

Safety Data Sheet

According to 1907/2006/EC, article 31

Issue: 3

Revision: 31.10.2022
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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: K300-P0FR-6003-GRGT

Restricted to professional users.

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

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

1.3 Details of the supplier of the safety data sheet

Manufacturer / Supplier

SK-Chemie Stefan Köhler
Vertrieb Chem.-Techn. Spezial-Produkte
Stefan Köhler
Bergweg 5
D-56340 Dachsenhausen

Phone: +49 (0) 6776 958 931
Telefax: +49 (0) 6776 958 932
E-Mail: info@skchemie.de
Webseite: <http://www.skchemie.de>

1.4 Emergency telephone number

Poison Info Center of the University Mainz
24 hours service. Languages: german/english

Phone: +49 (0) 6131 / 19240

1.5 Further informations obtainable from

SK-Chemie Stefan Köhler, 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+P330+P331 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+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

Results of PBT- and vPvB assesment

PBT: not applicable.

vPvB: not applicable.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterization

Mixture

3.2 Hazardous ingredients

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 skin contact Remove any clothing soiled by the product immediately.

After eye contact 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: No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 General 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.

5.2 Extinguishing media:

suitable: Water-spray, Carbon dioxid (CO₂), foam, extinguishing powder

Unsuitable: Water with full jet

5.3 Special hazards arising from the substance or mixture

In case of fire, the following can be released: Nitrogen oxides (NO_x), Carbon oxides (CO, CO₂), Sulphur oxides (SO_x).

5.4 Advice for firefighters

Protective equipment

Wear full protective suit with self-contained breathing apparatus.

Additional informations

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 protective equipment. Remove persons to safety. Keep away unprotected persons.

6.2 Enviroment precautions

Inform respective authorities in case of seepage into water coures 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 7 for information on safe handling

See section 8 for inormation on personal protection equipement

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.

Information about fire- and expolsion protections

Usual measures for preventive fire protection.

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

Keep away from combustible materials. Keep away from alkalis. Keep away from foodstuffs, beverages and feed.

Further information about storage conditions

Keep away from sources of ignition and heat.

Storage class: 8 B non flammable corrosive 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:

Substance:	CAS:	Origin:	Occupational exposure limit value	Peak:	Remarks:
Nitric acid	7697-37-2	GESTIS International Limit Values (Nitric acid)	1 ppm bzw. 2,6 mg/m ³	-	EU: European Union 13,16
Methansulfonic acid	75-75-2	AGW	0,7 mg/m ³	1(I), AGS, Y, 11	

Common exposure limits:

Substance:	CAS:	Origin:	Occupational exposure limit value	Peak:	Remarks:
-	-	-	-	-	-

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

DNELs

7697-37-2 nitric acid

Inhalative DNEL (worker) 1,3 mg/m³ (Long-term-local-effects)

75-75-2 Methansulfonic acid

Oral DNEL (population) 8,33 mg/m³ bw/day (Long-term - system-effects)

Dermal DNEL (worker) 19,44 mg/m³ bw/day (Long-term - system-effects)

DNEL (population) 8,33 mg/m³ (Long-term - system-effects)

Inhalative DNEL (worker) 6,76 mg/m³ (Long-term - system-effects)

DNEL (worker) 0,7 mg/m³ (Long-term - local-effects)

DNEL (population) 1,44 mg/m³ (Long-term - system-effects)

DNEL (population) 0,42 mg/m³ (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.

Personal protective equipment

Minimum standards for protective measures when handling working substances are listed in TRGS 500.

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

Protection of hands

The gloves must comply with DIN EN 374-3: match of 2003.

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: ≥ 0.7 mm Fluorocarbon rubber (Viton), Value for the permeation: Level ≥ 480 min

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

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

Eye protection

Tightly fitting safety glasses according DIN EN 166.

