



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 10/7/2021

Version: 10.0

Language: en-US

Date of print: 1/20/2022

F-digital deluxe DESCALER, Sensia Arena DESCALER, Sensia Arena care set, SENSIA ARENA DESCALING KIT

Material number 409591040

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1. Product and company identification

Product identifier

Trade name: F-digital deluxe DESCALER, Sensia Arena DESCALER, Sensia Arena care set, SENSIA ARENA DESCALING KIT

This safety data sheet pertains to the following products:

4697700M (Sensia Arena DESCALER 4x80g)

46978000 (Sensia Arena care set 1x80g)

14015000 (F-digital deluxe DESCALER for steam generator 6x80g)

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

General use: DESCALERS

Details of the supplier of the safety data sheet

Company name: Grohe AG

Street/POB-No.: Industriepark Edelburg

Postal Code, city: DE-58675 Hemer

WWW: www.grohe.com

E-mail: info@grohe.com

Telephone: +49 (0)2372 93-0

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Department responsible for information:

Telephone: +49 (0)2372 93-2037

sustainability@grohe.com

Emergency phone number

GIZ-Nord, Göttingen, Germany,

Telephone: +49 551-19240

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: solid

Form: crystalline

Color: colorless up to white

Odor: odorless

Classification: Eye Irritation - Category 2A;

Hazard symbols:



Signal word: **Warning**

Hazard statements: Causes serious eye irritation.



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Precautionary statements:

Keep out of reach of children.
Wash hands and face thoroughly after handling.
Wear protective gloves/protective clothing/eye protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

May form explosible dust-air mixture if dispersed.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: C₆ H₈ O₇ x H₂O
Citric acid monohydrate
CAS-Number: 5949-29-1
RTECS-Number: GE7810000

4. First aid measures

In case of inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if problems persist.

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.
Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.

After swallowing: Never give anything by mouth to an unconscious person. Rinse mouth and drink 2-4 cupfuls of water. Seek medical treatment in case of troubles.

Most important symptoms/effects, acute and delayed

Causes serious eye irritation.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range: not applicable
Auto-ignition temperature: No data available



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Suitable extinguishing media:

Water spray jet, alcohol resistant foam, carbon dioxide, dry chemical powder.

Extinguishing media which must not be used for safety reasons:

Full water jet

Specific hazards arising from the chemical

Product is combustible.

May form dangerous gases and vapors in case of fire.

Furthermore, there may develop: carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to protect skin and eyes.

Additional information:

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

6. Accidental release measures

Personal precautions:

Provide adequate ventilation. Avoid contact with the substance.

Avoid generation of dust. Do not breathe dust.

Wear appropriate protective equipment. Change contaminated clothing.

Environmental precautions:

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

If necessary notify appropriate authorities.

Methods for clean-up:

Take up mechanically, placing in appropriate containers for disposal. Final cleaning.

Larger quantities to be stemmed and pumped into tanks.

7. Handling and storage

Handling

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear appropriate protective equipment.

Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Change contaminated clothing.

Precautions against fire and explosion:

Keep away from sources of ignition - No smoking.

May form explosible dust-air mixture if dispersed.

Storage

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.



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8. Exposure controls / personal protection

Engineering controls

Provide good ventilation and/or an exhaust system in the work area.

Dust should be exhausted directly at the point of origin.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: Wear suitable protective clothing.

Protective gloves according to OSHA Standard - 29 CFR: 1910.138.

Glove material: nitrile rubber - Layer thickness: 0.11 mm.

Breakthrough time: >480 min.

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: With the formation of dust, use a dust mask.

Possible alternatives: Particulates filter P1 according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.

General hygiene considerations:

Do not breathe dust. Do not get in eyes, on skin, or on clothing.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Have eye wash bottle or eye rinse ready at work place. Change contaminated clothing.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Physical state at 68 °F and 101.3 kPa: solid

Form: crystalline

Color: colorless up to white

Odor: odorless

Odor threshold: No data available

pH: at 10 g/L: 2.2

at 77 °F, 50 g/L: 1.85

Melting point/freezing point: 275 - 305.6 °F

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

Vapor pressure: at 68 °F: <= 0.1 hPa

Vapor density: No data available

Density: at 68 °F: 1.542 g/cm³



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Solubility:	at 77 °F: (Ethanol) 49 g/L
Water solubility:	at 68 °F: approx. 1630 g/L
Partition coefficient: n-octanol/water:	at 68 °F: -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
Thermal decomposition:	> 170°C
Explosive properties:	Explosive dust-air mixtures may form.
Ignition temperature:	653 °F
Bulk density:	approx. 800 - 1000 kg/m ³
Molecular weight	210.14 g/mol

10. Stability and reactivity

Reactivity:	May form explosible dust-air mixture if dispersed.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Reacts violently with oxidizing agents, reducing agents, metals and bases.
Conditions to avoid:	Protect from excessive heat. (Release of water of crystallization in case of warming.) Avoid formation of dust/air mixtures because of explosion hazard.
Incompatible materials:	Strong oxidizing agents, reducing agent, metals, bases
Hazardous decomposition products:	No hazardous decomposition products when regulations for storage and handling are observed.
Thermal decomposition:	> 170°C

11. Toxicological information

Toxicological tests

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)
Serious eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.
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).

12. Ecological information

Ecotoxicity

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: 1535 mg/L/24h

Fish toxicity:

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

Mobility in soil

No data available



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Persistence and degradability

Further details: Biodegradation: 97 %/28d (OECD 301B)
Product is highly biodegradable.

Additional ecological information

Oxygen demand: BOD: 481 mg/g/5d
COD: 685 mg/g
ThOD: 685 mg/g
General information: Do not release large quantities into the surface water or into drains.

13. Disposal considerations

Product

Recommendation: Dispose of waste according to applicable legislation.

Package

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

14. Transport information

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
Not restricted

Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:
not applicable

Packing group

ADR/RID, IMDG, IATA-DGR:
not applicable

Environmental hazards

Marine pollutant: no

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

No data available

USA: Department of Transportation (DOT)

Proper shipping name: Not restricted

Sea transport (IMDG)

Proper shipping name: Not restricted
Marine pollutant: no



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Air transport (IATA)

Proper shipping name: Not restricted

Further information

No dangerous good in sense of these transport regulations.

15. Regulatory information

National regulations - U.S. Federal Regulations

TSCA listed: Citric acid anhydrous CAS 77-92-9

TSCA Inventory: not listed

16. Other information

Text for labeling:

Contains 100 % F-digital deluxe DESCALER, Sensia Arena DESCALER, Sensia Arena care set, SENSIA ARENA DESCALING KIT. Safety data sheet available on request.

Hazard rating systems:



NFPA Hazard Rating:

Health: 1 (Slight)

Fire: 1 (Slight)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 1 (Slight)

Flammability: 1 (Slight)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X



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Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
AS/NZS: Australian Standards/New Zealand Standards
BOD: Biochemical oxygen demand
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
COD: Chemical Oxygen Demand
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC50: Effective Concentration 50%
EC: European Community
EN: European Standard
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
log P(o/w): Partition coefficient: octanol/water
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
ThOD: Theoretical Oxygen Demand
ThOD: Theoretical Oxygen Demand
vPvB: Very persistent and very bioaccumulative

Literature: ICSC 0704

Reason of change: General revision
Date of first version: 5/10/2013

Department issuing data sheet

Contact person: see section 1: Department responsible for information

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.