

**Safety Data Sheet 1907 / 2006 / EG (e)**  
**Sotin 270 Acidic cleaner for gas-fired condensing boilers**


Revision: 16.07.2018

Version: 01

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

- 1.1 Product identifier** Sotin 270 Acidic cleaner for gas-fired condensing boilers
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
- 1.2.1 Relevant identified uses** Cleaning agent
- 1.2.2 Uses advised against** At this moment we have not identified any uses advised against.
- 1.3 Details of the supplier of the safety data sheet**
- Company** Sotin GmbH & Co. KG  
Industriestr. 6  
55543 Bad Kreuznach / GERMANY  
Telefon + 49 (0)671-89489-0  
Fax + 49 (0)671-8948925  
Homepage [www.sotin.de](http://www.sotin.de)  
E-Mail [info@sotin.de](mailto:info@sotin.de)
- 1.4 Emergency Number** +49 (0)671-89489-0 (7:30 - 18:00)

**SECTION 2: Hazards identification**

- 2.1 Classification of the substance or mixture**  
**Classification according to Regulation (EC) No 1272 / 2008 [CLP/GHS]**  
Skin Corr. 1B: H314 Causes severe skin burns and eye damage.  
Eye Dam. 1: H318 Causes serious eye damage.
- 2.2 Label elements** The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).
- Hazard pictogram(s)**
- 
- Signal word** WARNING
- Contains** Phosphoric acid  
Methanesulphonic acid
- Hazard Statements** H314 Causes severe skin burns and eye damage.
- Precautionary Statements**  
P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P280 Wear protective gloves / protective clothing / eye protection / face protection.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
P315 Get immediate medical advice/attention.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P405 Store locked up.  
P501 Dispose of contents / container in accordance with local / national regulation.
- Cleaner, 648/2004/CE, contains** < 5% phosphates  
< 5% non-ionic surfactants  
< 5% amphoteric surfactants
- 2.3 Other Hazards** None.

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**SECTION 3: Composition / information on ingredients**

3.1 Substance ☐

3.2 Mixture ☒

Substance	EINECS/EG Reg.No	CAS	Weight [%]	Classification
Phosphoric acid	231-633-2 01-2119485924-24-xxxx	7664-38-2	10 - < 15	Skin Corr. 1B, H314; Met. Corr.1, H290
Sulphamic acid	226-218-8 01-2119488633-28-xxxx	5329-14-6	1 - < 10	Eye Irrit. 2, H319; Skin Irrit.2, H315; Aqu. Chron.3, H412
Methanesulfonic acid	200-898-6 01-2119491166-34-xxxx	75-75-2	1 - < 5	Skin Corr. 1B, H314
Phosphoric acid, mixed esters with butanol alcohol and ethylene glycol	284-716-0 01-2119969464-25-xxxx	84962-20-9	1 - < 5	Eye Irrit.2, H319; Met. Corr.1, H290
Sodium 2-ethylhexyl sulfate	204-812-8 01-2119971586-23-xxxx	126-92-1	1 - < 5	Skin Irrit.2, H315; Eye Dam.1, H318
Alcohols, C12-C14, ethoxylated	500-213-3 01-2119487984-16-xxxx	68439-50-9	1 - < 5	Aqu. Acute1, H400; Aqu. Chron.3, H412

**Additional information**

Substances of Very High Concern – SVHC: Substances are not contained or are below 0, 1%.  
 For full text of Hazard statements: See SECTION 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**General information**

Take off all contaminated clothing immediately.

**Following inhalation**

Supply fresh air; consult doctor in case of complaints.

**Following skin contact**

Wash off immediately with plenty of water, consult doctor of complaints.

**Following eye contact**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist immediately.

**Following ingestion**

Rinse the mouth and spit the fluids out. Do NOT induce vomiting. Call a physician immediately.

**4.2 Most important symptoms and effects, both acute and delayed physician's information / possible symptoms.**

No relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed treatment (advice to doctor)**

Symptomatically treat. Provide the Safety Data Sheet for the doctor.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

Product is not flammable.

**Unsuitable extinguishing media**

Full water jet.

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

Sulfur oxides (SOx). Danger of formation of toxic Pyrolysis products: Nitrogen oxides (NOx).

**5.3 Advice for fire-fighters**

In the event of fire, wear self-contained breathing apparatus.

**Additional information**

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

**SECTION 6: Accidental release measures**

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

High risk of slipping due to leakage / spillage of product. Wear suitable protective equipment.

