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

1.1. Product identifier

Jokisch Migma Evio KSG

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

1.3. Details of the supplier of the safety data sheet

Company name:	JOKOBA Technologies GmbH Germany
Street:	Industriestraße 5-10
Place:	D-33813 Oerlinghausen
Telephone:	+49(0)5202/9734-0
E-mail:	info@jokoba.de
Contact person:	Regulatory affairs
E-mail:	MSDS@jokoba.de
Internet:	www.jokisch-fluids.de

1.4. Emergency telephone number:

Emergency telephone number (24h) +1 872 5888271 (JRR) (en)

Further Information

Reserved for industrial and professional use.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is not classified as hazardous in accordance with Regulation (EC) No 1272/2008.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard statements

EUH208	Contains 2-aminoethanol, ethanolamine. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

2.3. Other hazards

Avoid release to the environment.

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

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
141-43-5	2-aminoethanol, ethanolamine			0.1 - < 1 %
	205-483-3	603-030-00-8	01-2119486455-28	
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, STOT SE 3, Aquatic Chronic 3; H332 H312 H302 H314 H318 H317 H335 H412			
78-96-6	1-aminopropan-2-ol; isopropanolamine			0.1 - < 1 %
	201-162-7	603-082-00-1	01-2119475331-43	
	Repr. 2, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H361f H312 H314 H318			

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		
141-43-5	205-483-3	2-aminoethanol, ethanolamine	0.1 - < 1 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 1025 mg/kg; oral: LD50 = 1515 mg/kg STOT SE 3; H335: >= 5 - 100		
78-96-6	201-162-7	1-aminopropan-2-ol; isopropanolamine	0.1 - < 1 %
	dermal: ATE = 1100 mg/kg; oral: LD50 = 2700 mg/kg		

Further Information

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Seek medical attention if problems persist. No administration in cases of unconsiousness or cramps.

After inhalation

Provide fresh air. Move victim to fresh air. Put victim at rest and keep warm.

After contact with skin

Wash with plenty of water. Remove contaminated, saturated clothing immediately.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Consult an ophthalmologist.

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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings. Water fog. Foam. Dry extinguishing powder. Carbon dioxide (CO2).

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. In case of fire may be liberated:
Nitrogen oxides (NOx).
Carbon monoxide
Carbon dioxide (CO2).

5.3. Advice for firefighters

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

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

See protective measures under point 7 and 8.

High slip hazard because of leaking or spilled product. Do not breathe mist/vapours/spray. Provide adequate ventilation.

For non-emergency personnel

Take off immediately all contaminated clothing and wash it before reuse.

For emergency responders

The danger areas must be delimited and identified using relevant warning and safety signs. Move victim out of danger zone.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Prevent spread over a wide area (e.g. by containment or oil barriers).

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Clean contaminated articles and floor according to the environmental legislation. Clean with detergents. Avoid solvent cleaners.

6.4. Reference to other sections

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas.

When using do not eat, drink or smoke.

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

When using do not eat, drink or smoke.

High slip hazard because of leaking or spilled product.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity.

Recommended storage temperature: 5-40 °C

Maximum period of storage (time): 1 year

Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
141-43-5	2-Aminoethanol	1	2.5		TWA (8 h)	
		3	7.6		STEL (15 min)	
111-42-2	Diethanolamine (Inhalable Fraction and Vapour)	0.2	1		TWA (8 h)	
141-43-5	Ethanolamine (2-Aminoethanol)	1	2.5		TWA (8 h)	
		3	7.6		STEL (15 min)	

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
141-43-5	2-aminoethanol, ethanolamine		
Worker DNEL, long-term	inhalation	systemic	1 mg/m³
Worker DNEL, long-term	dermal	systemic	3 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,18 mg/m³
Consumer DNEL, long-term	dermal	systemic	1,5 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	1,5 mg/kg bw/day
78-96-6	1-aminopropan-2-ol; isopropanolamine		
Worker DNEL, long-term	inhalation	systemic	3,6 mg/m³
Consumer DNEL, long-term	oral	systemic	0,76 mg/kg bw/day
111-42-2	2,2'-iminodiethanol; diethanolamine		
Worker DNEL, long-term	inhalation	systemic	0,75 mg/m³
Consumer DNEL, long-term	inhalation	systemic	0,125 mg/m³
Worker DNEL, long-term	inhalation	local	0,5 mg/m³
Consumer DNEL, long-term	inhalation	local	0,125 mg/m³
Worker DNEL, long-term	dermal	systemic	0,130 mg/kg bw/day
Consumer DNEL, long-term	dermal	systemic	0,07 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,06 mg/kg bw/day

PNEC values

CAS No	Substance
Environmental compartment	Value
141-43-5	2-aminoethanol, ethanolamine
Freshwater	0,07 mg/l
Marine water	0,007 mg/l
Freshwater sediment	0,357 mg/kg
Marine sediment	0,036 mg/kg
Microorganisms in sewage treatment plants (STP)	10 mg/l
Soil	1,29 mg/kg
78-96-6	1-aminopropan-2-ol; isopropanolamine
Freshwater	0,033 mg/l
Marine water	0,003 mg/l
Freshwater sediment	0,229 mg/kg
Marine sediment	0,023 mg/kg
Microorganisms in sewage treatment plants (STP)	3,3 mg/l
Soil	0,026 mg/kg
111-42-2	2,2'-iminodiethanol; diethanolamine
Freshwater	0,021 mg/l
Marine water	0,002 mg/l
Freshwater sediment	0,092 mg/kg
Marine sediment	0,0092 mg/kg
Soil	1,63 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls



Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye protection/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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. Protect skin by using skin protective cream.
Wash hands before breaks and after work.
Gloves of appropriate material (i.e. nitrilic rubber, specification: penetration time: level 6, >480 min., thickness 0,9-1 mm; CE-certified acc. EN 374 cat III)

Skin protection

Wear suitable protective clothing. Chemical resistant safety shoes.
Take off immediately all contaminated clothing.
Thorough skin-cleansing after handling the product.

