



SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

ALTO STONE-EX 25 L.

Version 5.0 Print Date 10.08.2017

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

1.1. Product identifier

Trade name : ALTO STONE-EX 25 L.

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

Use of the Decalcification agent

Substance/Mixture

: At this moment we have not identified any uses advised Uses advised against

against

Details of the supplier of the safety data sheet

Company BCD Chemie GmbH

Schellerdamm 16

DE 21079 Hamburg

Telephone : +49 (0)69-40101-71 : +49 (0)69-40101-34 Telefax E-mail address : InfoSDB@bcd-chem
Responsible/issuing : Umwelt / Sicherheit : InfoSDB@bcd-chemie.de

person

1.4. Emergency telephone number

Emergency telephone : +49 (0)208-7828-0 Available 24h/7d

number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Acute toxicity (Oral)	Category 4		H302
Acute toxicity (Inhalation)	Category 4		H332
Skin corrosion	Category 1B		H314





For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects

Human Health : See section 11 for toxicological information.

Physical and chemical

hazards

Potential environmental

effects

See section 9/10 for physicochemical information.

See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard symbols





Signal word : Danger

Hazard statements : H302 + H332 Harmful if swallowed or if inhaled

H314 Causes severe skin burns and eye damage.

Precautionary statements

Prevention : P261 Avoid breathing dust/ fume/ gas/ mist/

vapours/ spray.

P280 Wear protective gloves/ protective clothing/

eye protection/ face protection.

Response : 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/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh

air and keep comfortable for breathing.

Immediately call a POISON

CENTER/doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with

water for several minutes. Remove contact lenses, if present and easy to do. Continue

rinsing.

Additional Labelling:

EUH071 Corrosive to the respiratory tract. EUH208 May produce an allergic reaction.





Hazardous components which must be listed on the label:

• formic acid

Other labelling information:

Sensitising components : methenamine

May produce an allergic reaction.

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical nature : Aqueous mixture of substances listed below with non

hazardous additions.

			Classification (REGULATION (EC) No 1272/2008)	
Haza	rdous components	Amount [%]	Hazard class / Hazard category	Hazard statements
formic acid				
Index-No. CAS-No. EC-No. EU REACH- Reg. No.	: 607-001-00-0 : 64-18-6 : 200-579-1 : 01-2119491174-37-xxxx	> 25 - <= 50	Flam. Liq.3 Acute Tox.4 Acute Tox.3 Skin Corr.1A	H226 H302 H331 H314
methenamine	•			
Index-No. CAS-No. EC-No. EU REACH- Reg. No.	: 612-101-00-2 : 100-97-0 : 202-905-8 : 01-2119474895-20-xxxx	>= 0,1 - < 1	Flam. Sol.2 Skin Sens.1	H228 H317

Remarks : The product does not contain any ingredients according the EU

Detergent Regulation (EC/648/2004), Annex VII A.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: 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 : Remove to fresh air. Keep patient warm and at rest. Consult a

R38200 / Version 5.0 3/17 EN





physician. If unconscious place in recovery position. In case of

shortness of breath, give oxygen.

In case of skin contact : Take off all contaminated clothing immediately. Wash off

immediately with plenty of water for at least 15 minutes. Call a

physician immediately.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,

for at least 15 minutes. Protect unharmed eye. Call a physician

immediately. Go to an ophthalmic hospital if possible.

If swallowed : Rinse the mouth and spit the fluids out. Drink 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

Symptoms : corrosive effects, Cough, Shortness of breath, Headache,

Allergic reactions

Effects : Risk of blindness! If ingested, severe burns of the mouth and

throat, as well as a danger of perforation of the oesophagus

and the stomach.

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

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing

media

carbon dioxide.

Unsuitable extinguishing

media

High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during

firefighting

Hazardous decomposition products formed under fire

Use water spray, alcohol-resistant foam, dry chemical or

conditions. Carbon dioxide (CO2), Carbon monoxide, Nitrogen oxides (NOx), Vapors may produce explosive mixtures with air

at temperatures over the flash point.

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 advice : Cool closed containers exposed to fire with water spray.Risk

of closed containers bursting if strongly heated. Collect contaminated fire extinguishing water separately. This must

R38200 / Version 5.0 4/17 EN





not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Keep away unprotected

> persons. Provide adequate ventilation. Keep away from heat and sources of ignition. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray. For personal protection

see section 8.

