



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No. 2015/830

Revision date: 8/9/2017  
Version: 7  
Language: en-GB,IE  
Date of print: 12/10/2017

## Steam generator descaling agent & Sensia Arena

Material number 409591040

Page: 1 of 9

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

#### 1.1 Product identifier

Trade name: Steam generator descaling agent & Sensia Arena

REACH registration No.: 01-2119457026-42-XXXX

This safety data sheet pertains to the following products:

4697700M (descaling agent Sensia Arena 4x80g)

46978000 (Sensia Arena care set 1x80g)

14015000 (Steam generator descaling agent, F-digital deluxe descaling agent 6x80g)

CAS-Number: 5949-29-1

EC-number: 201-069-1

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

General use: DESCALERS

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

Company name: Grohe AG

Street/POB-No.: Industriepark Edelburg

Postal Code, city: 58675 Hemer

Germany

WWW: www.grohe.com

E-mail: info@grohe.com

Telephone: +49 (0)2372 93-0

Telefax: +49 (0)2372 93-1322

Dept. responsible for information:

Telephone: +49 (0)2372 93-2037

sustainability@grohe.com

#### 1.4 Emergency telephone number

GIZ-Nord, Göttingen, Germany,

Telephone: +49 551-19240

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Eye Irrit. 2; H319 Causes serious eye irritation.

#### 2.2 Label elements

##### Labelling (CLP)



Signal word:

**Warning**

Hazard statements:

H319

Causes serious eye irritation.



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### Precautionary statements:

- P102 Keep out of reach of children.
- P264 Wash hands and face thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye 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.
- P337+P313 If eye irritation persists: Get medical advice/attention.

### 2.3 Other hazards

No risks worthy of mention.

### Results of PBT and vPvB assessment:

No data available

## SECTION 3: Composition / information on ingredients

### 3.1 Substances

Chemical characterisation: C<sub>6</sub> H<sub>8</sub> O<sub>7</sub> x H<sub>2</sub>O  
Citric acid monohydrate

CAS-Number: 5949-29-1  
EC-number: 201-069-1  
RTECS-Number: GE7810000  
Customs tariff number: 2918 14 00

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- In case of inhalation: Provide fresh air.
- Following skin contact: Remove residues with soap and water.  
Change contaminated clothing. In case of skin reactions, consult a physician.
- After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart.  
Subsequently consult an ophthalmologist.
- After swallowing: Rinse mouth and drink 2-4 cupfuls of water. Seek medical treatment in case of troubles.

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

Causes serious eye irritation.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media:

Water fog, alcohol resistant foam, carbon dioxide, extinguishing powder.



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

Product is combustible.  
May form dangerous gases and vapours in case of fire.  
In case of fire may be liberated: carbon monoxide and carbon dioxide.

### 5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus.

Additional information:

Hazchem-Code: -

Do not allow fire water to penetrate into surface or ground water.

## SECTION 6: Accidental release measures

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

Provide adequate ventilation. Avoid contact with the substance.  
Avoid generation of dust. Do not breathe dust.  
Wear appropriate protective equipment.

### 6.2 Environmental precautions

Do not allow to enter into ground-water, surface water or drains.

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

Take up mechanically, placing in appropriate containers for disposal. Final cleaning.  
Larger quantities to be stemmed and pumped into tanks.

### 6.4 Reference to other sections

Refer additionally to section 8 and 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed.

Avoid generation of dust. Do not breathe dust.  
Avoid contact with skin and eyes.  
Wear appropriate protective equipment.

Precautions against fire and explosion:

Keep away from sources of ignition - No smoking.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Not metal container.  
Store container tightly closed in a dry area.  
Protect against heat /sun rays.

Hints on joint storage:

Do not store together with oxidizing agents, alkalis, reducing agents or metals.  
Do not store together with combustible or self-igniting materials or any highly flammable solids.

Further details:

Avoid formation of dust/air mixtures because of explosion hazard.

### 7.3 Specific end use(s)

No information available.



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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Additional information: Contains no substances with occupational exposure limit values.

PNEC: PNEC water (freshwater): 0.44 mg/L  
PNEC water (marine water): 0.044 mg/L  
PNEC sewage treatment plant: 1000 mg/L  
PNEC sediment (freshwater): 34.6 mg/kg dw  
PNEC sediment (marine water): 3.46 mg/kg dw  
PNEC floor: 33.1 mg/kg dw

#### 8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area.  
Dust should be exhausted directly at the point of origin.

#### Personal protection equipment

##### Occupational exposure controls

Respiratory protection: With the formation of dust, use a dust mask.  
Possible alternatives: Particulates filter P1 according to EN 143.