Set out skin protection guidelines.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Thermal hazards

Remove all sources of ignition.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	light yellow
Odour:	characteristic

		Test method
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	not determined	
Flammability:	not applicable not applicable	
Lower explosion limits:	not determined	
Upper explosion limits:	not determined	
Flash point:	not applicable	
Auto-ignition temperature:	not determined	
Decomposition temperature:	not determined	
pH-Value (at 20 °C):	10,9 (9,4 5%)	DIN 51369
Viscosity / kinematic: (at 20 °C)	10 mm²/s	ASTM D 7042
Water solubility:	easily soluble	
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:	not determined	
Vapour pressure:	not determined	
Vapour pressure:	not determined	
Density (at 20 °C):	1,04 g/cm³	EN ISO 12185
Relative vapour density:	not determined	

9.2. Other information

Information with regard to physical hazard classes

Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solid content:	not determined
Pour point:	not determined
Viscosity / dynamic:	not determined

Further Information

in aqueous solution 5% pH 9,4

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Protect against: heat.

10.5. Incompatible materials

The following must be prevented: Oxidizing agents, strong. acid.

10.6. Hazardous decomposition products

Hazardous decomposition products: none

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
141-43-5	2-aminoethanol, ethanolamine				
	oral	LD50 1515 mg/kg	Rat		
	dermal	LD50 1025 mg/kg	Rabbit	IUCLID	
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
78-96-6	1-aminopropan-2-ol; isopropanolamine				
	oral	LD50 2700 mg/kg	Rat		
	dermal	ATE 1100 mg/kg			

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Contains 2-aminoethanol, ethanolamine. May produce an allergic reaction.

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.

Additional information on tests

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP]. No risks worthy of mention. Practical experience.
The statement is derived from the properties of the single components.
The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

11.2. Information on other hazards

Endocrine disrupting properties

Based on available data, the classification criteria are not met.
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

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
141-43-5	2-aminoethanol, ethanolamine						
	Acute fish toxicity	LC50	150 mg/l	96 h	Oncorhynchus mykiss	IUCLID	
	Acute algae toxicity	ErC50	22 mg/l	72 h	Desmodesmus subspicatus		
	Acute crustacea toxicity	EC50	65 mg/l	48 h	Daphnia magna		
78-96-6	1-aminopropan-2-ol; isopropanolamine						
	Acute fish toxicity	LC50	220 - 460 mg/l	96 h	Leuciscus idus	IUCLID	
	Acute crustacea toxicity	EC50	108,8 mg/l	48 h	Daphnia magna	IUCLID	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
78-96-6	1-aminopropan-2-ol; isopropanolamine			
	OECD TG 301 F	>78%	28	
	Easily biodegradable (concerning to the criteria of the OECD)			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
141-43-5	2-aminoethanol, ethanolamine	-1,91 (25°C)
78-96-6	1-aminopropan-2-ol; isopropanolamine	-0,93

12.4. Mobility in soil

in delivery condition: liquid

12.5. Results of PBT and vPvB assessment

Based on available data, the classification criteria are not met.
none according to Regulation (EC) No. 1907/2006 (REACH)

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.
Completely emptied packings can be re-cycled. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

120107 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; mineral-based machining oils free of halogens (except emulsions and solutions); hazardous waste

List of Wastes Code - used product

120109 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; machining emulsions and solutions free of halogens; hazardous waste

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	-

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	-

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Personal protection equipment: see section 8

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

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 75

Directive 2010/75/EU on industrial emissions:	1,569 % (16,318 g/l)
Directive 2004/42/EC on VOC in paints and varnishes:	1,569 % (16,318 g/l)
Information according to Directive 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:	Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
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): 1,2,3,4,5,6,7,9,10,11,12,13,14,15,16.

AICS (Australien), DSL (Kanada), IECSC (China), REACH (Europäische Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (Neuseeland), PICCS (Philippinen), TSCA (USA)

Abbreviations and acronyms

Acute Tox. 4: Acute toxicity, hazard category 4
Skin Corr. 1B: Skin corrosion, sub-category 1B
Eye Dam. 1: Serious eye damage, hazard category 1
Skin Sens. 1: Skin sensitisation, hazard category 1
Repr. 2: Reproductive toxicity, hazard category 2
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
Repr. - Reproduktionstoxizität
Asp. Tox. - Aspirationstoxizität
Acute Tox. - Akute Toxizität
Aquatic Acute - Akute aquatische Toxizität
Aquatic Chronic - Chronische aquatische Toxizität
Eye Dam. - Augenschaden/-reizung
Eye Irrit. - Augenreizung
Skin Corr. - Ätzwirkung auf die Haut
Skin Irrit. - Hautreizung
Skin Sens. - Hautallergen
Resp. Sens. - Inhalationsallergen
STOT SE - Spezifische Zielorgan-Toxizität - einmalige Exposition
STOT RE - Spezifische Zielorgan-Toxizität - wiederholte Exposition
VOC - Flüchtige organische Verbindungen

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361f	Suspected of damaging fertility.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains 2-aminoethanol, ethanolamine. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

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