**6.2 Environmental precautions**

Prevent spread over a wide area (e.g. by containment or oil barriers). Do not discharge into the drains / surface waters /groundwater.

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

Absorb with liquid-binding material (e.g. Acid binders). Dispose of absorbed material in accordance within the regulations.

**6.4 Reference to other sections**

See SECTION 7, 8 + 13.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Advice on safe handling**

When diluting, always add water and stir in the product. Avoid spilling or spraying in closed rooms.

**Hygiene measures**

Take off all contaminated clothing immediately. Keep away from food, drink and animal feeding stuffs. 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 rooms and vessels**

Keep only in original container. Keep in an area equipped with acid resistant flooring.

**Further information on storage conditions**

Keep tightly closed in a dry and cool place. Keep in a well-ventilated place.

**Advice on storage compatibility**

Do not store together with oxidizing agents. Do not store with alkalis.

**7.3 Specific end use(s)**

No relevant information available.

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**SECTION 8: Exposure controls / personal protection****8.1 Control parameters**

**Ingredients with occupational exposure limits to be monitored (EU / GB)**

Substance	[ml/m <sup>3</sup> ]	[mg/m <sup>3</sup> ]	Remarks
Phosphoric acid		1	8h
		2	15 min

**DNEL- / PNEC- values****DNEL****126-92-1 Sodium 2-ethylhexyl sulfate**

Worker, dermal, long-term – systemic: 4060mg/kg bw/d

Worker, inhalative, long-term – systemic: 85 mg/m<sup>3</sup>Consumer, inhalative, long-term – systemic: 89 mg/m<sup>3</sup>

Consumer, dermal, long-term – systemic: 2240mg/kg bw/d

Consumer, oral, long-term – systemic: 24 mg/kg

**68439-50-9 Alcohol, C12-C14, ethoxylated**

Worker, dermal, long-term – systemic: 2080 mg/kg bw/d

Worker, inhalative, long-term – systemic: 294 mg/m<sup>3</sup>Consumer, inhalative, long-term – systemic: 87 mg/m<sup>3</sup>

Consumer, oral, long-term – systemic: 25 mg/kg bw/d

Consumer, dermal, long-term – systemic: 1250mg/kg bw/d

**PNEC****126-92-1 Sodium 2-ethylhexyl sulfate**

Soil: 0,22 mg/kg dw

Sediment (seawater): 0,15 mg/kg dw

Sediment (freshwater): 1,5 mg/kg dw

Sewage treatment plant (STP): 1,5 mg/l

Seawater: 0,01357 mg/l

Freshwater: 0,1357 mg/l

**68439-50-9 Alcohol, C12-C14, ethoxylated**

Soil: 1 mg/kg dw

Sediment (seawater): 31 mg/kg dw

Sediment (freshwater): 31 mg/kg dw

Sewage treatment plant (STP): 10000 mg/l

Seawater: 0,0437 mg/l

Freshwater: 0,0437 mg/l

**Additional information**

The lists valid during the making were used as basis.

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

Ensure adequate ventilation at the workplace.

**Personal protection equipment****Eye protection**

Safety glasses (EN 166:2001)

**Hand protection**

Wear suitable gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Recommended Material:

In full contact: &gt; 0,7mm, butyl-rubber, &gt; 480min.

In short contact: &gt; 0,7mm, nitrile rubber, &gt; 480min.

**Personal Protection**

Protective clothing.

**Other protection measures**

Avoid contact with eyes and skin. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Avoid contact with eyes and skin. Do not inhale gases / vapours / aerosols.

**Respiratory protection**

Respiratory protection in case of aerosol or vapour formation.  
Combination filter: E-P2 (DIN EN 14387).

**Thermal Hazards**

No information available.

**Information on environmental protection regulations**

Comply with applicable environmental regulations limiting discharge to air, water and soil.

