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

* 1.1 Product identifier

Trade name/designation joke KS

Unique Formula Identifier UFI: 1110-803C-M00K-SR59

Product category PC-TEC-OTH Other products for chemical or technical processes

Hazard components
2-(2-Aminoethoxy)ethanol

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

Sector of uses [SU]
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU3 Industrial uses

Use of the substance/mixture
Corrosion inhibitor and anti-scaling agent

* 1.3 Details of the supplier of the safety data sheet

Supplier
joke Technology GmbH
Asselborner Weg 14-16
D-51249 Bergisch Gladbach
Telephone +49 (0) 22 04 / 8 39-0
Telefax +49 (0) 22 04 / 8 39-60
E-mail info@joke.de
Website https://www.joke-technology.com/

Department responsible for information:
Telephone +49 (0) 22 04 / 8 39-0
Telefax +49 (0) 22 04 / 8 39-60

E-mail (competent person):
sida@joke.de

1.4 Emergency telephone number

Vergiftungs-I-Z. Freiburg	+49 (0) 761 / 1 92 40
REACH and CLP UK CA Help Desk	+44 171 635 9191

* SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]	Classification procedure
Eye Dam. 1, H318	

Hazard statements for health hazards
H318 Causes serious eye damage.

* 2.2 Label elements

*** Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard components
2-(2-Aminoethoxy)ethanol

Hazard pictograms

GHS05

Signal word
Danger

Hazard statements
H318 Causes serious eye damage.

* **Precautionary statements**
P102 Keep out of reach of children.
P280 Wear protective gloves/protective clothing and eye/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.
P310 Immediately call a POISON CENTER/doctor.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P311 Call a POISON CENTER.

* **Other labelling**
Labelling for contents according to regulation (EC) No. 648/2004:
≥ 30% soap

* **2.3 Other hazards**

* **Adverse human health effects and symptoms**
Harmful in contact with skin and if swallowed.
This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

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

* **Results of PBT and vPvB assessment**
Product does not contain any PBT / vPvB substances according to the formulation.

* SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

* 3.2 Mixtures

Hazardous ingredients

CAS No.	EC No.	Substance name	Concentration	Classification according to Regulation (EC) No 1272/2008 [CLP]	SCL/ M/ ATE
102-71-6	203-049-8	Thriethanolamin (2,2',2''-Nitrilotriethanol)	20 < 30 weight-%		
929-06-6	213-195-4	2-(2-Aminoethoxy)ethanol	10 - 20 weight-%	Skin Corr. 1B; H314 Eye Dam. 1; H318	ATE(oral): 2558 mg/kg ATE(dermal): > 3000 mg/kg

REACH No.	Substance name
01-2119486482-31	Thriethanolamin (2,2',2''-Nitrilotriethanol)
01-2119520701-52	2-(2-Aminoethoxy)ethanol

Additional information
Aqueous alkaline mixture of amino compounds and fatty acids

* SECTION 4: First aid measures

* 4.1 Description of first aid measures

General information
Remove contaminated, saturated clothing immediately.
In the event of persistent symptoms receive medical treatment.

Following skin contact
Wash immediately with:
Water

After eye contact
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

* **Following ingestion**
Give activated charcoal.
If swallowed seek medical advice immediately and show the doctor packing or label.
Do NOT induce vomiting.
Medical treatment necessary.
If swallowed, immediately drink:
Water

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

Symptoms
No data available

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

* **Notes for the doctor**
No data available

* SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Water
Foam
Carbon dioxide (CO_2)

Unsuitable extinguishing media
Full water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

In the event of fire the following can be released:
Nitrogen oxides (NOx)
Carbon monoxide

5.3 Advice for firefighters

Special protective equipment for firefighters

In case of fire: Wear self-contained breathing apparatus.

* Additional information

Fire class
B (Fires of liquids or liquid turning substances).
Do not inhale explosion and combustion gases.

* SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Use personal protection equipment.
Special danger of slipping by leaking/spilling product.

For emergency responders

Personal protection equipment
Forms slippery surfaces with water.
Special danger of slipping by leaking/spilling product.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up

For containment

Suitable material for taking up:
Sand
Sawdust
Universal binder
Flush away residues with hot water.
After taking up the material dispose according to regulation.

* 6.4 Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

* SECTION 7: Handling and storage

* 7.1 Precautions for safe handling

* **Protective measures**

Handle and open container with care.
Usual measures for fire prevention.
The product is:
Not readily flammable.
Avoid:
Eye contact
Skin contact
Do not inhale aerosols

Advices on general occupational hygiene

Make available sufficient washing facilities
Keep away from food and drink.

* 7.2 Conditions for safe storage, including any incompatibilities

* **Requirements for storage rooms and vessels**

Keep/Store only in original container.

Storage class

10 Combustible liquids that cannot be assigned to any of the above storage classes

Materials to avoid

Do not store together with:
Acid
Oxidising agent

* **Further information on storage conditions**

Keep locked up and out of reach of children.
Do not keep at temperatures above 30°C.
Protect from heat and direct solar radiation.
Do not keep at temperatures below -5°C.
Storage time: 5 years.
At storage brownish discolouration.

* 7.3 Specific end use(s)

* **Recommendation**

Provide good room ventilation at higher bath temperatures.

* SECTION 8: Exposure controls/personal protection

* 8.1 Control parameters

* **Occupational exposure limit values**

CAS No.	EC No.	Substance name	occupational exposure limit value
102-71-6	203-049-8	Triethanolamine	5 [mg/m³] (IE)

* **DNEL worker**

CAS No.	Substance name	DNEL value	DNEL type	Remark
102-71-6	Thriethanolamin (2,2',2''-Nitrilotriethanol)	1 mg/m³	long-term inhalative (local)	
102-71-6	Thriethanolamin (2,2',2''-Nitrilotriethanol)	7.5 mg/kg bw/day	long-term dermal (systemic)	

* **PNEC**

CAS No.	Substance name	PNEC Value	PNEC type	Remark
102-71-6	Thriethanolamin (2,2',2''-Nitrilotriethanol)	0.32 mg/L	aquatic, freshwater	
102-71-6	Thriethanolamin (2,2',2''-Nitrilotriethanol)	10 mg/L	sewage treatment plant (STP)	

* **8.2 Exposure controls**

* **Personal protection equipment**

Eye/face protection
tightly fitting goggles

Hand protection
chemical-resistant gloves
Information on glove material [Type / Type, Thickness, Breakthrough time / Wear time, Wetting behavior]: FKM, 0,4 mm, NBR, 0,35 mm

* **Environmental exposure controls**

* **Technical measures to prevent exposure**
Avoid penetration into the subsoil/soil

Do not allow to enter surface waters

* **Additional information**
Occupational exposure limit values for 2-(2-aminoethoxy)ethanol
Occupational exposure limits for triethanolamine.

* SECTION 9: Physical and chemical properties

* **9.1 Information on basic physical and chemical properties**

Physical state
liquid

Colour
light yellow

Odour
like:
Amines

Safety relevant basis data

	Value	Method	Source, Remark
Odour threshold:	not determined		
Melting point/freezing point	solidifying range < -5 °C		
Boiling point or initial boiling point and boiling range	≥ 149 °C		
flammability	solid		not applicable
flammability	gaseous		not applicable

