardous reaction when handled and stored according to provisions.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Explosion risk in contact with: Oxidizing agents, strong. Alkali nitrate (heat). Potassium nitrite. Metal nitrates/ignition. Sodium nitrite/heat. Sodium peroxide. Possibility of hazardous reactions: Fluorine. Acids.

**10.4. Conditions to avoid**

none

**10.5. Incompatible materials**

No information available.

**10.6. Hazardous decomposition products**

No known hazardous decomposition products.

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## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in GB CLP Regulation

#### Acute toxicity

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

#### ATEmix calculated

ATE (oral) &gt; 2000 mg/kg; ATE (dermal) &gt; 2000 mg/kg; ATE (inhalation vapour) &gt; 20 mg/l; ATE (inhalation dust/mist) &gt; 5 mg/l

#### Irritation and corrosivity

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

#### 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 product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

#### Other information

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

## SECTION 12: Ecological information

### 12.1. Toxicity

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

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

### 12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

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

### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### 12.7. Other adverse effects

No information available.

#### Further information

Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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**Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal.

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

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**List of Wastes Code - used product**

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**List of Wastes Code - contaminated packaging**

150106 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); mixed packaging

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**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.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Not restricted

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

Not restricted

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

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

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

**Additional information**

This mixture is classified as not hazardous according to Regulation (EC) 1272/2008 [CLP].

**National regulatory information**

Water hazard class (D): 1 - slightly hazardous to water

**15.2. Chemical safety assessment**

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

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

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,11,12,13,14,15,16.

Rev. 1,0; 30.12.2020; Initial release.

Rev. 2,0; 05.10.2023; general adjustment(s)

**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 table at <http://abbrev.esdscom.eu>

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

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**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. 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.

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