

# Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH), amended by 2020/878/EU

Issue: 1  
(EU-GB)

Date of creation: 13.03.2024

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

### 1.1 Trade name:

## Silber CF Probiersäure/Silver CF Test acid

Art.-No. 12237, UFI: A300-P0FY-U00G-GEGU

Restricted to professional users.

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

<b>Application of the substance / the preparation</b>	See trade name / according labelling under 1.1 Testing reagent for laboratory and precious metal trading
<b>Uses advised against of the substance / the preparation</b>	Others than like trade name all ways of spraying applications

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

#### Manufacturer / Supplier

Köhler-Special-Chemicals

Nils Köhler

Geranienstraße 1

D-76751 Jockgrim

**Phone:** +49 (0) 7271/9896365

**e-mail:** koehler-special-chemicals@gmx.de

**Website:** www.koehler-special-chemicals.de

### 1.4 Emergency telephone number

This is an English-language document designed for the European region. For the emergency number and other country-specific data, please refer to the specific national versions of this safety data sheet.

Medical Emergency information in case of poisoning:

University Hospital Bonn, Poison Information Center - 24h - Phone: +49 (0) 228 19240 (advisory service in German language)

### 1.5 Further informations obtainable from

Köhler-Special-Chemicals, Contact data see above

## SECTION 2: Hazards information

### 2.1 Classification of the product/mixture according to Regulation (EC) No 1272/2006

Regulation (EC) No 1272/2008:

Met. Corr. 1; H290, Skin Corr. 1A; H314, Eye Dam. 1; H318, Acut. Tox. 4; H302, STOT SE 3; H335

### 2.2 Labelling of the product/mixture according to Regulation (EC) No 1272/2006

Hazard pictograms:



GHS05 GHS07

**Signal word:** Danger

**Hazard statements:**  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.

**Precautionary statements:**  
P280 Wear protective gloves/eye protection.  
P301+330+331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Additional information:** none  
**Hazardous ingredients for labelling:** Nitric acid, methansulfonic acid

## 2.3 Other hazards

### Results of PBT- and vPvB assesment

PBT: not applicable.

vPvB: not applicable.

### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

#### Hazardous components of the mixture

Stoff:	EINECS:	CAS:	INDEX-No.:	REACH-No.:	Concentration:	Classification: EC 1272/2008(CLP):
Nitric acid	231-714-2	7697-37-2	007-004-00-1		25 - 50 %	Ox. Liq. 3; H272 Met. Corr. 1 H290 Skin Corr. 1A; H314
Methansulfonic acid	200-898-6	75-75-2	607-145-00-4		20 - 50 %	Met. Corr. 1; H290 Acut Tox. 3; H302 Acut Tox. 3; H312 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335

(Full text of H-phrases: see section 16.)

### 3.3 Additional informations

Contains no SVHC substances

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General informations** Remove any clothing soiled by the product immediately.

**After inhalation** Fresh air or oxygen; seek medical advice.

**After skin contact** In case of unconsciousness place and transport in stable side position.

**After eye contact** Remove any clothing soiled by the product immediately.

Wash off with plenty of water. Seek medical advice.

**After eye contact** After contact with the eyes, immediately rinse the open eyes 10 to 15 minutes under running water. Seek medical advice (oculist).

**After swallowing** Give water to drink in small sips (dilution effect). No administration in cases of unconsciousness or convulsions. Do not induce vomiting. Seek medical advice.

**Self protection** First responders: take care of self-protection

### 4.2 Most important symptoms and effects, both acut and delayed

**Symptoms:** Corrosivity, gastric perforation, risk of serious eye damage

### 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:** Water-spray, Carbon dioxid (CO<sub>2</sub>), foam, extinguishing powder

**Unsuitable:** Water with full jet

## 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released: Nitrogen oxides (NO<sub>x</sub>), Carbon oxides (CO, CO<sub>2</sub>), Sulphur oxides (SO<sub>x</sub>).

## 5.3 Advice for firefighters

### Protective equipment

Wear full protective suit with self-contained breathing apparatus.

### Additional informations

Extinguishing measures in accordance to the surrounding conditions. The product itself does not burn. To protect persons and to cool endangered containers using water spray. Remove undamaged containers from the danger zone if possible without risk. Collect contaminated fire fighting water separately. It must not enter the sewage system.

## SECTION 6: Accidental release measures

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

Ensure adequate ventilation. Wear personal protective equipment. Move people to safety. Keep unprotected persons away. Avoid contact with skin, eyes and clothing. Do not inhale vapour/aerosol.

### 6.2 Environment precautions

Inform respective authorities in case of seepage into water courses or sewage system. Do not allow to enter sewers/surface or ground water.