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

<b>Appearance</b>	liquid
<b>Colour</b>	colourless to yellowish
<b>Odour</b>	odourless
<b>Odour threshold</b>	no data available
<b>pH-value</b>	1
<b>Melting point / freezing point [°C]</b>	no data available
<b>Initial boiling point and boiling range [°C]</b>	> 100
<b>Flash point [°C]</b>	not applicable
<b>Evaporation rate</b>	no data available
<b>Ignition temperature [°C]</b>	no data available
<b>Flammability (solid, gas)</b>	no data available
<b>Lower flammability or explosive limit [Vol%]</b>	no data available
<b>Lower flammability or explosive limit [Vol%]</b>	no data available
<b>Vapour pressure [hPa]</b>	no data available
<b>Vapour density</b>	no data available
<b>Relative density [g/cm<sup>3</sup>]</b>	1, 15
<b>Solubility in water</b>	miscible
<b>Organic solvents [%]</b>	no data available
<b>Partition coefficient: n-Octanol / water</b>	no data available
<b>Auto-ignition temperature [°C]</b>	not determined
<b>Decomposition temperature</b>	no data available
<b>Dynamic Viscosity at 20°C [mPas]</b>	no data available
<b>Explosive properties</b>	not determined
<b>Oxidising properties</b>	no

**9.2 Other information**

None.

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

See SECTION 10.3.

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**10.2 Chemical stability****Thermal decomposition / conditions to be avoided**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

Reactions with strong alkalies and oxidizing agents.

**10.4 Conditions to avoid**

Strong heating.

**10.5 Incompatible materials**

See SECTION 10.3.

**10.6 Hazardous decomposition products****Thermal decomposition**

No hazardous decomposition products known.

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

No information available.

**Relevant LD/LC50-Values****75-75-2 Methanesulfonic acid**

Oral LD50 200 – 400 mg/kg Rat (IUCLID)

Dermal LD50 200 – 2000 mg/kg Rabbit (IUCLID)

**126-92-1 Sodium 2-ethylhexyl sulfate**

Dermal LD50 &gt; 2000 mg/kg Rat

Oral LD50 &gt; 2000 mg/kg Rat

**7664-38-2 Phosphoric acid**

Dermal LD50 2740 mg/kg Rabbit (Lit.)

Oral LD50 1530 mg/kg Rat (Lit.)

Inhalative LC50 / 1h &gt; 0,85 mg/l Rat (Lit.)

**84962-20-9 Phosphoric acid, mixed esters with butanol alcohol and ethylene glycol**

Dermal not irritant / Rabbit (OECD404)

Oral LD50 &gt; 2000 mg/kg Rat

**68439-50-9 Alcohol C12-C14, ethoxylated**

Dermal LD50 &gt; 2000 mg/kg Rat

Oral LD50 &gt; 2000 mg/kg Rat

Inhalative LC50 / 4h (vapour) &gt; 1,6 mg/l

**5329-14-6 Sulphamic acid**

Oral LD50 3160 mg/kg

**Primary irritant effect****Skin corrosion / irritation**

No information available.

**Serious eye damage / irritation**

No information available.

**Respiratory or skin sensitisation**

No information available.

**Summary of evaluation of the CMR properties****Germ cell mutagenicity**

No information available.

**Carcinogenicity**

No information available.

**Reproductive Toxicity**

No information available.

**Specific target organ toxicity – single exposure**

No information available.

**Specific target organ toxicity – repeated exposure**

No information available.

**Aspiration hazard**

No information available.

**Additional information**

Toxicological data of complete product are not available. The classification as corrosive is due to the extreme pH value.

**SECTION 12: Ecological information****12.1 Toxicity****75-75-2 Methanesulfonic acid**

EC50 / 24h 1,7 mg/l (Daphnia magna) IUCLID

**126-92-1 Sodium 2-ethylhexyl sulfate**

LC50 / 96h &gt; 100 mg/l (Danio rerio)

EC50 / 3h &gt; 100 mg/l (Belebschlamm)

EC50 / 72h &gt; 100 mg/l (Desmodesmus subspicatus)

EC5 / 48h &gt; 100 mg/l (Daphnia magna)

**7664-38-2 Phosphoric acid**

LC50 / 96h 3 – 3,5 mg/l Fisch (Lit.)

LC0 100 – 1000 mg/l Fisch (Lit.)

**84962-20-9 Phosphoric acid, mixed esters with butanol alcohol and ethylene glycol**

LC50 / 96h &gt; 100 mg/l (Oncorhynchus mykiss)

EC0 &gt; 100 mg/l (Bakterien)

EC0 / 48h &gt; 100 mg/l (Daphnia magna) OECD 202

**68439-50-9 Alcohol C12-C14, ethoxylated**

LC50 / 96h 0, 88 mg/l (Brachidanio rerio)

EC50 / 72h 0, 41 mg/l (Pseudokichneriella subcapitata)

EC50 / 48h 0,226 mg/l (Daphnia magna) OECD 202

**5329-14-6 Sulphamic acid**

LC50 / 96h 70,3 mg/l (Pimephales promelas) IUCLID

EC10 / 16h &gt; 1000 mg/l (Pseudomonas putida)

**12.2 Persistence and degradability****Behaviour in environment compartments**

No information available.

