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

1.1. Product identifier

Jokisch Migma Rino KSG

Further trade names

Monoethanolamin 99% MEA 99

Für dieses Produkt gelten Verwendungsbeschränkungen nach VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII (siehe Abschnitt 15).

REACH Registration Number:	01-2119486455-28-
CAS No:	141-43-5
Index No:	603-030-00-8
EC No:	205-483-3

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

Use of the substance/mixture

Reserved for industrial and professional use.

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

BCD, Die Chemie Versteher

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 4; H332
Acute Tox. 4; H312
Acute Tox. 4; H302
Skin Corr. 1B; H314
Eye Dam. 1; H318
STOT SE 3; H335
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:



Hazard statements

H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing and eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P312	Call a POISON CENTER/doctor if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of Water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P312	Call a POISON CENTER/doctor if you feel unwell.
P321	Specific treatment (see ... on this label).
P362+P364	Take off contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor.
P312	Call a POISON CENTER/doctor if you feel unwell.
P321	Specific treatment (see ... on this label).
P310	Immediately call a POISON CENTER/doctor.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

This substance does not meet the criteria for classification as PBT or vPvB.

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 3: Composition/information on ingredients

3.1. Substances

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			100 %
	205-483-3	603-030-00-8		
	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			

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	100 %
	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		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately. Move victim to fresh air. Put victim at rest and keep warm. First aider: Pay attention to self-protection!

After inhalation

Provide fresh air. Seek medical attention if problems persist.

After contact with skin

Wash with plenty of water/soap. Call a physician immediately.

After contact with eyes

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. @1501.B015818

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2). Extinguishing powder. Water spray. alcohol resistant foam.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Nitrogen oxides (NOx). In case of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters

Personal protection equipment: see section 8 In case of fire: Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Wear personal protection equipment. Keep away from unprotected people. Keep upwind. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Other information

Disposal: see section 13 Provide adequate ventilation.

6.4. Reference to other sections

Personal protection equipment: see section 8 , 1,13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep container tightly closed. Avoid contact with skin and eyes. Provide adequate ventilation as well as local exhaustion at critical locations. Avoid the formation of aerosol.

Advice on protection against fire and explosion

When hot, product develops flammable vapours. Keep away from sources of ignition - No smoking.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and after work. Remove contaminated, saturated clothing immediately. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a well-ventilated place. Keep container tightly closed.

Hints on joint storage

Do not store together with: Etchant and acids

Further information on storage conditions

Gesetze und Vorschriften zur Lagerung und Verwendeung wassergefährdender Stoffe beachten .Slowly corrodes aluminium and zink under hydrogen evolution.

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)	

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		inhalation	local	0,51 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		inhalation	local	0,28 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

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		0,375 mg/kg
Marine sediment		0,036 mg/kg
Microorganisms in sewage treatment plants (STP)		100 mg/l
Soil		1,29 mg/kg

8.2. Exposure controls

Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly sealed safety glasses.

Hand protection

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. 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.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Work in well-ventilated zones or use proper respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid	
Colour:	farblos	
Odour:	aminartig	
Melting point/freezing point:		10,3 °C
Boiling point or initial boiling point and boiling range:		170 °C
Lower explosion limits:		2,5 vol. %
Upper explosion limits:		13,1 vol. %
Flash point:		93,0 °C
Auto-ignition temperature:		385 °C
pH-Value (at 20 °C):		12,1
Viscosity / kinematic: (at 20 °C)		23 mm²/s
Water solubility: (at 20 °C)		1000 g/l
Partition coefficient n-octanol/water:		-1,91
Vapour pressure: (at 20 °C)		0,3 hPa
Vapour pressure: (at 50 °C)		23 hPa
Density (at 20 °C):		1,01 g/cm³

9.2. Other information

Information with regard to physical hazard classes

Sustained combustibility: No data available

Other safety characteristics

Viscosity / dynamic: 20 mPa·s
(at 20 °C)

SECTION 10: Stability and reactivity

10.3. Possibility of hazardous reactions

Exothermic reactions with: Etchant and acids Violent reaction with: Catalyst Oxidizing agents. Alkalis (alkalis).
Explosive reaction with: Etchant and acids Aluminium hydroxide gel Copper Oxidizing agents. Nitric acid

10.5. Incompatible materials

Oxidizing agents. Reducing agent Etchant and acids

10.6. Hazardous decomposition products

Nitrogen oxides (NOx).

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if inhaled.
Harmful in contact with skin.
Harmful if swallowed.

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

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage.
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

May cause respiratory irritation. (2-aminoethanol; ethanolamine)

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

Endocrine disrupting properties

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

SECTION 12: Ecological information

12.1. Toxicity

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		

12.2. Persistence and degradability

Product is biodegradable. OECD 301F

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
141-43-5	2-aminoethanol; ethanolamine	-1,91

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 2491
14.2. UN proper shipping name: ETHANOLAMINE
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8



Classification code: C7
Limited quantity: 5 L
Transport category: 3
Hazard No: 80
Tunnel restriction code: E

Other applicable information (land transport)

E1

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 2491
14.2. UN proper shipping name: ETHANOLAMINE
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8



Classification code: C7
Limited quantity: 5 L
Excepted quantity: E1

Other applicable information (inland waterways transport)

E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 2491
14.2. UN proper shipping name: ETHANOLAMINE
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8



Special Provisions: 223
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-A, S-B

Other applicable information (marine transport)

E1

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 2491
14.2. UN proper shipping name: ETHANOLAMINE
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8



Special Provisions: A3 A803
Limited quantity Passenger: 1 L
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

Other applicable information (air transport)

E1
: Y841

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No
Marine pollutant: no

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

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	2 - obviously hazardous to water

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2.

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
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

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
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.
H412	Harmful to aquatic life with long lasting effects.