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

1.1. Product identifier

Trade name

Spezial Z

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

BÜFA Cleaning GmbH & Co. KG
August-Hanken-Str. 30
26125 Oldenburg

Telephone no.	+49 441 9317 0
Fax no.	+49 441 9317 100
Information provided by / telephone	Department product safety / +49 441 9317 108
E-Mail	sds-cleaning@buefa.de

1.4. Emergency telephone number

Poison Information Center Goettingen: +49 551 19240

SECTION 2: Hazards identification ***

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Skin Irrit. 2	H315
Eye Dam. 1	H318
STOT SE 3	H335
Aquatic Chronic 3	H412

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements ***

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273	Avoid release to the environment.
P280.2	Wear protective gloves/ eye/ face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 or doctor.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16)); Amines, C12-C14-Alkyldimethyl-N-oxides; Citric acid, anhydrous

2.3. Other hazards

***

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

Citric acid, anhydrous

CAS No.	77-92-9				
EINECS no.	201-069-1				
Registration no.	01-2119457026-42-XXXX				
Concentration	>=	25	<	50	%
Eye Irrit. 2	H319				
STOT SE 3	H335				

Amines, C12-C14-Alkyldimethyl-N-oxides

CAS No.	308062-28-4				
EINECS no.	931-292-6				
Registration no.	01-2119490061-47-XXXX				
Concentration	>=	1	<	2,5	%
Eye Dam. 1	H318				
Aquatic Acute 1	H400				
Aquatic Chronic 2	H411				
Acute Tox. 4	H302				
Skin Irrit. 2	H315				

ATE	oral	1.064	mg/kg

alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))

CAS No.	68424-85-1				
EINECS no.	270-325-2				
Concentration	>=	1	<	2,5	%
Acute Tox. 4	H302				
Skin Corr. 1B	H314				
Aquatic Acute 1	H400				
Aquatic Chronic 1	H410				

Concentration limits (Regulation (EC) No. 1272/2008)

	Aquatic Acute 1	H400	M = 10
ATE	oral	397,5	mg/kg

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Ensure supply of fresh air. In the event of symptoms take medical treatment.

After skin contact

Wash off immediately with soap and water.

After eye contact

In case of contact with the eyes rinse thoroughly with plenty of water or with an eye-cleaning solution. Seek medical advice immediately.

After ingestion

Rinse out mouth and give plenty of water to drink. Seek medical advice immediately.

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

There is no further relevant information available

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

There is no further relevant information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide, Dry powder, Water spray jet

5.2. Special hazards arising from the substance or mixture

If a fire breaks out nearby, pressure build-up and danger of bursting are possible.

5.3. Advice for firefighters

Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

High risk of slipping due to leakage/spillage of product. Use personal protective clothing.

6.2. Environmental precautions

Do not allow to enter drains or waterways.

6.3. Methods and material for containment and cleaning up

Take up with absorbent material (eg sand, kieselguhr, universal binder). When picked up, treat material as prescribed under Section 13 "Disposal".

6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Observe the usual precautions for handling chemicals.

7.2. Conditions for safe storage, including any incompatibilities

Emptied containers may contain product residues and therefore must be handled with care. Reuse only after appropriate cleaning. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

List There is not known any national exposure limit.

8.2. Exposure controls

General protective and hygiene measures

Observe the usual precautions for handling chemicals. Personal protective equipment must comply with the Regulation (EC) No 2016/425 and the resulting CEN standards. The following information on personal protective equipment (PPE) is to be understood as a suggestion. The selection of the necessary PPE must be considered by the employer depending on the activities to be carried out and the local conditions. If it is determined during the on-site risk assessment that there is no danger to the employee, there is no need to wear PPE or the scope of the PPE to be used can be adjusted accordingly.

Respiratory protection

Not necessary.