6.2. Environmental precautions

Environmental precautions

: Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Local authorities should be advised

if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

containment and cleaning

up

Methods and materials for : Ensure adequate ventilation. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Clean contaminated surface thoroughly. Treat recovered material as described in the section "Disposal considerations".

Reference to other sections

See section 8 and 13.

SECTION 7: 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 skin, eyes and clothing. Do not breathe gas/fumes/vapour/spray. Emergency showers should be available in the immediate vicinity; 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

areas and containers

Requirements for storage : Keep in an area equipped with acid resistant flooring. Suitable materials for containers: glass; Stainless steel; polyethylene containers; Unsuitable materials for containers: Iron; Zinc; pvc





Advice on protection against fire and explosion

: The product is flammable but not readily ignited. Keep away from heat and sources of ignition. Possible formation of ignitable mixtures in air if heated above flash point and/or if sprayed (atomised). Handle only at temperatures at least 15°C below the flash point.

Further information on storage conditions

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

ventilated place.

Advice on common

storage

: Materials to avoid alkalis Oxidizing and spontaneously flammable products Flammable materials Incompatible with

oxidizing agents.

German storage class : 8A Combustible corrosive substances

Storage temperature : < 30 °C

7.3. Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component:	formic acid	CAS-No. 64-18-6
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Other Occupational Exposure Limit Values

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, Time Weighted Average (TWA):

5 ppm, 9 mg/m3

Indicative

Germany. TRGS 900, Occupational Exposure Limits (AGW), Exposure limit(s): 5 ppm, 9,5 mg/m3, (2)

If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

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

Required if vapours or aerosol are released.





In case of insufficient ventilation, wear suitable respiratory

equipment.

Breathing apparatus with filter. Recommended Filter type:E

Hand protection

Advice : Wear suitable gloves.

The following materials are suitable:

Protective gloves should be replaced at first signs of wear. 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).

Material : polychloroprene

Break through time : >= 8 h Glove thickness : 0,5 mm

Eye protection

Advice : Tightly fitting safety goggles

Skin and body protection

Advice : Acid resistant protective clothing.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.

Avoid subsoil penetration.

Local authorities should be advised if significant spillages cannot

be contained.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form : liquid

Colour : white

to

yellowish

Odour : stinging

Odour Threshold : no data available

pH : ca. 2 (10 g/l; 20 °C)

Melting point/range : not determined

R38200 / Version 5.0 7/17 EN





Boiling point/boiling range : > 100 °C

Flash point : > 61 °C

Evaporation rate : no data available

Flammability (solid, gas) : Not applicable

Upper explosion limit : ca. 45,5 %(V)

Lower explosion limit : ca. 10 %(V)

Vapour pressure : ca. 42 hPa (20 °C)

Relative vapour density : no data available

Density : ca. 1,1 g/cm3 (20 °C)

Water solubility : completely miscible

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : ca. 480 °C

Thermal decomposition : no data available

Viscosity, dynamic : no data available

Explosive properties : EU legislation: Not explosive

Oxidizing properties : none

9.2. Other information

No further information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : No decomposition if stored and applied as directed.

10.2. Chemical stability

Advice : Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : May be corrosive to metals. Gives off hydrogen by reaction with

metals. Incompatible with oxidizing agents.

10.4. Conditions to avoid

R38200 / Version 5.0 8/17 EN





Conditions to avoid : Keep away from direct sunlight. Direct sources of heat.

Thermal decomposition : no data available

10.5. Incompatible materials

Materials to avoid : alkalis, Oxidizing agents, Powdered metals, Aluminium

10.6. Hazardous decomposition products

Hazardous decomposition: Under fire conditions: Carbon dioxide (CO2), Carbon monoxide,

products . Nitrogen oxides (NOx)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Data for the produ	ct	
	Acute toxicity	
	Oral	
Acute toxicity estimate	: 1789 mg/kg) (Calculation method)	
	Inhalation	
Acute toxicity estimate	: 19,24 mg/l (4 h; vapour) (Calculation method)	
	Dermal	
	For this mixture is no data available. Please find this information in the listing of the component/components below in this section.	
	Irritation	
	Skin	
Result	: Causes severe burns.	
	Eyes	
Result	: Causes serious eye damage.	
	Sensitisation	
Result	: May cause sensitisation of susceptible persons by skin contact.	
	CMR effects	
	CMR Properties	
Carcinogenicity Mutagenicity	 It is not considered carcinogenic. Contains no ingredient listed as a carcinogen It is not considered mutagenic. 	
3200 / Version 5.0	9/17	
		_





Contains no ingredient listed as a mutagen

Teratogenicity : It is not considered teratogenic.