Body protection

Protective clothing in accordance with DIN EN 13688 : 2013. Chemical resistant safety shoes or boots according DIN EN 13832-1 : 2006. If skin contact is possible, wear impenetrable protective clothing against this substance according DIN EN 13034:2005.

Protective clothing in accordance with DIN EN 13688 : 2013. Chemical resistant safety shoes or boots according DIN EN 13832-1+2 : 2006.

Environmental exposure controls

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

Consumer exposure control

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
Density:	at 20°C	approx. 1,3	g/cm³	
pH:	undiluted	< 2		
Melting point / -range:				No data available
Initial boiling point/boiling range		approx. 118	°C	literature value for nitric acid 53 %
Flashpoint				not applicable
Ignition properties				not applicable
Upper ignition limits				not applicable
Upper igniton limits				not applicable
Explosiv properties				not explosive
Upper explosive limits				not applicable
Upper explosive limits				not applicable
Auto-ignition temperature				not applicable
Decomposition temperature				No data available
Oxidising properties				No data available
Vapour pressure				No data available
Vapour density	at 20°C	approx. 10	hPa	literature value for nitric acid 53 %
Evaporation rate				No data available
Solubility in water				completely miscible
Partition coefficient				No data available
n-octanol/water				
Viscosity:				No data available
Value of solvents:				
- organic solvents				0,0 %

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

Heating

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_x), Carbon oxides (CO, CO₂), Sulphur oxides (SO_x)..

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

Nitric Acid

ATE (Acute Toxicity Estimates)

Acute Toxicity inhalative LC50/4h: 5 mg/l (rat)

Substance:	CAS.:	Toxicological ngaben
Nitric acid	7697-37-2	Acute Toxicity, inhalative LC50/4 h: 28 mg/l (rat) Origin: IUCLID
Methansulfonic acid	75-75-2	Acute Toxicity, oral LD50: 1150 mg/l (rat) Acute Toxicity, dermal LD50: >1000 mg/l (rabbit)

11.2 Primary irritant effect

On the skin

Causes severe skin burns.

On the eye

Causes serious eye damage.

After inhalation

May cause respiratory irritation.

11.3 Sensitisation

No sensitizing effects known.

11.4 Specific target-organ toxicity (STOT)

Single exposure – May cause respiratory irritation.

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

11.5 CMR-effects

Carcinogenity

No effects known.

Mutagenicity

No effects known.

Reproductiv toxicity

No effects known.

11.6 General remarks

No further relevant information available.

Practical experience

There is no information available.

Other observations

There is no information available.

Additional information

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 deliverers 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 Other adverse effects

Harmful effect due to pH shift.

12.7 Additional ecological information

Do not allow product to reach ground water, water bodies or sewage system.

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 SK-Chemie).

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, IATA 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)

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

14.3 Transport hazard class(es)**ADR:**

Class: 8 (C9) Corrosive substances

Label: 8

IMDG, IATA:

Class: 8 Corrosive substances

Label: 8

14.4 Packaging group

ADR, IMDG, IATA: II

14.5 Environmental hazards

Product contains environmental 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

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 quantities (LQ): 1 L

Expected quantities (EQ): Code E2

Maximum quantity per inner packaging: 30 ml

Maximum quantity per outer packaging: 500 ml

IMDG:

Limited quantities (LQ): 1 L

Expected 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, METHANSULFONIC 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

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

ANNEX VIII, 3

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

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.

Notes on employment restriction

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

National regulations

Must be observed

15.2 Information about limitation of use

Restricted to professional users.

15.3 Chemical Safety Assessment

A Chemical Safety Assessment has 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 Training advice

Users of breathing apparatus must be trained/instructed.

16.3 Recommended restriction(s) of application

See section 1.

16.4 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.

*16.5 Replacement documentaion

Replaces issue dated 11.3.22 (issue 2)
Addition of UFI-code

16.6 Origin of datas

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

16.7 Departement issuing MSDS

See section 1.5: SK-Chemie Stefan Köhler, Contact: Stefan Köhler

16.8 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.