Hand protection

Chemical resistant gloves

Appropriate Material	nitrile		
Material thickness	>=	0,6	mm
Breakthrough time	>	480	min

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leaktightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Eye protection

Tightly fitting safety glasses

Body protection

Clothing as usual in the chemical industry.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid				
Colour	colourless				
Odour	Product specific				
Melting point					
Remarks	not determined				
Boiling point					
Remarks	not determined				
Flammability					
evaluation	not determined				
Explosion limits					
Remarks	not determined				
Flash point					
Value	>	100			°C
Ignition temperature					
Remarks	not determined				
Thermal decomposition					
Remarks	Not relevant				
pH value					
Value		2,0	to	3,0	
Concentration/H2O		1	%		
Viscosity					
Value		20			s
Method	DIN 53211 4 mm				

Solubility in other solvents

not determined

Octanol/water partition coefficient (log Pow)

Remarks Not relevant

Vapour pressure

Remarks not determined

Density

Value appr. 1,20 kg/l

Vapour density

Remarks not determined

Particle characteristics

Remarks irrelevant (liquid)

9.2. Other information

Odour threshold

Remarks No data available

Solubility in water

Remarks miscible

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

The product is stable.

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Protect from heat and direct sunlight.

Thermal decomposition

Remarks Not relevant

10.5. Incompatible materials

None known

10.6. Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

ATE > 10.000 mg/kg

Method calculated value (Regulation (EC) No. 1272/2008)

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

Acute oral toxicity (Components)

Citric acid, anhydrous

alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))

Reference substance alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))

Species rat

LD50 397,5 mg/kg

Amines, C12-C14-Alkyldimethyl-N-oxides

Reference substance	Amines, C12-C14-Alkyldimethyl-N-oxides	
Species	rat	
LD50	1064	mg/kg

Acute dermal toxicity

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

Acute dermal toxicity (Components)

Citric acid, anhydrous

alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))

Reference substance	alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))	
Species	rabbit	
LD50	3412	mg/kg

Acute inhalational toxicity

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

Skin corrosion/irritation

evaluation irritant

The classification criteria are met.

Skin corrosion/irritation (Components)

Reference substance	Citric acid, anhydrous
Species	rabbit
evaluation	non-irritant

Serious eye damage/irritation

evaluation corrosive

The classification criteria are met.

Serious eye damage/irritation (Components)

Reference substance	Citric acid, anhydrous
Species	rabbit
evaluation	irritant

Sensitization

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

Mutagenicity

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

Reproductive toxicity

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

Carcinogenicity

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

Specific Target Organ Toxicity (STOT)

Single exposure

The classification criteria are met.

evaluation May cause respiratory irritation.

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

Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

SECTION 12: Ecological information

12.1. Toxicity

Fish toxicity

Citric acid, anhydrous

Reference substance	Citric acid, anhydrous			
Species	golden orfe (Leuciscus idus)			
LC50	440	to	760	mg/l
Duration of exposure	96	h		

alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))

Reference substance	alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))	
LC50	0,515	mg/l

Amines, C12-C14-Alkyldimethyl-N-oxides

Reference substance	Amines, C12-C14-Alkyldimethyl-N-oxides	
LC50	2,67	mg/l

Daphnia toxicity

alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))

Species	Daphnia magna		
EC50	0,016		mg/l
Duration of exposure	48	h	

Citric acid, anhydrous

Reference substance	Citric acid, anhydrous		
Species	Daphnia magna		
EC50	appr. 120		mg/l
Duration of exposure	72	h	

Amines, C12-C14-Alkyldimethyl-N-oxides

Reference substance	Amines, C12-C14-Alkyldimethyl-N-oxides		
Species	Daphnia pulex		
EC50	3,1		mg/l

Algae toxicity

Citric acid, anhydrous

Reference substance	Citric acid, anhydrous		
Species	Scenedesmus quadricauda		
IC50	640		mg/l
Duration of exposure	7	d	

Amines, C12-C14-Alkyldimethyl-N-oxides

Reference substance	Amines, C12-C14-Alkyldimethyl-N-oxides	
IC50	0,143	mg/l

Bacteria toxicity

Citric acid, anhydrous

Reference substance	Citric acid, anhydrous		
Species	Pseudomonas putida		
EC50	> 10000		mg/l
Duration of exposure	16	h	

12.2. Persistence and degradability

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

Biodegradability

Citric acid, anhydrous

Reference substance	Citric acid, anhydrous		
Value	97		%
Duration of test	28	d	
evaluation	readily degradable		
Method	OECD 301 B		