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

Absorb with liquid-binding material (e.g. sand, fused silica, acid-binder, universal-binder). Contaminated material has to be disposed as waste (see section 13). Clean contaminated surface thoroughly.

### 6.4 Referenco to other sections

See section 5 for information on fire hazards of the substance or mixture

See section 7 for information on safe handling

See section 8 for inormation on personal protection equipment

See section 13 for disposal infomation

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Keep containers/bottles tightly closed. Open and handle container with care. Ensure good ventilation/exhausting at the workplace. Do not breathe vapours/aerosols. Avoid contact with eyes and skin.

#### Technical measures

Ensure good ventilation.

#### Notes on general hygiene at the workplace

Wash hands before breaks and at the end of work.

#### Additional information

None

## 7.2 Conditions for safe storage including any incompatibilities

### Technical measures and conditions

Ensure good ventilation.

### Packaging materials

Keep containers/bottles tightly closed. Use original containers/bottles only.

### Requirements to be met by storerooms and receptacles

Store in cool, dry conditions. Observe official regulations on storage and handling of water hazardous substances.

### Information about storage in one common storage facility

Observe storage instructions.

Keep away from flammable/combustible products.

Do not store together with alkalis (lyes).

Keep away from food, drink and animal feed.

### Further information about storage conditions

Protect against external influences such as UV radiation/sunlight, air/oxygen ingress.

Keep away from sources of heat and warmth.

Prevent contamination from entering.

Recommended storage temperature: 15 - 25 °C

**Storage class:** 8 B non flammable corrosiv substances (TRGS 510 (German guideline))

## 7.3 Specific end use(s)

See directions for use.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with limit values that require monitoring at the workplace

##### Occupational exposure limits:

Country	Ingredient	CAS-No.	Identifier	TWA	STEL	Ceiling C	Notation	Source
EU	Nitric Acid	7697-37-2	IOLEV		1 ml/m <sup>3</sup> 2,6 mg/m <sup>3</sup>			2006/15/EG
EU	Methansulfonic acid	75-75-2					No data available	

##### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Additional information: The lists valid during the making were used as basis.

##### DNELs

7697-37-2 nitric acid

Inhalative DNEL (worker) 1,3 mg/m<sup>3</sup> (Long-term-local-effects)

75-75-2 Methansulfonic acid

Dermal DNEL (worker) 19,44 mg/m<sup>3</sup> bw/day (Long-term - system-effects)

Inhalative DNEL (worker) 6,76 mg/m<sup>3</sup> (Long-term - system-effects)

Inhalative DNEL (worker) 0,7 mg/m<sup>3</sup> (Long-term - local-effects)

##### PNECs

75-75-2 Methansulfonic acid  
Aqua – fresh water: 0,012 mg/l  
Aqua – marine water: 0,001 mg/l  
Aqua – sewage treatment plant: 100 mg/l  
Sediment – fresh water: 0,044 mg/l  
Sediment – marine water: 0,004 mg/l  
Soil: 0,002 mg/kg

## 8.2 Exposure controls

### General protective and hygiene measures

Technical measures and the application of suitable work processes should be given priority over the use of personal protective equipment.

The personal protective equipment must be defined depending on the quantities and concentration of hazardous substances in the workplace. ( Risk assessment )

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and the end of work. Store protective clothing separately. Avoid contact with eyes and skin. Do not breathe vapours/aerosols.

### Breathing equipment

Continuously respected workplace exposure limits and other limits respiratory protection normally is not required.

Exceeding the minimum triggering level --> breathing filter apparatus

In case of brief exposure or low pollution use breathing filter apparatus. (Face mask according to EN 136) with filter type ABEK(P2 ) EN 14387). In case of intensive or longer exposure use breathing apparatus that is independent of circulating air (according EN 137).

### Protection of hands

The gloves must comply with EN 374-3.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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 exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

### Gloves for the permanent contact are suitable of the following materials:

Recommended thickness:  $\geq 0.7$  mm Fluorocarbon rubber (Viton), Value for the permeation: Level  $\geq 480$  min

### As protection from splashes gloves made of the following materials are suitable:

Recommended thickness:  $\geq 0.6$  mm Natural rubber (latex), Value for the permeation: Level  $\geq 120$  min

### Further protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Eye protection

Tightly fitting safety glasses according EN 166.

### Body protection

Protective clothing in accordance with EN 13688. Chemical resistant safety shoes or boots according EN 13832-1. If skin contact is possible, wear impenetrable protective clothing against this substance according EN 13034.

Protective clothing in accordance with EN 13688. Chemical resistant safety shoes or boots according EN 13832-1+2.

### Environmental exposure controls

see section 7. There are no further action is required.

