

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### KIT: KLEMM-III Ätzung

Revision date: 30.12.2020

Product code: 18865.xxxxx

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

### 1.1. Product identifier

KIT: KLEMM-III Ätzung

#### Further trade names

This MSDS covers the following products in all container sizes:

- REF 18865.xxxxx Kit: KLEMM-III Ätzung

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

#### Use of the substance/mixture

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

#### Manufacturer

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	
Internet:	http://www.morphisto.de	

#### Supplier

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	
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

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1

Serious eye damage/eye irritation: Eye Dam. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

May be corrosive to metals.

Causes serious eye damage.

May cause respiratory irritation.

### 2.2. Label elements

#### Regulation (EC) No. 1272/2008

#### Hazard components for labelling

dipotassium disulfite

Signal word: Danger

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**Pictograms:**

**Hazard statements**

- H290 May be corrosive to metals.  
 H318 Causes serious eye damage.  
 H335 May cause respiratory irritation.

**Precautionary statements**

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
 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.  
 P310 Immediately call a POISON CENTER/doctor.  
 P406 Store in a corrosion-resistant container with a resistant inner liner.

**Special labelling of certain mixtures**

- EUH018 In use may form flammable/explosive vapour-air mixture.  
 EUH031 Contact with acids liberates toxic gas.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
16731-55-8	dipotassium disulfite			25 - < 30 %
	240-795-3		01-2119537422-45	
	Eye Dam. 1, STOT SE 3; H318 H335 EUH031			
10102-17-7	sodium thiosulfate pentahydrate			1 - < 5 %
	600-156-5			

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

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

First aider: Pay attention to self-protection! Take off immediately all contaminated clothing. Remove affected person from the danger area and lay down. Put victim at rest, cover with a blanket and keep warm. In all cases of doubt, or when symptoms persist, seek medical advice.

**After inhalation**

Remove person to fresh air and keep comfortable for breathing. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or

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mouth-to-nose resuscitation. Use Ambu bag or ventilator. As soon as possible glucocorticoid dose aerosol can breathe repeated deep inhalation. Call a physician immediately.

#### After contact with skin

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

#### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### After ingestion

Rinse mouth immediately and drink plenty of water. Observe risk of aspiration if vomiting occurs. Do NOT induce vomiting. Seek medical advice immediately. Medical treatment necessary.

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

Causes eye irritation. Serious eye damage/eye irritation. Irritation to respiratory tract. Gastric perforation.

#### **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**

Vapours may form explosive mixtures with air. Release of: Sulfur oxides. Sulphur dioxide (SO<sub>2</sub>). Hydrogen sulphide (H<sub>2</sub>S).

#### **5.3. Advice for firefighters**

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

#### **Additional information**

Use water spray jet to protect personnel and to cool endangered containers. 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**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

#### **6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Explosion risk. Clean contaminated articles and floor according to the environmental legislation.

#### **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.

#### **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. Use extractor hood

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(laboratory). Do not breathe gas/fumes/vapour/spray. Release of an acute toxic gas. Wear personal protection equipment (refer to section 8).

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

**Further information on handling**

When using do not eat, drink, smoke, sniff. Used working clothes should not be worn outside the work area. Wash hands and face before breaks and after work and take a shower if necessary. Draw up and observe skin protection programme.

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

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep cool. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Unsuitable container/equipment material: Metal.

**Hints on joint storage**

Do not store together with: Acid. Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances. 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)**

The product is intended for research, analysis and scientific education.

**SECTION 8: Exposure controls/personal protection**
**8.1. Control parameters**
**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
16731-55-8	dipotassium disulfite			
Worker DNEL, long-term		inhalation	systemic	263 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	78 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	10 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
16731-55-8	dipotassium disulfite	
Freshwater		1,17 mg/l
Marine water		0,12 mg/l
Micro-organisms in sewage treatment plants (STP)		88,1 mg/l

**Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls**

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**Appropriate engineering controls**

Release of an acutely toxic gas. If handled uncovered, arrangements with local exhaust ventilation have to be used. Use extractor hood (laboratory). Do not breathe gas/fumes/vapour/spray. 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.

**Protective and hygiene measures**

Wear personal protection equipment (refer to section 8). 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.

**Eye/face protection**

Suitable eye protection: Wear safety glasses; chemical goggles (if splashing is possible). Eye-shade.