Reproductive toxicity : It is not considered toxic for reproduction.

Contains no ingredient listed as toxic to reproduction

Specific Target Organ Toxicity

Single exposure

Remarks : The substance or mixture is not classified as specific target organ

toxicant, single exposure.

Repeated exposure

Remarks : The substance or mixture is not classified as specific target organ

toxicant, repeated exposure.

Other toxic properties

Repeated dose toxicity

no data available

Aspiration hazard

No aspiration toxicity classification,

Further information

Other relevant toxicity:

information

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

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety

practice.

Component: methenamine CAS-No. 100-97-0

Acute toxicity

Dermal

LD50 : > 2000 mg/kg (Rat, male and female) (OECD Test Guideline 402)

Component: formic acid CAS-No. 64-18-6

Acute toxicity

Dermal

Study scientifically not justified.

SECTION 12: Ecological information

12.1. Toxicity





Component:	methenamine	CAS-No. 100-97-0
	Acute toxicity	
	Fish	
EC50 LC50 LC50	 49,8 g/l (Pimephales promelas (fathe through test; OECD Test Guideline 2041 g/l (Lepomis macrochirus (Bluegill US-EPA) 49 g/l (Cyprinodon variegatus (sheep test; OECD Test Guideline 203) 	03) sunfish); 96 h) (static test;
	Toxicity to daphnia and other aquatic inver	tebrates
LC50	: 36 g/l (Daphnia magna (Water flea); 4	48 h) (static test; ASTM)
	algae	
EC50 NOEC	: ca. 3 g/l (Pseudokirchneriella subcap (static test; End point: Growth rate; U 1,5 g/l (Pseudokirchneriella subcapita test; End point: Growth rate; US-EPA	S-EPA) ata (green algae); 14 d) (static
	Bacteria	
EC50	: > 5000 mg/l (Vibrio fisheri; 0,5 h) (sta	itic test; DIN 38412)
Component:	formic acid	CAS-No. 64-18-6
	Acute toxicity	
	Fish	
LC50	 130 mg/l (Brachydanio rerio; 96 h) (st Guideline 203)Data based on test res comparable product. 68 mg/l (Leuciscus idus (Golden orfe) 38412) 	sults or data from a
	Toxicity to daphnia and other aquatic inver	tebrates
EC50 EC50	: 365 mg/l (Daphnia magna; 48 h) (state 202)Data based on test results or date 32,19 mg/l (Daphnia magna; 48 h) (state 200)	ta from a comparable product.





EC50

al	a	а	6

EC50 : 1,240 mg/l (Scenedesmus capricornutum (fresh water algae); 72 h)

(static test; OECD Test Guideline 201) Data based on test results

or data from a comparable product.

32,64 mg/l (Scenedesmus subspicatus; 72 h) (static test; End

point: Growth rate; DIN 38412)

Bacteria

: 46,7 mg/l (Pseudomonas putida; 17 h) (DIN 38412)aerobic EC50

72 mg/l (activated sludge; 13 d) aerobic

> 1000 mg/l (activated sludge; 0,5 h) (ISO 8192)aerobic

12.2. Persistence and degradability

Component:	methenamine	CAS-No. 100-97-0
	Persistence and degradability	
	Persistence	
Result	: no data available	
	Biodegradability	
Result	 35 % (aerobic; domestic sewage; F Exposure Time: 28 d)(OECD Test 0 biodegradable. 	
Component:	formic acid	CAS-No. 64-18-6
	Persistence and degradability	
	Persistence	
Result	: no data available	
	Biodegradability	
Result	: 100 % (aerobic; activated sludge; F carbon (DOC); Exposure Time: 9 d 301E)Readily biodegradable.	

12.3. Bioaccumulative potential

Component:	methenamine	CAS-No. 100-97-0
	Bioaccumulation	





Result : log Kow -2,18 (20 °C; pH 7 - 9) (OECD Test Guideline 107)

Bioaccumulation is not expected.

Component: formic acid CAS-No. 64-18-6

Bioaccumulation

Result : log Kow -1,9 (23 °C; pH 5)

: Bioaccumulation is not expected.

