



Revision: 17.07.2014

Version: 01

## 01. Identification of the substance/mixture and of the company/undertaking

## 1.1 Product identifier

Trade name: Sotin 215 Steinlöser

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

Use of the substance/mixture: Product for descaling

Homepage: [www.sotin.de](http://www.sotin.de)

Uses advised against:

No further relevant information available.

## Details of the supplier of the safety data sheet

Company: Sotin GmbH & Co. KG  
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Fax: +49(0)671-89489-25

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Mo - Fr: 7.30 - 18.00

Sa: 8.00 - 12.00

Further information obtainable from: Dep.Laboratory

## 02. Hazards identification

## 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



DANGER

Met. Corr. 1: H290 May be corrosive to metals.

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

Eye Dam. 1: H318 Causes serious eye damage.

STOT SE 3: H335 May cause respiratory irritation.

## Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive

R35: Causes severe burns.

R37: Irritating to respiratory system.

## Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the „General Classification guideline for preparations of the EU“ in the latest valid version.

## Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

## 2.2 Label elements

## Labelling according to Regulation (EC) No 1272/2008

Hazard symbols



DANGER

## Hazard statements:

H290. May be corrosive to metals.

H314: Causes severe skin burns and eye damage.

H335: May cause respiratory irritation.

## Precautionary statements:

P102: Keep out of reach of children.

P101: If medical advice is needed, have product container or label at hand.

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P310: Immediately call a POISON CENTER or doctor/physician.

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

## Additional information:

May produce an allergic reaction

## Hazardous components which must be listed on label:

Hydrochloric acid

**2.3 Other hazards:****Results of PBT and vPvB assessment:**

PBT: not applicable

vPvB: not applicable

**03. Composition/information on ingredients**

Mixtures

Components	EINECS	CAS	Amount [%]	Classification
Hydrochloric acid	231-595-7	7647-01-0	25 -< 50	Skin Corr. 1B, H314; STOT SE 3, H335; Met. Corr: 1, H290 C R34, 37
But-2-in-1,4-diol	203-788-6	110-65-6	< 0, 5	Acute Tox. 3, H301-H311-H331; STOT RE 2, H373; Skin Corr. 1B, H314; Skin Sens. 1, H317 T, C R21-23/25-34-43-48/22

**Remarks:** For the full text of the hazard phrases refer to section 16.**04. First aid measures****4.1 Description of first aid measures****General advice:**

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

**If inhaled:**

Move to fresh air. In case of lung irritation, first treatment with dexametason aerosol (spray). If breathing is difficult, give oxygen. If unconscious place in recovery position and seek medical advice.

**In case of skin contact:**

Wash immediately with plenty of water for at least 15 minutes. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

**In case of eye contact:**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.

**If swallowed:**

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician immediately. If a person vomits when lying on his back, place him in the recovery position.

**4.2 Most important symptoms and effects, both acute and delayed**  
See section 11.**4.3 Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**05. Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media:**Water spray, foam, dry powder, CO<sub>2</sub>.**Unsuitable extinguishing media:**

Water with a full water jet.

**5.2 Special hazards arising from the substance or mixture:**

In case of fire hazardous decomposition products may be produced such as: Hydrogen chloride gas

**5.3 Advice for firefighters:****Special protective equipment for firefighters:**

In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)

**Further information:**

Cool closed containers exposed to fire with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

**06. Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment. Keep away unprotected persons. Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray.

**6.2 Environmental precautions:**

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

**6.3 Methods and materials for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Treat recovered material as described in the section "Disposal considerations".

**6.4 Reference to other sections:**

See section 7, 8 and 13.

**07. Handling and storage****7.1 Precautions for safe handling:****Advice on safe handling:**

Keep container tightly closed. Handle and open container with care. Avoid contact with the skin and the eyes. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

**Hygiene measures:**

Take off all contaminated clothing immediately. Do not breathe gas/fumes/vapour/spray. Avoid contact with the skin and the eyes. Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday.

**7.2 Conditions for safe storage, including any incompatibilities:****Requirements for storage areas and containers:**

Store in cool place. Keep in an area equipped with acid resistant flooring.