**Behaviour in sewage plant**

This product is an acid, before discharging sewage into sewage treatment plants, neutralization is usually required.

**Biological degradability**

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents.

Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Based on all available information not to be classified as PBT or vPvB respectively.

**12.6 Other adverse effects**

Ecological data of complete product are not available. The toxicity data pertaining to the ingredients were supplied by the manufactures of raw materials.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

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**Product disposal (recommended)**

Coordinate disposal with the authorities if necessary. Dispose of as hazardous waste.

**Waste code (recommended)**

060106\* other acids

**Packaging disposal (recommended)**

Packaging that cannot be cleaned should be disposed of as for product. Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

**Waste code (recommended)**

150110\* packaging containing residues of or contaminated by dangerous substances.

**ADR/RID/ADN****Limited quantities (LQ)**

5I

**Excepted quantities (EQ)**

Code: E1

**Tunnel restriction code**

E

**IMDG****Limited quantities (LQ)**

5I

**Excepted quantities (EQ)**

Code: E2

**UN "Model Regulation"**

UN 1760 Corrosive liquid, n.o.s. (Phosphoric acid, Methansulphuric acid), 8, III.

**SECTION 14: Transport information****14.1 UN-Number**

ADR, ADN, RID, IMDG, IATA UN 1760

**14.2 UN proper shipping name****Transport by land according to ADR / RID**

UN 1760 Corrosive liquid, n.o.s. (Phosphoric acid, Methansulphuric acid)

**IMDG**

UN 1760 Corrosive liquid, n.o.s. (Phosphoric acid, Methansulphuric acid)

**IATA**

UN 1760 Corrosive liquid, n.o.s. (Phosphoric acid, Methansulphuric acid)

**14.3 Transport hazard class(es)****ADR/RID/ADN**

**Class** 8  
**Label** 8

**IMDG**

**Class** 8  
**Label** 8

**IATA**

**Class** 8  
**Label** 8

**14.4 Packing group**

III.

**14.5 Environmental hazards**

Marine pollutant No

**14.6 Special precautions for user**

EmS: F-A, S-B

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

Not applicable.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture****EEC – REGULATIONS**

1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); 453/2001/EC; (EU) 2015/830

**TRANSPORT – REGULATIONS**

ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2017)

**NATIONAL REGULATIONS (GE)****Observe employment restrictions for people**

Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.

**WGK 1 (Germany):** slightly water endangering

**15.2 Chemical Safety Assessment**

Chemical Safety Assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****16.1 Hazard statements**

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H400 Very toxic to aquatic life.  
H412 Harmful to aquatic life with long lasting effects.

**16.2 Shortcuts and acronyms**

ADN: Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
ADR: Accord européen relatif au transport international des marchandises dangereuses par route  
CAS: Chemical Abstract Service  
CLP: Classification, Labelling and Packaging of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
GHS: Globally Harmonised System  
IATA: International Air Transport Association  
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations  
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
IMDG: International Maritime Dangerous Goods Code  
IUCLID: International Uniform Chemical Information Database  
LC50: Lethal concentration, 50%  
LD50: Median lethal dose  
Lit.: Literature

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MARPOL:	International Convention for the Prevention of Marine Pollution from Ships
PBT:	Persistent, bioaccumulative and toxic substance
REACH:	Registration, Evaluation, Authorisation of Chemicals
RID:	Règlement concernant le transport international ferroviaire de marchandises dangereuses
STEL:	Short Term Exposure Level
TWA:	Time weighted Average
VOC:	Volatile organic compounds
vPvB:	very Persistent and very Bioaccumulative
Aqu. Acute1:	Hazardous to the aquatic environment – Acute Hazard, Category1
Aqu. Chron. 3:	Hazardous to the aquatic environment – Chronic Hazard, Category3
Eye Dam.1:	Serious eye damage, Hazard Category 1
Eye Irrit.2:	Eye irritation, Hazard Category 2
Met. Corr. 1:	Substance or mixture corrosive to metals, Hazard Category 1
Skin Corr. 1B:	Skin corrosion, Hazard Category 1B
Skin Irrit. 2:	Skin irritation, Hazard Category 2

## 16.3 Further information

None.

These information are based on our present state of knowledge. They describe our product in view of the requirements for safety. They don't assure of certain properties of the product.