	Value	Method	Source, Remark
Lower and upper explosion limit	Upper explosion limit 15.5 Vol-%		Value for 2-(2-aminoethoxy)ethanol
Lower and upper explosion limit	Lower explosion limit 2 Vol-%		Value for 2-(2-aminoethoxy)ethanol
Flash point			No flash point up to 100 °C.
Auto-ignition temperature	324 °C		Value for triethanolamine
Decomposition temperature	> 100 °C		
pH	in delivery state 9- 9.5 (20°C) Concentration 10 g/L		
Viscosity	Kinematic viscosity 132 mm²/s (40°C)		
Viscosity	Dynamic viscosity 370- 820 mPa*s (22.5°C)		
Solubility(ies)	Water solubility		miscible
Partition coefficient n-octanol/water (log value)	-1.89		Value for 2-(2-aminoethoxy)ethanol
Vapour pressure	0.014 hPa (20°C)		Value for 2-(2-aminoethoxy)ethanol
Density and/or relative density	approx. 1.07 g/cm³ (20°C)		
Relative vapour density	3.62		Value for 2-(2-aminoethoxy)ethanol
particle characteristics	not determined		

* **9.2 Other information**

* **Information with regard to physical hazard classes**

* **Explosives**

* **Assessment/classification**
The mixture does not contain explosive substances (CLP I 2.1.4.3 a).
CLP I 2.1.4.3.(a): The classification procedure need not be applied because there are no chemical groups in the molecule that indicate explosive properties.
that indicate explosive properties are present in the molecule.

* **Aerosols**

* **Assessment/classification**
The classification criteria for this hazard class are not met by definition.

* **flammable liquids**

Safety characteristics

	Value	Method, Result	Source, Remark
Flash point (°C)	> 100 °C		

* **Assessment/classification**
The mixture is not classified as flammable liquids.

* **Self-reactive substances and mixtures**

* **Assessment/classification**
The mixture does not contain self-reactive substances (CLP I 2.8.4.2 a).
CLP I 2.8.4.2 a: No chemical groups are present in the molecule that indicate explosive or self-reactive properties

* **Pyrophoric liquids**

* **Assessment/classification**
Das Gemisch enthält keine pyrophore Stoffe - nicht selbstentzündlich (CLP I 2.9.4.1).
CLP I 2.9.4.1: Das Einstufungsverfahren für pyrophore Flüssigkeiten braucht nicht angewandt zu werden, wenn die
Erfahrung bei der Herstellung oder Handhabung zeigt, dass sich der Stoff oder das Gemisch in Berührung mit Luft und bei
normalen Temperaturen nicht von selbst entzündet (d. h. von diesem Stoff ist bekannt, dass er bei Raumtemperatur über
längere Zeiträume (Tage) hinweg stabil ist)

* **self-heating substances and mixtures**

* **Assessment/classification**
The mixture does not contain self-heating substances

* **Substances or mixtures which, in contact with water, emit flammable gases**

* **Assessment/classification**
not relevant - no flammable gases are generated in contact with water (CLP I 2.12.4.1).
CLP I 2.12.4.1: The classification procedure for this class need not be applied (a) if the chemical structure of the substance or mixture does not contain any metals or metalloids, or (b) if experience shows that the substance or mixture does not contain any metals or metalloids.
structure of the substance or mixture does not contain metals or metalloids; or b) if the experience of manufacture or handling
(b) if manufacturing or handling experience shows that the substance or mixture does not react with water, e.g. because the substance is manufactured with
(c) if the substance or mixture is known to be soluble in water and to form a stable mixture.
and forms a stable mixture.

* **Oxidising liquids**

* **Assessment/classification**
The mixture does not contain any oxidizing (fire-promoting) substances.

* **Organic peroxides**

* **Assessment/classification**
The mixture does not contain organic peroxides

* **Corrosive to metals**

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

* **Desensitised explosives**

* **Assessment/classification**
The mixture does not contain any desensitized explosive substances

* **Other safety characteristics**

	Value	Method	Source, Remark
Evaporation rate	0.36 g/h	ASTM D3539	
Solvent content	0 %		

* **Other information**
This information is not available.

* SECTION 10: Stability and reactivity

10.1 Reactivity

Exothermic reaction with:
Acid
No hazardous reactions known.

* 10.2 Chemical stability

Stable at ambient temperature.