### 8.3 Exposure scenario

none

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Form:** liquid  
**Color:** Colourless – yellowish, clear  
**Odour:** pungent

#### Safety relevant basic data

	Parameter	Value	Unit	Remark
<b>Density:</b>	at 20°C	approx. 1,3	g/cm <sup>3</sup>	
<b>pH:</b>	undiluted	< 2		
<b>Melting point / -range:</b>				No data available
<b>Initial boiling point/boiling range</b>		approx. 118	°C	literature value for nitric acid 53 %
<b>Flashpoint</b>				not applicable
<b>Ignition properties</b>				not applicable
Upper ignition limits				not applicable
Upper igniton limits				not applicable
<b>Explosiv properties</b>				not explosive
Upper explosive limits				not applicable
Upper explosive limits				not applicable
<b>Auto-ignition temperature</b>				not applicable
<b>Decomposition temperature</b>				No data available
<b>Oxidising properties</b>				No data available
<b>Vapour pressure</b>				No data available
<b>Vapour density</b>	at 20°C	approx. 10	hPa	literature value for nitric acid 53 %
<b>Evaporation rate</b>				No data available
<b>Solubility in water</b>				completely miscible
<b>Partition coefficient n-octanol/water</b>				No data available
<b>Viscosity:</b>				No data available

### 9.2 Additional information

No further relevant information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reaction with: Alkalis

### 10.2 Chemical Stability

No decomposition if used according to the specifications.

### 10.3 Possibility of hazardous reactions

Reacts with metals forming hydrogen.

## 10.4 Conditions to avoid

UV rays/sunlight. Store away from heat.

## 10.5 Incompatible materials

Hazardous decomposition in case of contact with incompatible substances as alkalis.  
Reacts with metals forming hydrogen.

## 10.6 Hazardous decomposition products

In case of fire, the following can be released: Nitrogen oxides (NO<sub>x</sub>), Carbon oxides (CO, CO<sub>2</sub>), Sulphur oxides (SO<sub>x</sub>).

## 10.7 Additional information

No further relevant information available.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

No data available for the mixture.

#### Acute Toxicity Toxic if inhaled

##### Acute toxicity estimate (ATE) of components of the mixture

Ingredient	CAS-No	Exposure route	ATE
Nitric Acid	7697-37-2	inhalation: vapour	2,65 mg/l 4h

##### Acute toxicity of components of the mixture

Ingredient	CAS-Nr.:	Exposure route
Nitric Acid	7697-37-2	Acute toxicity, inhalation: vapour LC50/4 h: > 2,65 mg/l (rat) (OECD 403)
Methansulfonic acid	75-75-2	Acute Toxicity, oral LD50: 1150 mg/l (rat) Acute Toxicity, dermal LD50: >1000 mg/l (rabbit)

### Primary irritant effect

#### On the skin

Causes severe skin burns.

#### On the eye

Causes serious eye damage.

#### After inhalation

May cause respiratory irritation.

### Sensitisation

No sensitizing effects known.

### Specific target-organ toxicity (STOT)

Single exposure – May cause respiratory irritation.

Repeated exposure - based on available data, the classification criteria are not met.

### Aspiration hazard

Is not to be classified as an aspiration hazard.

### CMR-effects

#### Carcinogenicity

No effects known.

#### Mutagenicity

No effects known.

#### Reproductiv toxicity

No effects known.

## Endocriens

No ingredient is listed.

## 11.2 General remarks

No further relevant information available.

## SECTION 12: Ecological information

### 12.1 Information on toxicological effects

No data available for the mixture.

#### Ecotoxicity

Substance:	CAS:	Ecotoxicity
Nitric acid	7697-37-2	Acute toxicity to crustacea LC50: 180 mg/l/48 h [Crangon crangon.]
Methansulfonic acid	75-75-2	EC50/48 h: 70 mg/l (Daphnia magna) LC50/96 h: 73 mg/l (Oncorhynchus mykiss)

Data is from the GESTIS substance database and delivers MSDS

### 12.2 Persistence and degradability

Easily biodegradable (Methansulfonic acid)

### 12.3 Bioaccumulative potential

No further relevant information available

### 12.4 Mobility in soil

No further relevant information available

### 12.5 Results of PBT- and vPvB-assessment

Not applicable

### 12.6 Endocrins

No ingredient is listed.

### 12.7 Additional ecological information

Do not allow product to reach ground water, water bodies or sewage system. Harmful effect due to pH shift.

### 12.8 Additional information

Water hazard class 1 (German Regulation )(Self-assessment): slightly hazardous for water.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Recommendation

Chemicals must be disposed of in compliance with the respective national regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Small quantities can be fed into the waste water treatment after neutralisation (e.g. with "Neutralizer with colour indicator", manufactured by Köhler Special Chemicals).