Citric acid, anhydrous

Value	100	%
Duration of test	19 d	
evaluation	readily degradable	
Method	OECD 301 E	

alkyl (c12-16) dimethylbenzyl ammonium chloride (adbac/bkc (c12-16))

evaluation	Readily biodegradable (according to OECD criteria)

Amines, C12-C14-Alkyldimethyl-N-oxides

Reference substance	Amines, C12-C14-Alkyldimethyl-N-oxides
evaluation	biodegradable

Chemical oxygen demand (COD)

Citric acid, anhydrous

Reference substance	Citric acid, anhydrous	
Value	728	mg/g

Biochemical oxygen demand (BOD5)

Citric acid, anhydrous

Reference substance	Citric acid, anhydrous	
Value	526	mg/g

12.3. Bioaccumulative potential

For this subsection there is no ecotoxicological data available on the product as such.

Octanol/water partition coefficient (log Pow)

Remarks	Not relevant

12.4. Mobility in soil

For this subsection there is no ecotoxicological data available on the product as such.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

The product contains no PBT substances. The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

For this subsection there is no ecotoxicological data available on the product as such.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.

Disposal recommendations for packaging

Completely emptied packagings can be given for recycling.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee
14.1. UN number	The product does not constitute a hazardous substance in land transport.	The product does not constitute a hazardous substance in sea transport.
14.2. UN proper shipping name	-	-
14.3. Transport hazard class(es)	-	-
14.4. Packing group	-	-
Label		
14.5. Environmental hazards	-	-

Information for all modes of transport

14.6. Special precautions for user

Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information

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

Ingredients (Regulation (EC) No 648/2004)

less than 5 %:

non-ionic surfactants, cationic surfactants, anionic surfactants

VOC

VOC (EU) 0 %

Other information

The product does not contain substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Irrit. 2	H315	Calculation method
Eye Dam. 1	H318	Calculation method
STOT SE 3	H335	Calculation method
Aquatic Chronic 3	H412	Calculation method

Hazard statements listed in Chapter 2/3

H302 Harmful if swallowed.

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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

CLP categories listed in Chapter 2/3

Acute Tox. 4	Acute toxicity, Category 4
Aquatic Acute 1	Hazardous to the aquatic environment, acute, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic, Category 3
Eye Dam. 1	Serious eye damage, Category 1
Eye Irrit. 2	Eye irritation, Category 2
Skin Corr. 1B	Skin corrosion, Category 1B
Skin Irrit. 2	Skin irritation, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Abbreviations

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route
RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses
GGVSee: Gefahrgutverordnung See
IMDG: International Maritime Code for Dangerous Goods
CAS: Chemical Abstracts Service
EAK: Europäischer Abfallkatalog
EINECS: European Inventory of Existing Commercial Chemical Substances
VOC: Volatile Organic Compound
GefStoffV: Gefahrstoffverordnung
TA Luft: Technische Anleitung zur Reinhaltung der Luft
INCI: International Nomenclature of Cosmetic Ingredients
n.a.g.: nicht anders genannt
MAK: Maximale Arbeitsplatz-Konzentration
AGW: Arbeitsplatzgrenzwert
BGW: Biologischer Grenzwert
TRGS: Technische Regeln für Gefahrstoffe
OEL: Occupational exposure limit
SUVA: Schweizerische Unfallversicherungsanstalt
WEL: Workplace exposure limit
MAC: Maximale aanvaarde concentratie (Netherlands)
MEL: Maximum exposure limits
NOEL: No observable effect level
NOEC: No observable effect concentration
LD: Lethal dose
LC: Lethal concentration
LLC: Lowest lethal concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: Very persistent and very bioaccumulative
SVHC: Substances of very high concern
DNEL: Derived no effect level
DMEL: Derived minimal effect level
PNEC: Predicted no effect concentration
PEC: Predicted environmental concentration
GHS: Globally Harmonized System of classification and Labelling of Chemicals
REACH: Registration, Evaluation, Autohorisation and Restriction of Chemicals
UN: United Nations
EG: Europäische Gemeinschaft

EWG: Europäische Wirtschaftsgemeinschaft
EU: European Union
HSNO: Hazardous Substances and New Organisms Act (New Zealand)
ATE: Acute Toxicity Estimate
STOT: Specific Target Organ Toxicity

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.