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

1.1. Product identifier

Buz® Calc Ex

UFI: S3R0-A0GD-300D-SJUR

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

Use of the substance/mixture

EuPCS: PC-CLN-4 Descaling products
Process categories [PROC]: 8, 10

1.3. Details of the supplier of the safety data sheet

Company name: BUZIL-WERK Wagner GmbH & Co. KG
Street: Fraunhofer Str. 17
Place: D-87700 Memmingen
Telephone: +49 (0) 8331 930-6 Telefax: +49 (0) 8331 930-880
E-mail: info@buzil.de
Contact person: info@buzil.de
Internet: www.buzil.com

1.4. Emergency telephone number:

+49 (0) 8331 930-6 (08:00 - 16:00 h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Met. Corr. 1; H290
Skin Irrit. 2; H315
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

L-(+)-Lactic acid

Signal word: Danger

Pictograms:

Hazard statements

H290	May be corrosive to metals.
H315	Causes skin irritation.
H318	Causes serious eye damage.

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
77-92-9	citric acid			15 - < 20 %
	201-069-1	607-750-00-3	01-2119457026-42	
	Eye Irrit. 2, STOT SE 3; H319 H335			
79-33-4	L-(+)-Lactic acid			1 - < 5 %
	201-196-2	607-743-00-5	01-2119474164-39	
	Skin Corr. 1C, Eye Dam. 1; H314 H318 EUH071			
5329-14-6	Sulfamic acid			1 - < 5 %
	226-218-8	016-026-00-0	01-2119488633-28	
	Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 3; H315 H319 H412			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
77-92-9	201-069-1	citric acid	15 - < 20 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 5400 mg/kg		
79-33-4	201-196-2	L-(+)-Lactic acid	1 - < 5 %
	inhalation: LC50 = > 7,94 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 3540 mg/kg		
5329-14-6	226-218-8	Sulfamic acid	1 - < 5 %
	oral: LD50 = 3160 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately.

After inhalation

Provide fresh air.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.
Take off contaminated clothing and wash it before reuse.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

After ingestion

Rinse mouth immediately and drink plenty of water.
Do NOT induce vomiting.

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

No information available.

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 spray jet
alcohol resistant foam
Carbon dioxide
Extinguishing powder

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products:
Carbon dioxide
Carbon monoxide

5.3. Advice for firefighters

Co-ordinate fire-fighting measures to the fire surroundings.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Use personal protection equipment.
Avoid contact with skin, eyes and clothes.

For non-emergency personnel

Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.
Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Treat the recovered material as prescribed in the section on waste disposal.

Other information

Collect in closed and suitable containers for disposal.
Ventilate affected area.

6.4. Reference to other sections

Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin, eyes and clothes.
Do not mix with other chemicals.

Use personal protection equipment.
When using do not eat or drink.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Take off contaminated clothing.
Wash hands before breaks and after work.
When using do not eat or drink.

Further information on handling

Absorb spillage to prevent material damage.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.
Keep/Store only in original container.

Hints on joint storage

No special measures are necessary.

Further information on storage conditions

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

No information available.

8.2. Exposure controls


Appropriate engineering controls

No information available.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye protection/face protection. (EN 166)

Hand protection

Wear suitable gloves. (EN 374, Category III)
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.
Suitable material: NBR (Nitrile rubber) / Thickness of the glove material > 0,1 mm

Diluted ready-to-use solutions <=1%:
Protective gloves may be waived, if equivalent measures allowing for an increased skin stress because of wet work are implemented (e. g. application of suitable skin protecting creams).

Skin protection

Wear suitable work clothing.

Respiratory protection

Usually no personal respirative protection necessary.

Thermal hazards

No further relevant information available.

