

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

1 Identification

· Product identifier

· Trade name: **Rust Remover for Marble**

· Article number: 10899, 10796/10797

· Application of the substance / the mixture Cleaning agent/ Cleaner

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg
Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

· Information department: Laboratory

· Emergency telephone number: Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.

2 Hazard(s) identification

· Classification of the substance or mixture



GHS05 Corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

· Label elements

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS05 GHS07

· Signal word

Danger

· Hazard-determining components of labeling:

· Hazard statements

sodium mercaptoacetate
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

· Precautionary statements

P261 Avoid breathing mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 1)

- **Classification system:**
- NFPA ratings (scale 0 - 4)

Health = 2
Fire = 0
Reactivity = 0

- HMIS-ratings (scale 0 - 4)

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

CAS: 367-51-1 EINECS: 206-696-4	sodium mercaptoacetate		12.5-25%
------------------------------------	------------------------	--	----------

- Additional information: For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- General information: Immediately remove any clothing soiled by the product. Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation: Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Immediately call a doctor.
- Information for doctor: Symptoms in intoxication with acids: In case of oral intake symptoms depend on concentration and acidity of incorporated acid, and are corrosive eschar in mouth and throat, vomiting, severe dysphagia, shock and coma. Therapy measures: drink plenty of water. Administer 20 g Magnesia usta in milk oral; no hydrogen carbonate oral; pain relief measures; in indication of acidosis infusion of sodium hydrogencarbonate solution(5%).
- Most important symptoms and effects, both acute and delayed Gastric or intestinal disorders
Acidosis
- Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 2)

- **Special hazards arising from the substance or mixture** Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
Mount respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Particular danger of slipping on leaked/spilled product.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections** See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:		
1336-21-6	ammonia	61 ppm
· PAC-2:		
1336-21-6	ammonia	330 ppm
· PAC-3:		
1336-21-6	ammonia	2,300 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
- **Further information about storage conditions:** Protect from frost.
- **Storage class:** 8 B
- **Specific end use(s)** No further relevant information available.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 3)

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists that were valid during the creation were used as basis.
- **Exposure controls**
- Personal protective equipment:
- General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.
 Use skin protection cream for skin protection.
 Clean skin thoroughly immediately after handling the product.
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Do not inhale gases / fumes / aerosols.
- Breathing equipment: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- Protection of hands:

Preventive skin protection by use of skin-protecting agents is recommended.
 After use of gloves apply skin-cleaning agents and skin cosmetics.
 Skin protection agent recommendation for preventive skin shelter without use of protective gloves
 STOKODERM (<http://www.stoko.com>)
 Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
 STOKO EMULSION (<http://www.stoko.com>)
 Skin protection recommendation for skin cleaning after product handling:
 FRAPANTOL (<http://www.stoko.com>)
 Skin protection agent recommendation for skin aftercare:
 STOKO VITAN (<http://www.stoko.com>)
 The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory analyses of the company KCL GmbH in compliance with EN374.
 This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: <http://www.kcl.de>).



Protective gloves

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

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 4)

- Material of gloves Butyl rubber, BR
Nitrile rubber, NBR
Fluorocarbon rubber (Viton)
Chloroprene rubber, CR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- Penetration time of glove material Value for the permeation: Level ≤ 6; 480 min
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- For the permanent contact gloves made of the following materials are suitable: Butyl rubber, BR
Butoject (KCL, Art_No. 897, 898)
Nitrile rubber, NBR
Camatril (KCL, Art_No. 730, 731, 732, 733)
Fluorocarbon rubber (Viton)
Vitoject (KCL, Art_No. 890)
Chloroprene rubber, CR
Camapren (KCL, Art_No. 720, 722, 726)
- As protection from splashes gloves made of the following materials are suitable: Nitrile rubber, NBR
Camatril (KCL, 730, 731, 732, 733)
Chloroprene rubber, CR
Camapren (KCL, Art_No. 720, 722, 726)
- Not suitable are gloves made of the following materials: Leather gloves
Strong gloves
- Eye protection: Goggles recommended during refilling.
- Body protection: Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· General Information

· Appearance:

- Form: Liquid
- Color: Yellow-brown
- Odor: Sulphurous
- Odor threshold: Not determined.

· pH-value at 20 °C (68 °F): 9

· Change in condition

- Melting point/Melting range: Undetermined.
- Boiling point/Boiling range: 100 °C (212 °F)

· Flash point: Not applicable.