* 10.3 Possibility of hazardous reactions

Reactions with oxidising agents.
Reactions with acids.

10.4 Conditions to avoid

Direct sunlight.
Evolution of heat.

* 10.5 Incompatible materials

Acid
Oxidising agent
Nitric acid
Acid chlorides, inorganic

* 10.6 Hazardous decomposition products

None, when used as intended.

* SECTION 11: Toxicological information

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

* **Acute toxicity**

* **Animal data**

	Effective dose	Method,Evaluation	Source, Remark
Acute oral toxicity	2900- 3000 mg/kg	ATE (acute toxicity estimate)	The acute oral toxicity is corresponding to GHS-category 5.
	CAS No.929-06-6 2-(2-Aminoethoxy)ethanol LD50: 2558 mg/kg Species Rat		
Acute dermal toxicity	2800- 3000 mg/kg	ATE (acute toxicity estimate)	The acute dermal toxicity is corresponding to GHS-category 5.
	CAS No.929-06-6 2-(2-Aminoethoxy)ethanol LD50: > 3000 mg/kg Species Rabbit		
Acute inhalation toxicity	not determined		

* **Assessment/classification**
Harmful in contact with skin and if swallowed.

Skin corrosion/irritation

Animal data

Result / Evaluation	Method	Source, Remark
slightly irritant but not relevant for classification. Species Rabbit	OECD 404	

Serious eye damage/irritation

Animal data

Result / Evaluation	Method	Source, Remark
Risk of serious damage to eyes.	OECD 437	

* **Sensitisation to the respiratory tract**

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

Skin sensitisation

Animal data

Result / Evaluation	Dose / Concentration	Method	Source, Remark
not sensitising.			

* **Germ cell mutagenicity**

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

* **Carcinogenicity**

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

* **Reproductive toxicity**

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

* **Overall Assessment on CMR properties**
The mixture is not classified as mutagenic / not classified as carcinogenic / not classified as toxic for reproduction

* **STOT-single exposure**

* **STOT SE 1 and 2**

* **Other information**
The mixture is not classified as specific target organ toxic (single exposure).

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

* **STOT SE 3**

* **Irritation to respiratory tract**

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

* **Narcotic effects**

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

* **STOT-repeated exposure**

* **Other information**
The mixture is not classified as specific target organ toxic (repeated exposure).

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

* **Aspiration hazard**

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

* **Remark**
The mixture is not classified as toxic to aspiration

11.2 Information on other hazards

Symptoms related to the physical, chemical and toxicological characteristics

	Effective dose	Method,Evaluation	Source, Remark
Endocrine disrupting properties			This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

* SECTION 12: Ecological information

* 12.1 Toxicity

* **Aquatic toxicity**

	Effective dose	Method,Evaluation	Source, Remark
Acute (short-term) fish toxicity	LC50: 217 mg/L	calculated	
Chronic (long-term) fish toxicity	not determined		
Acute (short-term) toxicity to crustacea	EC50 153 mg/L	calculated	
Chronic (long-term) toxicity to aquatic invertebrate	not determined		
Acute (short-term) toxicity to algae and cyanobacteria	EC50 128 mg/L	calculated	
Chronic (long-term) toxicity to aquatic algae and cyanobacteria	not determined		
Toxicity to other aquatic plants/organisms	not determined		

	Effective dose	Method,Evaluation	Source, Remark
Toxicity to microorganisms	not determined		

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

*** 12.2 Persistence and degradability**

	Value	Method	Source, Remark
Biodegradation	Degradation rate > 80 %	OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C	Readily biodegradable (according to OECD criteria).
Biodegradation	Degradation rate 100 %	Neutralization, pH measurement	
Biodegradation	Degradation rate 96 % Test duration 19 d	OECD 301E/ EEC 92/69/V, C.4-B	CAS No.102-71-6 Thriethanolamin (2,2',2''-Nitrilotriethanol)
Biodegradation	Degradation rate 84 % Test duration 28 d	OECD 302B/ ISO 9888/ EEC 92/69/V, C.9	CAS No.929-06-6 2-(2-Aminoethoxy)ethanol

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

*** 12.3 Bioaccumulative potential**

* **Assessment/classification**
Eine Anreicherung in Organismen ist nicht zu erwarten

*** 12.4 Mobility in soil**

* **Assessment/classification**
Absorption on the ground is not expected.