**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.:

Suitable material: Material, acid-resistant. Breakthrough time (maximum wearing time): >480 min.

CR (polychloroprene, chloroprene rubber): 0,5mm.

NBR (Nitrile rubber): 0,35mm.

Butyl rubber.: 0,5mm.

fluoroelastomer (FKM): 0,4mm.

PVC (Polyvinyl chloride): 0,5mm.

**Skin protection**

Use of protective clothing. Acid protective suit or work clothing with apron. Lab apron.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

Combination filtering device (EN 14387) B - P2. Identification color: greywhite.

**Environmental exposure controls**

Do not allow uncontrolled discharge of product into the environment.

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

Physical state:	Liquid
Colour:	clear
Odour:	Sulfur.
pH-Value (at 20 °C):	3-4

**Changes in the physical state**

Melting point:	not determined
Initial boiling point and boiling range:	100 °C
Flash point:	not determined
Sustaining combustion:	Not sustaining combustion

**Flammability**

Solid:	not applicable
Gas:	not applicable

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**Explosive properties**

Vapours can form explosive mixtures with air.

Lower explosion limits: not determined

Upper explosion limits: not determined

**Auto-ignition temperature**

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

**Oxidizing properties**

Not oxidising.

Vapour pressure: not determined

Density (at 20 °C): 1,20 g/cm<sup>3</sup>

Water solubility: easily soluble

**Solubility in other solvents**

not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

Solvent content: 70,55 %

**9.2. Other information**

Solid content: 29,45 %

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

Corrosive to metals. Reaction with: Acid. Explosive.

**10.2. Chemical stability**

After mixing the individual components, stable for only a few hours.

**10.3. Possibility of hazardous reactions**Release of an acute toxic gas.: Sulphur dioxide (SO<sub>2</sub>). Hydrogen sulphide (H<sub>2</sub>S). metals: strongly corrosive.**10.4. Conditions to avoid**Risk of explosion by shock, friction, fire or other sources of ignition (R<sub>2</sub>). Remove all sources of ignition. Keep away from: Heat. Ignition. UV-radiation/sunlight.**10.5. Incompatible materials**

Keep away from: Metal. Protect against: Contact with air/oxygen. Do not mix with: Acids.

**10.6. Hazardous decomposition products**Contact with acids liberates toxic gas. Release of an acute toxic gas.: Sulfur oxides. Sulphur dioxide (SO<sub>2</sub>). Hydrogen sulphide (H<sub>2</sub>S).**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity**

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

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
16731-55-8	dipotassium disulfite				
	oral	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	inhalation (4 h) aerosol	LC50 >5,5 mg/l	Rat	ECHA Dossier	

**Irritation and corrosivity**

Causes serious eye damage.

Skin corrosion/irritation: 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**

May cause respiratory irritation. (dipotassium disulfite)

**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 information on tests**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

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

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
16731-55-8	dipotassium disulfite					
	Acute fish toxicity	LC50 464-1000 mg/l	96 h	Danio rerio	ECHA Dossier	
	Fish toxicity	NOEC >= 316 mg/l	34 d	Danio rerio	ECHA Dossier	
	Crustacea toxicity	NOEC >10 mg/l	21 d	Daphnia magna	ECHA Dossier	

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
16731-55-8	dipotassium disulfite	-4

**12.4. Mobility in soil**

The product has not been tested.

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

The product has not been tested.

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**12.6. Other adverse effects**

No information available.

**Further information**

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

**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. Consult the appropriate local waste disposal expert about waste disposal.

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

**Inland waterways transport (ADN)**

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

**Marine transport (IMDG)**

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

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

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

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

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

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**



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Restrictions on use (REACH, annex XVII):

Entry 3

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). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

1 - slightly hazardous to water

Skin resorption/Sensitization:

Permeates easily through outer skin and causes poisoning.

**15.2. Chemical safety assessment**

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

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

Rev.: 1,00; 30.12.2020; 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 table at <http://abbrev.esdscom.eu>

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**Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]**

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Eye Dam. 1; H318	Calculation method
STOT SE 3; H335	Calculation method

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

H290	May be corrosive to metals.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
EUH018	In use may form flammable/explosive vapour-air mixture.
EUH031	Contact with acids liberates toxic gas.

**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.

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