· Ignition temperature:

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 5)

· <u>Explosion limits:</u>	
Lower:	Not determined.
Upper:	Not determined.
· <u>Vapor pressure at 20 °C (68 °F):</u>	23 hPa (17 mm Hg)
· <u>Density at 20 °C (68 °F):</u>	1.1 g/cm ³ (9.18 lbs/gal)
· <u>Specific gravity at 20 °C (68 °F):</u>	1.1 g/cm ³ (9.18 lbs/gal)
· <u>Relative density</u>	Not determined.
· <u>Vapor density</u>	Not determined.
· <u>Evaporation rate</u>	Not determined.
· <u>Solubility in / Miscibility with</u> <u>Water:</u>	Fully miscible.
· <u>Partition coefficient (n-octanol/water):</u>	Not determined.
· <u>Viscosity:</u>	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <u>Solvent content:</u>	
Organic solvents:	0.0 %
Water:	81.3 %
· <u>Other information</u>	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
 - Reacts with alkali and metals.
 - Reacts with strong oxidizing agents.
 - Reacts with metals forming hydrogen.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
 - Phosphorus oxides (e.g. P2O5)
 - Irritant gases/vapors

11 Toxicological information· **Information on toxicological effects**· Acute toxicity:· LD/LC50 values that are relevant for classification:**ATE (Acute Toxicity Estimates)**

Oral	LD50	272 mg/kg (rat)
Dermal	LD50	5984 mg/kg

367-51-1 sodium mercaptoacetate

Oral	LD50	50 - 200 mg/kg (rat) (OECD 423)
	NOEL	75 mg/kg (rat) (OECD 414)
	NOAEL-Werte	20 mg/kg (rat) (OECD 421)
Dermal	LD50	1100 mg/kg (ATE)

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 6)

NOEL	≥65 mg/kg (rabbit) 100 mg/kg (rat)
LC50/48h	880 mg/l (Leuciscus idus) (DIn 38412/15)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:** The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information· **Toxicity**· **Aquatic toxicity:****367-51-1 sodium mercaptoacetate**

EC50/48h	38 mg/l (daphnia magna) (Methode: 84/449/EWG)
EC50/72h	13 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
LC50/96h	>100 mg/l (Oncorhynchus mykiss) (OECD 203)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations· **Waste treatment methods**

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

· **Uncleaned packagings:**

- **Recommendation:** Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 7)

· Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**
· DOT, ADR, IMDG, IATA UN1760

· **UN proper shipping name**
· DOT Corrosive liquids, n.o.s. (sodium mercaptoacetate)
· ADR 1760 Corrosive liquids, n.o.s. (sodium mercaptoacetate)
· IMDG, IATA CORROSIVE LIQUID, N.O.S. (sodium mercaptoacetate)

· **Transport hazard class(es)**

· DOT



· Class 8 Corrosive substances
· Label 8

· ADR, IMDG, IATA



· Class 8 Corrosive substances
· Label 8

· **Packing group**
· DOT, ADR, IMDG, IATA III

· **Environmental hazards:**
· Marine pollutant: No

· **Special precautions for user** Warning: Corrosive substances
· Danger code (Kemler): 80
· EMS Number: F-A,S-A
· Segregation groups Ammonium compounds
· Stowage Category A
· Stowage Code SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· DOT
· Quantity limitations On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L

· ADR
· Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· IMDG
· Limited quantities (LQ) 5L

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 8)

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN 1760 CORROSIVE LIQUIDS, N.O.S. (SODIUM MERCAPTOACETATE), 8, III

15 Regulatory information· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

1336-21-6 ammonia

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenicity categories· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

GHS05 GHS07

· Signal word

Danger

· Hazard-determining components of labeling:

sodium mercaptoacetate

· Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

· Precautionary statements

P261

Avoid breathing mist/vapours/spray.

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2017

Reviewed on 04/20/2017

Trade name: Rust Remover for Marble

(Contd. of page 9)

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P302+P352 IF ON SKIN: Wash with plenty of water.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- National regulations:
- Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- VOC USA 0.0 g/l / 0.00 lb/gl
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Laboratory
- Contact: Dieter Zimmermann
- Date of preparation / last revision 04/20/2017 / 3
- Abbreviations and acronyms:
 - 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
 - DOT: US Department of Transportation
 - IATA: International Air Transport Association
 - ACGIH: American Conference of Governmental Industrial Hygienists
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - NFPA: National Fire Protection Association (USA)
 - HMIS: Hazardous Materials Identification System (USA)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - NIOSH: National Institute for Occupational Safety
 - OSHA: Occupational Safety & Health
 - TLV: Threshold Limit Value
 - PEL: Permissible Exposure Limit
 - REL: Recommended Exposure Limit
 - Met. Corr. 1: Corrosive to metals – Category 1
 - Acute Tox. 3: Acute toxicity – Category 3
 - Acute Tox. 4: Acute toxicity – Category 4
 - Skin Corr. 1C: Skin corrosion/irritation – Category 1C
 - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 - Skin Sens. 1: Skin sensitisation – Category 1