#### Waste disposal key number

Since 01.01.1999 the waste code numbers have not only been product-related but are also essentially application-related. The valid waste code number of the application can be obtained from the European waste catalogue.



Our classification: 20 01 14\* Acids

### **Packagings**

After complete emptying and cleaning, the bottles can be recycled.

### **Uncleaned packagings**

Disposal must be made according to official regulations. Packagings that may not be cleansed are not to be disposed in the same manner as the product.

## **SECTION 14: Transport informations**

### **14.1 UN-Number**

**ADR, IMDG, ICAO-TI:** UN 1760

### **14.2 Proper shipping name**

**ADR:** 1760 CORROSIVE LIQUID, N.O.S. (NITRIC ACID, METHANSULFONIC ACID)

**IMDG:** CORROSIVE LIQUID, N.O.S. (NITRIC ACID, METHANSULFONIC ACID)

**ICAO-TI:** CORROSIVE LIQUID, N.O.S. (NITRIC ACID, METHANSULFONIC ACID)

### **14.3 Transport hazard class(es)**

**ADR:**

Class: 8 (C9) Corrosive substances

Label: 8

**IMDG, ICAO-TI:**

Class: 8 Corrosive substances

Label: 8

### **14.4 Packaging group**

**ADR, IMDG, ICAO-TI:** II

### **14.5 Enviromental hazards**

Product contains enviromental hazards: -

Marine pollutant: no

Special marking (ADR): -

### **14.6 Special precautions for user**

Warning: corrosive substances

Danger code (Kemler): 80

EMS-Number: F-A, S-B

Segregation groups: Acids

Stowage category: B-SW2

### **14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code**

Not applicable

### **14.8 Additional information**

**ADR:**

Limited quantites (LQ): 1 L

Exepted quantities (EQ): Code E2

Maximum quantity per inner packaging: 30 ml

Maximum quantity per outer packaging: 500 ml

Transport category (TC): 2

Tunnel restriction code (TRC): E

**IMDG:**

Limited quantities (LQ): 1 L

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Excepted quantities (EQ): Code: E2 Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":** UN1760, CORROSIVE LIQUID, N.O.S. (NITRIC ACID, METHANSULONIC ACID), 8, II

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU-Regulations

**1999/13/EG on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations**

Not relevant

**2037/2000/EG on Substances which damage the ozone layer**

Not relevant

**850/2004/EG on Persistent Organic Pollutants**

Not relevant

**689/2008/EG on the export and import of dangerous chemicals**

Not relevant

**648/2004/EG on detergents**

Not relevant

**1148/2019/EG on the marketing and use of explosives precursors**

Distribution restrictions and conditions must be observed. No distribution to private persons.

**2012/18/EU - Restrictions according title VIII of Regulation**

Named dangerous substances - Annex I: none of the ingredients is included.

**1907/2006/EG - Restrictions according title VIII of Regulation**

ANNEX VIII, 3

**Substances of very high concern (SVHC) according REACH, Article 57**

Not relevant

#### Notes on employment restriction

Observe employment restrictions for young people according to Directive 94/33/EC and the corresponding national regulations.

#### Other regulations, restrictions and prohibitions

For professional users only.

#### National regulations

Must be observed

### 15.2 Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture.

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

## SECTION 16: Other informations

### 16.1 Hazard statements under section 3

Complete wording of hazard statements and risk phrases (H-phrases) mentioned in section 3.

These phrases refer to the constituents. The labelling for this product is stated in section 2.

- H272 May intensify fire; oxidiser.
- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.

### 16.2 Additional information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

### 16.3 Origin of datas

Information taken from reference works and literature as well as the instructions of the supplier.

### 16.4 Abbreviations and acronymes

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 Organization

ADR: Accord européen sur le transport 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 Harmonized System of Classification and Labelling of Chemicals

CLP: Classification, Labelling and Packaging (Regulation (EC) No. 1272/2008)

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINECS: European List of Notified Chemical Substances

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

VCI: Verband der chemischen Industrie (German Chemical Industry Association, Germany)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted no-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

SVHC: Substance of Very High Concern

PBT: Persistent, Bioakkumulierend, Toxisch

vPvB: very Persistent and very Bioaccumulative

Ox. Liq. 3: Oxidising Liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Met. Corr. 1: Corrosive to metals, Hazard Category 1

Skin Corr. 1A: Skin corrosive/irritation, Hazard Category 1A

Skin Corr. 1B: Skin corrosive/irritation, Hazard Category 1B

Eye dam. 1: Serious eye damage/eye irritation, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

\* Data compared to the previous issue altered.