**Advice on protection against fire and explosion:**

The product is not flammable. Normal measures for preventive fire protection.

**Further information on storage conditions:**

Keep tightly closed in a dry and cool place. Keep in a well-ventilated place. Keep away from heat. Keep away from direct sunlight.

**German storage class:** 8 BL Non combustible liquids, corrosive

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

No further relevant information available.

**08. Exposure controls/personal protection****8.1 Control parameters**

Component	[ppm]	[mg/m³]	General remarks
Hydrochloric acid	2	3	TRGS 900, AGW
	10	15	STEL, EU ELV
	5	8	TWA, EU ELV
But-2-in-1,4-diol	0,1	0,36	TRGS 900, AGW

**8.2 Exposure controls****Appropriate engineering controls:**

Refer to protective measures listed in section 7 and 8.

**Personal protective equipment:****Respiratory protection:**

Required, if exposure limit is exceeded (e.g. OEL)

Combination filter: E-P2/P3

**Hand protection:**

Advice: Protective gloves

The following materials are suitable:

Nitrile rubber

The exact break through time can be obtained from the protective glove producer and has to be observed.

Protective gloves should be replaced at first signs of wear.

**Eye protection:**

Tightly fitting safety goggles

**Skin and body protection:**

Acid resistant protective clothing

**Environmental exposure controls:****General advice:**

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

**09. Physical and chemical properties**

<b>Form:</b>	liquid
<b>Colour:</b>	yellowish to brownish
<b>Odour:</b>	stinging
<b>Odour Threshold:</b>	no data available
<b>pH-Wert:</b>	1
<b>Freezing point [°C]:</b>	no data available
<b>Boiling point [°C]:</b>	108
<b>Flash point [°C]:</b>	not applicable
<b>Evaporation rate:</b>	no data available
<b>Flamability (solid, gas):</b>	no data available
<b>Upper explosion limit:</b>	no data available
<b>Lower explosion limit:</b>	no data available
<b>Vapour pressure:</b>	no data available
<b>Relative vapour density:</b>	no data available
<b>Density [g/cm³]:</b>	1,15
<b>Water solubility:</b>	completely miscible

**Partition coefficient: n-octanol/water:** no data available

**Auto-ignition temperature:** not applicable

**Thermal decomposition:** no data available

**Viscosity, dynamic:** no data available

**Explosivity:** no data available

**Oxidizing properties:** no data available

**9.2 Other information:**

Corrosive to metals.

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

Advice: Corrosive in contact with metals.

**10.2 Chemical stability:**

Advice: No decomposition if stored and applied as directed.

Decomposes on heating.

**10.3 Possibility of hazardous reactions:**

Corrosive in contact with metals.

Gives off hydrogen by reaction with metals.

Risk of explosion.

**10.4 Conditions to avoid:**

Protect from frost, heat and sunlight.

**10.5 Incompatible materials:**

Oxidizing agents, Bases, Metals, sodium hypochlorite, Amines.

**10.6 Hazardous decomposition products:**

Fire may cause evolution of: Hydrogen chloride gas, Gives off hydrogen by reactions with metals.

**11. Toxicological information****11.1 Information on toxicological effects****Acute toxicity:****Product:**

ATE-mix, oral: >2000 mg/kg

ATE-mix, Inhalation: >20 mg/l (vapour)

ATE-mix, dermal: >2000 mg/kg

**LD/LC50:**

7647-01-0 Hydrochloric acid

**Oral LD50:** 700 mg/kg bw rat (IUCIID)

**Dermal LD50:** >5010 mg/kg, rabbit

**Irritation:****Skin:**

Causes severe skin burns and eye damage.

**Eyes:**

Causes serious eye damage.

**Sensitization:**

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

**CMR effects****CMR properties****Carcinogenicity:**

For this product currently is no data available.

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

**Mutagenicity:**

For this product currently is no data available.

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

**Reproductive toxicity:**

For this product currently is no data available.

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

**Specific Target Organ Toxicity****Single exposure:**

May cause respiratory irritation.

