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

1.1. Product identifier

EM-404

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

Use of the substance/mixture

Cleaning agent. Special cleaner for the ultrasonic bath, based on citric acid, concentrate.
Restricted to professional users.

1.3. Details of the supplier of the safety data sheet

Company name:	EMAG AG
Street:	Gerauerstr. 34
Place:	D-64546 Moerfelden Walldorf
Telephone:	+49(0)6105-406750
e-mail:	a.emekci@emag-germany.de
Internet:	www.emag-germany.de
Responsible Department:	info@emag-germany.de, Tel.: +49 (0) 6105 40 67 94

1.4. Emergency telephone number:

24-hours-emergency: Giftnotruf Berlin: +49 30 30686700 (german, english)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Serious eye damage/eye irritation: Eye Dam. 1
Hazard Statements:
Causes serious eye damage.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

C12-C14 Fatty alcohol ethoxylate
Fatty alcohol, ethoxylated, phosphated

Signal word: Danger

Pictograms:

Hazard statements

H318	Causes serious eye damage.

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face 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.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			70-80 %
	213-791-2			
5949-29-1	Citric acid			<16,0 %
	201-069-1		01-2119457026-42	
	Eye Irrit. 2; H319			
68439-50-9	C12-C14 Fatty alcohol ethoxylate			<8,5 %
	-		*	
	Acute Tox. 4, Eye Dam. 1, Aquatic Chronic 3; H302 H318 H412			
95-14-7	1,2,3-Benzotriazole			<2,0 %
	202-394-1		01-2119979079-20	
	Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2, Aquatic Chronic 3; H332 H302 H319 H412			
73038-25-2	Fatty alcohol, ethoxylated, phosphated			<1,5 %
	-		*	
	Skin Irrit. 2, Eye Dam. 1, Aquatic Chronic 3; H315 H318 H412			

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

Further Information

*Polymer

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Change contaminated clothing.

After inhalation

In case of inhaling spray mists, consult a doctor .

After contact with skin

After contact with skin, wash immediately with: Water and soap.

After contact with eyes

Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. In case of troubles or persistent symptoms, consult an opthalmologist.

After ingestion

Rinse mouth immediately and drink large quantities of water. Do not induce vomiting. Consult physician.

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

No symptoms known up to now.

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. Foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Nitrogen oxides (NOx). Carbon dioxide (CO2). Phosphorus oxides.

5.3. Advice for firefighters

Protective clothing.

Additional information

Material is not combustible. Extinguishing materials should be selected according to the surrounding area.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

6.2. Environmental precautions

Do not empty into drains or the aquatic environment.

6.3. Methods and material for containment and cleaning up

Treat the assimilated material according to the section on waste disposal. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

6.4. Reference to other sections

See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

No special technical protective measures are necessary.

Advice on protection against fire and explosion

Product is not: Oxidizing. Flammable. Explosive.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store only in original container.
Keep away from food, drink and animal feedingstuffs.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls

Refer to chapter 7. No further action is necessary.

Protective and hygiene measures

Do not eat, drink, smoke or sneeze at the workplace. Take off immediately all contaminated clothing. Wash hands before breaks and at the end of work.

Eye/face protection

Wear eye/face protection.

Hand protection

Suitable material: PE (polyethylene). CR (polychloroprenes, Chloroprene rubber). NBR (Nitrile rubber). Butyl rubber. FKM (Fluoroelastomer (Viton)).
Tested protective gloves are to be worn: EN 374

Skin protection

Skin protection: not required.

Respiratory protection

Respiratory protection not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless, clear
Odour:	characteristic

			Test method
pH-Value (at 20 °C):	1,5 (conc.)	3,0 (1 %)	DGF H-III 1

Changes in the physical state

Melting point:	-12 °C
Initial boiling point and boiling range:	100 °C
Flash point:	---

Explosive properties

not Explosive.

Oxidizing properties

not oxidizing.

Density (at 20 °C):	1,07 g/cm³	DIN 12791
Water solubility: (at 20 °C)	complete miscible	

SECTION 10: Stability and reactivity

10.1. Reactivity

None, in case of proper use.