Hand protection: Protective gloves according to EN 374.  
Glove material: nitrile rubber - Layer thickness: 0.11 mm.  
Breakthrough time: >480 min.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:  
Take off immediately all contaminated clothing. When using do not eat, drink or smoke.  
Avoid contact with skin and eyes. After work, wash hands and face.  
Have eye wash bottle or eye rinse ready at work place.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Appearance: Form: solid, crystalline  
Colour: colourless up to white

Odour: odourless

Odour threshold: No data available

pH value: at 10 g/L: 2.2  
at 25 °C, 50 g/L: 1.85

Melting point/freezing point: 135 - 152 °C

Initial boiling point and boiling range: (Decomposition)

Flash point/flash point range: not applicable

Evaporation rate: No data available

Flammability: No data available

Explosion limits: No data available

Vapour pressure: at 20 °C: ≤ 0.1 hPa

Vapour density: No data available



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Density:	at 20 °C: 1.542 g/cm <sup>3</sup>
Solubility:	at 25 °C: (Ethanol) 49 g/L
Water solubility:	at 20 °C: approx. 1630 g/L
Partition coefficient: n-octanol/water:	at 20 °C: -1.72 log P(o/w) (OECD 117) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Auto-ignition temperature:	No data available
Decomposition temperature:	> 170°C
Viscosity, kinematic:	No data available
Explosive properties:	Explosive dust-air mixtures may form.
Oxidizing characteristics:	No data available

### 9.2 Other information

Ignition temperature:	345 °C
Bulk density:	approx. 800 - 1000 kg/m <sup>3</sup>
Additional information:	Molar mass: 210.14 g/mol

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Explosive dust-air mixtures may form.

### 10.2 Chemical stability

Product is stable under normal storage conditions.

### 10.3 Possibility of hazardous reactions

Reacts violently with oxidizing agents, reducing agents, metals and bases.

### 10.4 Conditions to avoid

Protect from excessive heat. (Release of water of crystalization in case of warming.)  
Avoid formation of dust/air mixtures because of explosion hazard.

### 10.5 Incompatible materials

Strong oxidizing agents, reducing agents, metals, bases

### 10.6 Hazardous decomposition products

In case of fire may be liberated: carbon monoxide and carbon dioxide.

Thermal decomposition: > 170°C

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity:	LD50 Rat, oral:	(Substance anhydrous) 3000 mg/kg
	LD50 Mouse, oral:	(Substance anhydrous) 5040 mg/kg
	LD50 Rat, intraperitoneal:	(Substance anhydrous) 375 mg/kg
	LD50 Mouse, intraperitoneal:	(Substance anhydrous) 961 mg/kg



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Toxicological effects:

- Acute toxicity (oral): Based on available data, the classification criteria are not met.
- Acute toxicity (dermal): Based on available data, the classification criteria are not met.
- Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
- Skin corrosion/irritation: Based on available data, the classification criteria are not met.
- Specific symptoms in animal studies (Rabbit): Not an irritant (OECD 404)
- Eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.
- Specific symptoms in animal studies (Rabbit): Causes serious eye irritation. (OECD 405)
- Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.
- Skin sensitisation: Based on available data, the classification criteria are not met.
- Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.
- Mutagenicity (in-vitro, Ames test): negative (Lit.)
- Carcinogenicity: Based on available data, the classification criteria are not met.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- Effects on or via lactation: Based on available data, the classification criteria are not met.
- Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met.
- Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.
- Aspiration hazard: Based on available data, the classification criteria are not met.

### Symptoms

In case of inhalation: May cause irritations.  
In case of ingestion:  
After intake of large amounts: stomachache, cough, vomiting with blood.

### General remarks

Physiologically benign according to current data (not a mutagen, carcinogen or teratogen).

## SECTION 12: Ecological information

### 12.1 Toxicity

Aquatic toxicity: Harmful effects by modification of pH-value.

Algae toxicity:  
IC50 Scenedesmus quadricauda: 640 mg/l/7d (anhydrous).  
IC50 Myrocystis aeruginosa: 80 mg/L/8 d.

Bacterial toxicity:  
EC50 Pseudomonas putida: > 10000 mg/L/16h (anhydrous).

Daphnia toxicity:  
EC50 Daphnia magna: approx. 120 mg/L/72h (anhydrous).

Fish toxicity:  
LC50 Leuciscus idus: 440 - 760 mg/L/96h (anhydrous).

### 12.2 Persistence and degradability

Further details: Biodegradation: > 98 %/2 d (OECD 302 B).  
Product is highly biodegradable.



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Oxygen demand:  
BOD: 481 mg/g/5d  
COD: 685 mg/g  
ThOD: 685 mg/g

### 12.3 Bioaccumulative potential

Bio-accumulation is not to be expected ( $\log P(o/w) < 1$ ).

Partition coefficient: n-octanol/water:

at 20 °C:  $-1.72 \log P(o/w)$  (OECD 117)

Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

No data available

### 12.6 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste key number: 07 01 99 = Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals: Wastes not otherwise specified  
MFSU = manufacture, formulation, supply and use

Recommendation: Incinerate according to applicable local, state and federal regulations.

#### Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation.  
Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID, IMDG, IATA-DGR:

not applicable

### 14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

Not restricted

### 14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:

not applicable



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### 14.4 Packing group

ADR/RID, IMDG, IATA-DGR:

not applicable

### 14.5 Environmental hazards

Marine pollutant:

no

### 14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No data available

## SECTION 15: Regulatory information

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

#### National regulations - Great Britain

Hazchem-Code:

-

No data available

#### National regulations - EC member states

#### Labelling of packaging with <= 125mL content



Signal word:

**Warning**

Hazard statements:

not applicable

Precautionary statements:

P102

Keep out of reach of children.

### 15.2 Chemical Safety Assessment

No data available

## SECTION 16: Other information

### Further information

Literature:

ICSC 0704

Reason of change:

Changes in section 1: Trade name, Material number

Date of first version:

10/5/2013

### Department issuing data sheet

Contact person:

see section 1: Dept. responsible for information





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For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.