*** 12.5 Results of PBT and vPvB assessment**

Product does not contain any PBT / vPvB substances according to the formulation.

*** 12.6 Endocrine disrupting properties**

	Effective dose	Method,Evaluation	Source, Remark
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**

	Value	Method	Source, Remark
Ozone depletion potential (ODP):			Based on available data, the classification criteria are not met.

* **Additional ecotoxicological information**

	Value	Method	Source, Remark
Chemical oyxgen demand (COD)	2018 mgO2/g	calculated	
AOX			The product contains no organically bound halogens.

* **Additional information**
Do not allow uncontrolled discharge of product into the environment.
The surfactants contained are biodegradable according to Annex III of the EU Detergents Regulation (EC) No. 648/2004.
The mixture is not classified as a chronic water hazard.

* SECTION 13: Disposal considerations

* 13.1 Waste treatment methods

Waste codes/waste designations according to EWC/AVV

Waste code product	Waste name
200129 *	detergents containing hazardous substances

* **Appropriate disposal / Product**
Must not be disposed together with household garbage.
If you use a stainless steel bath, neutralize it with acetic acid (60%) or citric acid (solid, crystalline).
Dispose of waste according to applicable legislation.

Appropriate disposal / Package
Non-contaminated packages may be recycled.
Dispose of according to official regulations.

SECTION 14: Transport information

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN number or ID number	-	-	-
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No	No	No

14.6 Special precautions for user
No data available

14.7 Maritime transport in bulk according to IMO instruments
not applicable

All transport carriers
No dangerous goods as defined by the transport regulations - ADR/RID, IMDG, ICAO/IATA-DGR.

Land transport (ADR/RID)

Remark
Not classified for this transport carrier.

Sea transport (IMDG)

Remark
Not classified for this transport carrier.

Air transport (ICAO-TI / IATA-DGR)

Remark
Not classified for this transport carrier.

* SECTION 15: Regulatory information

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

*** EU legislation**

Authorisations
No data available

*** Restrictions on use**
Regulation (EC) No 1907/2006 (REACH), Annex XVII No. 3 - not relevant for intended use
Regulation (EC) No 1907/2006 (REACH), Annex XVII No. 75 - not relevant for intended use

*** Restrictions of occupation**
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

*** Other regulations (EU)**

To follow:
Regulation (EC) No. 648/2004 (Detergents regulation)

*** Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive] VOC**
VOC content, delivery state 0 %

15.2 Chemical Safety Assessment

*** National regulations**

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

* SECTION 16: Other information

* **Abbreviations and acronyms**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: Acute Toxicity Estimate
AVV: Waste Shipment Ordinance (DE)
DGR: Dangerous Goods Regulations (IATA)
DNEL: derived no-effect level
DOC: Dissolved Organic Carbon
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
JArbSchG: Youth Labor Protection Act (DE)
OECD: Organisation for Economic Cooperation and Development
PBT: persistent and bioaccumulative and toxic
PNEC: Predicted No Effect Concentration
RID: Dangerous goods regulations for transport by rail
TI: Technical Instruction
TRGS: Technical Rules for Hazardous Substances
VOC: Volatile organic compounds
vPvB: very persistent, very bioaccumulative

Key literature references and sources for data

Datasheets of the manufacturer
European Chemicals Agency, http://echa.europa.eu/.

Training advice

none

Additional information

National and local regulations concerning chemicals shall be observed.
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.

Relevant H- and EUH-phrases (Number and full text)

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Indication of changes

* Data changed compared with the previous version