12.4. Mobility in soil

Component: methenamine CAS-No. 100-97-0

Mobility

Water : The product is water soluble.

Component: formic acid CAS-No. 64-18-6

Mobility

Water : The substance will not evaporate into the atmosphere from the

water surface.

Soil : Not expected to adsorb on soil.

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

Result : This substance/mixture contains no components considered to be

either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or

higher.

12.6. Other adverse effects

Data for the product

Additional ecological information

Result : Harmful effects to aquatic organisms also due to pH-shift.

Do not flush into surface water or sanitary sewer system.

Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Do not let

R38200 / Version 5.0 13/17 EN





product enter drains. Can be incinerated, when in compliance

with local regulations.

Contaminated packaging : Empty remaining contents. Rinse with plenty of water. Offer

rinsed packaging material to local recycling facilities.

Packagings that cannot be cleaned are to be disposed of in

the same manner as the product.

European Waste Catalogue Number

No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation

with the regional waste disposer.

SECTION 14: Transport information

14.1. UN number



14.2. UN proper shipping name

ADR : FORMIC ACID SOLUTION RID : FORMIC ACID SOLUTION IMDG : FORMIC ACID SOLUTION

14.3. Transport hazard class(es)

ADR-Class : 8

(Labels; Classification Code; Hazard

identification No; Tunnel restriction code)

8; C3; 80; (E)

RID-Class : 8

(Labels; Classification Code; Hazard

identification No)

8; C3; 80

IMDG-Class : 8

(Labels: EmS)

8; F-A, S-B

14.4. Packaging group

ADR : II RID : II IMDG : II

14.5. Environmental hazards

Environmentally hazardous according to ADR : no Environmentally hazardous according to RID : no Marine Pollutant according to IMDG-Code : no





14.6. Special precautions for user

Not applicable.

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

IMDG : Not applicable.

SECTION 15: Regulatory information

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

Data for the product

WGK (DE) : WGK 1: slightly water endangering; Self-classification

according VwVwS of 17 May 1999, Annex 4

German : Does not fall under the German StörfallV. -

Störfallverordnung

Other regulations : Occupational restrictions: Take note of Dir 92/85/EEC on the

safety and health of pregnant workers at work and of Dir 94/33/EC on the protection of young people at work.

Component: methenamine CAS-No. 100-97-0

EU. REACH, Annex XVII, : Point Nos.: , 40; Listed

Marketing and Use Restrictions (Regulation

1907/2006/EC)

Component: formic acid CAS-No. 64-18-6

EU. REACH, Annex XVII, : Marketing and Use Restrictions (Regulation

1907/2006/EC)

Point Nos.: , 3; Listed

15.2. Chemical safety assessment

no data available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H226 Flammable liquid and vapour.

H228 Flammable solid.

R38200 / Version 5.0 15/17 EN





H302	Harmful if swallowed.
11302	i iaiiiiui ii Swalloweu.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H331 Toxic if inhaled. H332 Harmful if inhaled.

Abbreviations and Acronyms

BCF bioconcentration factor

BOD biochemical oxygen demand
CAS Chemical Abstracts Service

CLP Classification, Labelling and Packaging

CMR carcinogenic, mutagenic or toxic to reproduction

COD chemical oxygen demand

DNEL derived no-effect level

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

GHS Globally Harmonized System of Classification and Labelling of

Chemicals

LC50 median lethal concentration

LOAEC lowest observed adverse effect concentration

LOAEL lowest observed adverse effect level

LOEL lowest observed effect level

NLP no-longer polymer

NOAEC no observed adverse effect concentration

NOAEL no observed adverse effect level NOEC no observed effect concentration

NOEL no observed effect level

OECD Organisation for Economic Cooperation and Development

OEL occupational exposure limit

PBT persistent, bioaccumulative and toxic
PNEC predicted no-effect concentration
STOT specific target organ toxicity
SVHC substance of very high concern

UVCB substance of unknown or variable composition, complex reaction

products or biological materials

vPvB very persistent and very bioaccumulative

Further information

Key literature references :

and sources for data

Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were

used to create this safety data sheet.

Methods used for product classification

The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.





Hints for trainings : The workers have to be trained regularly on the safe handling

of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of

hazardous materials must be adhered to.

Other information : 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.

|| Indicates updated section.