**Repeated exposure:**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Other toxic properties****Repeated does toxicity.**

No data available

**Aspiration hazard:**

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

**Further information::**

If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

## 12. Ecological information

**12.1 Toxicity:****Aquatic toxicity:**

7647-01-0 Hydrochloric acid

**LC50 (96h):** Lepomis macrochirus: 24,6 mg/l

**EC50 (72h):** Pseudokirchneriella subcapitata: 0,78 mg/l

**EC50 (48h):** Daphnia magna: 0,492 mg/l

110-65-6 But-2-in-1,4-diol

**LC50 (96h):** Pimephales promelas: 53,6 mg/l

**EC50 (48h):** Daphnia magna: 26,8 mg/l

**EC50 (72h):** Desmodesmus subspicatus: 484 mg/l

**12.2 Persistence and degradability:****Biodegradability:**

Hydrochloric acid: Inorganic product which is not removable from water by biological processes.

But-2-in-1,4-diol: 96% (Coupled Units Test; OECD 303 A)

Readily biodegradable.

**12.3 Bioaccumulative potential:**

Bioaccumulation is not expected.

**12.4 Mobility:**

Not expected to absorb on soil.

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

**PBT:** not applicable

**vPvB:** not applicable

**12.6 Other adverse effects:**

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

Harmful effects to aquatic organisms due to pH-shift.

## 13. Disposal considerations

**13.1 Waste treatment methods****Product:**

Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains.

**Contaminated packaging:**

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Clean container with water. Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

**European Waste Catalogue Number:**

Waste codes should be assigned by the user based on the application for which the product was used.

## 14. Transport information

**14.1 UN number**

ADR, IMDG, IATA

1789

**14.2 UN Proper shipping name:**

(ADR/RID):

UN 1789, Hydrochloric acid, solution, 8, II

**Classification code:**

C1

**LQ, ADR:**

II

**Hazard identification No:**

80



**Label:**

**Packaging group:**

II

**Transport category:**

2

**Tunnel restriction code:**

E

**UN Proper shipping name IMDG:**

UN 1789, Hydrochloric acid, solution, 8, II

**PG:**

II

**EMS-No:**

F-A, S-B



**Label:**

**LQ, [l/kg]:**

1

**UN Proper shipping name IATA:**

UN 1789, Hydrochloric acid, solution, 8, II

**PG:**

II



**Label:**

**14.5 Environmental hazards:**

Marine pollutant: No

**14.6 special precautions for user:**

Not applicable

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBCCode:**

Not applicable

## 15. Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:****WGK (DE):**

WGK 1 according to VwVwS of 27.07.2005:  
Slightly water endangering

Does not fall under the German StörfallV.

**15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.



## 16. Other information

### 16.1 Relevant phrases:

R21:	Harmful in contact with skin.
R23/25:	Toxic by inhalation and if swallowed.
R34:	Causes burns.
R37:	Irritating to respiratory system.
R43:	May cause sensitisation by skin contact.
R48/22:	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
H290:	May be corrosive to metals.
H301:	Toxic if swallowed.
H311:	Toxic in contact with skin.
H314:	Causes severe skin burns and eye damage.
H317:	May cause an allergic skin reaction.
H331:	Toxic if inhaled.
H335:	May cause respiratory irritation.
H373:	May cause damage to organs through prolonged or repeated exposure.

### 16.2 Abbreviations and acronyms:

ADR:	Accord européen relatif au transport international des marchandises dangereuses par route
RID:	Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN:	Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
CAS:	Chemical Abstract Service
DNEL:	Derived No Effect Level
EC50:	Median effective concentration
EINECS:	European Inventory of Existing Commercial Chemical Substances
IATA:	International Air Transport Association
IBC-Code:	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG:	International Maritime Code for Dangerous Goods
LC50:	Lethal concentration, 50%
LD50:	Median lethal dose
MARPOL:	International Convention for the Prevention of Marine Pollution from Ships
PBT:	Persistent, bioaccumulative and toxic substance
TRGS:	Technische Regeln für Gefahrstoffe
VOC:	Volatile organic compounds
vPvB:	very Persistent and very Bioaccumulative
VwVwS:	Verwaltungsvorschrift wassergefährdende Stoffe

The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.