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

1.1. Product identifier

Jokisch Migma Rino KSG

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

Use of the substance/mixture

Additiv

1.3. Details of the supplier of the safety data sheet

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

1.4. Emergency telephone number:

Emergency telephone number (24h) + 44 1235 239670 (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

Acute Tox. 4; H302
Acute Tox. 4; H312
Acute Tox. 4; H332
Skin Corr. 1; 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

Hazard components for labelling

2-aminoethanol; ethanolamine

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.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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.
P321	Specific treatment (see on this label).

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			50 - < 100 %
	205-483-3	603-030-00-8		
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, STOT SE 3, Aquatic Chronic 3; H332 H312 H302 H314 H318 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	50 - < 100 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 2504 mg/kg; oral: LD50 = 1098 mg/kg STOT SE 3; H335: >= 5 - 100		

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

Move victim to fresh air. Put victim at rest and keep warm. Call a doctor if you feel unwell.

After contact with skin

Remove contaminated, saturated clothing immediately. And wash it before reuse. Wash with plenty of water. Call a physician immediately.

After contact with eyes

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

Do NOT induce vomiting.

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

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

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. Full protective suit.

Additional information

Gases/vapours, corrosive

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.

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).
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.

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 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.

Further information on storage conditions

Maximum period of storage (time): 1 year

7.3. Specific end use(s)

No information available.

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
Micro-organisms 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

EN 166

Hand protection

Protect skin by using skin protective cream.
Wash hands before breaks and after work.

Skin protection

Chemical resistant safety shoes.
Take off immediately all contaminated clothing.
Thorough skin-cleansing after handling the product.
Set out skin protection guidelines.

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:	colourless
Odour:	characteristic

		Test method
Melting point/freezing point:	10 °C	
Boiling point or initial boiling point and boiling range:	172 °C	
Lower explosion limits:	3,4	
Upper explosion limits:	27	
Flash point:	92,5 °C	
Auto-ignition temperature:	not determined	
pH-Value (at 20 °C):	12	DIN 51369
Viscosity / kinematic: (at 20 °C)	23,55 mm²/s	ASTM D 7042

Water solubility: (at 20 °C)	1000 g/L	
Partition coefficient n-octanol/water:	-1,91 (log Kow)	
Vapour pressure: (at 20 °C)	0,5 hPa	
Vapour pressure: (at 50 °C)	4,1 hPa	
Density (at 20 °C):	1,0157 g/cm³	EN ISO 12185

9.2. Other information

Other safety characteristics

Pour point:	not determined
Viscosity / dynamic:	not determined

Further Information

No information available.

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 chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Oxidizing agents, strong. Nitric acid

10.4. Conditions to avoid

Protect against: heat.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

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

ATEmix calculated

ATE (oral) 1595 mg/kg; ATE (dermal) 1079 mg/kg; ATE (inhalation vapour) 11,58 mg/l; ATE (inhalation dust/mist) 1,579 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
141-43-5	2-aminoethanol; ethanolamine					
	oral	LD50 mg/kg	1098	Rat		OECD Guideline 401
	dermal	LD50 mg/kg	2504	Rabbit	IUCLID	OECD Guideline 402
	inhalation vapour	ATE	11 mg/l			
	inhalation dust/mist	ATE	1,5 mg/l			

Irritation and corrosivity

Causes severe skin burns and eye damage. (On basis of test data)

Causes serious eye damage. (On basis of test data)

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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.

Additional information on tests

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

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

Harmful to aquatic life with long lasting effects.

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	Onchorhynchus mykiss	Echa	
	Acute algae toxicity	ErC50	2,8 mg/l	72 h	Pseudokirchneriella	Echa	OECD 201
	Acute crustacea toxicity	EC50 mg/l	27,04	48 h	Daphnia magna	Echa	OECD 202

12.2. Persistence and degradability

Product is biodegradable. Additional information: none

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)

12.4. Mobility in soil

in delivery condition: liquid

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. 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

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

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

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
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

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

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

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
Passenger LQ: Y841
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

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

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

Directive 2010/75/EU on industrial emissions: 0,0%

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

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): 1,2,4,9,11,12,15.

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: Acute toxicity
Skin Corr: Skin corrosion
Eye Dam: Eye damage
STOT SE: Specific target organ toxicity - single exposure
Aquatic Chronic: Chronic aquatic hazard
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

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Acute Tox. 4; H312	Calculation method
Acute Tox. 4; H332	Calculation method
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
STOT SE 3; H335	Calculation method
Aquatic Chronic 3; H412	Calculation method

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.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Further Information

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse , sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

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