Environmental exposure controls

Section 6: Accidental Release Measures

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless - light yellow
Odour:	characteristic

		Test method
Melting point/freezing point:	approx. 0 °C	
Boiling point or initial boiling point and boiling range:	approx. 100 °C	
Flammability:	not applicable	
Lower explosion limits:	not determined	
Upper explosion limits:	not determined	
Flash point:	not applicable	
Auto-ignition temperature:	not determined	
Decomposition temperature:	not applicable	
pH-Value (at 20 °C):	approx. 1	
Viscosity / kinematic: (at 40 °C)	not determined	
Water solubility: (at 20 °C)	completely miscible	
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:	not applicable	
Vapour pressure:	not determined	
Density (at 20 °C):	1,10 g/cm³	
Relative density:	not determined	
Relative vapour density:	not determined	
Particle characteristics:	not relevant	

9.2. Other information

Other safety characteristics

Viscosity / dynamic: (at 25 °C)	< 10 mPa·s	(50 1/s)

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals.
Exothermic reaction with: Alkali (lye)

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Corrosive to metals.
Exothermic reaction with: Alkali (lye)

10.4. Conditions to avoid

The product is stable under storage at normal ambient temperatures.

10.5. Incompatible materials

Corrosive to metals.
Alkali (lye)

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
77-92-9	citric acid				
	oral	LD50 5400 mg/kg	Mouse		
	dermal	LD50 > 2000 mg/kg	Rat		
79-33-4	L-(+)-Lactic acid				
	oral	LD50 3540 mg/kg	Rat	ECHA	EPA OPP 81-1
	dermal	LD50 > 2000 mg/kg	Rabbit	ECHA	EPA OPP 81-2
	inhalation (4 h) dust/mist	LC50 > 7,94 mg/l	Rat	ECHA	OECD 403
5329-14-6	Sulfamic acid				
	oral	LD50 3160 mg/kg	Rat		

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

11.2. Information on other hazards

Other information

No information available.

SECTION 12: Ecological information

12.1. Toxicity

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

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
79-33-4	L-(+)-Lactic acid						
	Acute fish toxicity	LC50	130 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute algae toxicity	ErC50 mg/l	3500	72 h	Pseudokirchneriella subcapitata		OECD 201
	Acute crustacea toxicity	EC50	130 mg/l	48 h	Daphnia magna (Big water flea)		
5329-14-6	Sulfamic acid						
	Acute fish toxicity	LC50 mg/l	70,3	96 h	Pimephales promelas		

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
77-92-9	citric acid			
	OECD 301 B	> 60 %	28	
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
77-92-9	citric acid	-1,55
79-33-4	L-(+)-Lactic acid	-0,62

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.
Delivery to an approved waste disposal company.

List of Wastes Code - residues/unused products

070601 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics; aqueous washing liquids and mother liquors; hazardous waste

List of Wastes Code - contaminated packaging

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

Contaminated packaging

Non-contaminated packages may be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 3265
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-Lactic acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8

Classification code:	C3
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3265
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-Lactic acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8

Classification code:	C3
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3265
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (lactic acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8

Special Provisions:	223, 274

Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B
Segregation group:	1 - acids

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 3265
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (lactic acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8

Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No special measures are necessary.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Directive 2010/75/EU on industrial emissions: 0 %

Additional information

Regulation (EC) No. 648/2004 [Detergents regulation]

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,3,7,9,15.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Process categories according to ECHA guidance on information requirements and chemical safety assessment, chapter R.12:
PROC 1: Use in closed processes.
PROC 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC 4: Chemical production where opportunity for exposure arises
PROC 7: Industrial spraying
PROC 8 (Transfer): Dilution of concentrated products, application of drain cleaners, dosage of textile washing agents.
PROC 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC 10 (Roller application or brushing): Processing without large-scale spraying.
PROC 11 (Spraying outside industrial settings): Processing with large-scale spraying (e. g. high pressure cleaning, foam gun).
PROC 13: Treatment of articles by dipping and pouring
PROC 19 (Hand-mixing with intimate contact): Hand cleaning and disinfection

Relevant H and EUH statements (number and full text)

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.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Further Information

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]: 9 (1)

In devation from REGULATION (EC) No 1272/2008, annex I part 2 and 3, the assessment of skin and eye corrosion and irritation was performed by in-vitro-testing of the product and/or the principles of annex I, part 1.1.0.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)