10.2. Chemical stability

The product is chemically stable under normal ambient conditions.

10.3. Possibility of hazardous reactions

None, in case of proper use.

10.4. Conditions to avoid

Thermal decomposition can lead to the escape of irritating gases and vapors.

10.5. Incompatible materials

Alkalis (alkalis), concentrated. Alkali metals.

10.6. Hazardous decomposition products

None, in case of proper use.

Further information

Do not mix with other products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
5949-29-1	Citric acid				
	oral	LD50 5400 mg/kg	mouse		OECD 401
	dermal	LD50 >2000 mg/kg	rat		
68439-50-9	C12-C14 Fatty alcohol ethoxylate				
	oral	LD50 >2000 mg/kg	rat		Cesio-Recommendation
95-14-7	1,2,3-Benzotriazole				
	oral	LD50 500 mg/kg	rat		OECD 423
	dermal	LD50 >1000 mg/kg	rat		
	inhalative vapour	ATE 11 mg/l			
	inhalative aerosol	ATE 1,5 mg/l			
73038-25-2	Fatty alcohol, ethoxylated, phosphated				
	oral	LD50 >2000 mg/kg	Ratte		

Irritation and corrosivity

Causes serious eye damage.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Risk of serious damage to eyes.

Sensitising effects

Based on available data, the classification criteria are not met.
no danger of sensitization.

Carcinogenic/mutagenic/toxic effects for reproduction

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.

SECTION 12: Ecological information

12.1. Toxicity

Technically correct releases of minimal concentrations to adapted biological sewage treatment facility , will not disturb the biodegradability of activated sludge. Product is acid. The product needs to apply neutralizing agents before draining to wastewater treatment plants.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
5949-29-1	Citric acid						
	Acute fish toxicity	LC50	440 mg/l	96 h	Leuciscus idus		OECD 203
	Acute crustacea toxicity	EC50 mg/l	1535	48 h	Daphnia magna		
68439-50-9	C12-C14 Fatty alcohol ethoxylate						
	Algea toxicity	NOEC	<1 mg/l				
95-14-7	1,2,3-Benzotriazole						
	Acute fish toxicity	LC50	180 mg/l	96 h	Danio rerio		OECD 203
	Acute algae toxicity	ErC50	75 mg/l	72 h	Selenastrum capricornutum		OECD 201
	Acute crustacea toxicity	EC50 mg/l	8,58	48 h	Daphnia galeata		OECD 202

12.2. Persistence and degradability

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
5949-29-1	Citric acid			
	OECD 302 B	>98 %	2	
	easily biodegradable			
68439-50-9	C12-C14 Fatty alcohol ethoxylate			
	OECD 301F	>60 %	28	
	easily biodegradable			
95-14-7	1,2,3-Benzotriazole			
	OECD 3101D	0 %	28	
	Not easily biodegradable			

12.3. Bioaccumulative potential

On the basis of existing data about disposal/decomposition and bio-accumulation potential, long term environmental damage is unlikely.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

not applicable

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Waste disposal number of waste from residues/unused products

200129 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); detergents containing hazardous substances; hazardous waste

Waste disposal number of used product

200129 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); detergents containing hazardous substances; hazardous waste

Contaminated packaging

Completely emptied packings can be re-cycled.

SECTION 14: Transport information

Other applicable information

Not a hazardous material with respect to transportation regulations.

SECTION 15: Regulatory information

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

EU regulatory information

2004/42/EC (VOC): 0 % (0 g/l)

National regulatory information

Water contaminating class (D): 2 - clearly water contaminating

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

Data changed from previous versions: 2.1., 3.2., 8.1., 9.1., 11.1., 12.1., 12.2., 13.1., 15.1., 16.

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Further Information

Training instructions: Notice the directions for use on the label.

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

Identified uses

No	Short title	LCS	SU	PC	PROC	ERC	AC	TF	Specification
1	EM-404	IS, PW, C	0	35	8a, 9, 13	8a	0	26	

LCS: Life cycle stages
SU: Sectors of use
PC: Product categories
PROC: Process categories
ERC: Environmental release categories
AC: Article categories
TF: Technical functions

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