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

1.1. Product identifier

Name of product

RIEGLER Spray cleaner / 500 ml
Code-Nr. R3160/500 / ID-Nr. 114575

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

Recommended intended purpose(s)
Technical Aerosols

1.3. Details of the supplier of the safety data sheet

Manufacturer/distributor

RIEGLER & Co. KG
Schützenstr. 27, D-72574 Bad Urach
Phone : +49 (0) 7125/9497-0, Fax : +49 (0) 7125/9497-97
E-Mail : zedok@riegler.de
Internet : www.riegler.de

Advice

Abteilung eDocumentation
Phone : +49 (0) 7125/9497-0
Fax : +49 (0) 7125/9497-97
E-mail (competent person):
zedok@riegler.de

1.4. Emergency telephone number

Emergency advice

Giftnotrufzentrale Bonn
Phone : +49(0)228-19 240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
Aerosol 1	**H222, H229**	
Skin Irrit. 2	**H315**	
Eye Irrit. 2	**H319**	
STOT SE 3	**H336**	
Asp. Tox. 1		**- H304 (Aerosol: not applicable)**
Aquatic Chronic 2	**H411**	

Hazard Statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

2.2. Label elements

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

GHS02 GHS07 GHS09

Signal word
Danger

Hazard Statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
P501	Dispose of contents/container to hazardous or special waste collection point.

Hazardous ingredients for labeling
acetone, Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane, Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics, propan-2-ol

Special rules for supplemental label elements for certain mixtures
Contains (R)-p-Mentha-1,8-dien. May produce an allergic reaction.

2.3. Other hazards
This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).

Information pertaining to special dangers for human and environment
In extensive use, formation of flammable / explosive vapour-air mixture is possible.

Results of PBT and vPvB assessment
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

! SECTION 3: Composition/ information on ingredients

3.1. Substances
not applicable

3.2. Mixtures
Description
Preparation of different active substances

Hazardous ingredients

CAS No	EC No	Name	[% weight]	Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]
64-17-5	200-578-6	ethanol	2,5 < 5	Flam. Liq. 2, H225
67-63-0	200-661-7	propan-2-ol	2,5 < 5	Flam. Liq. 2, H225 / Eye Irrit. 2, H319 / STOT SE 3, H336
67-64-1	200-662-2	acetone	10 - 19,99	Flam. Liq. 2, H225 / Eye Irrit. 2, H319 / STOT SE 3, H336
75-28-5	200-857-2	isobutane	5 < 10	Flam. Gas 1, H220 / Press. Gas
5989-27-5	227-813-5	(R)-p-mentha-1,8-diene	0,1 < 1	Flam. Liq. 3, H226 / Skin Irrit. 2, H315 / Skin Sens. 1, H317 / Aquatic Acute 1, H400 / Aquatic Chronic 1, H410
124-38-9	204-696-9	carbon dioxide	2,5 - 5	
74-98-6	200-827-9	propane	2,5 - 5	Flam. Gas 1, H220 / Press. Gas, H280
64742-49-0	927-510-4	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	25 < 50	Flam. Liq. 2, H225 / Asp. Tox. 1, H304 / Aquatic Chronic 2, H411 / Skin Irrit. 2, H315 / STOT SE 3, H336
64742-49-0	921-024-6	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	25 < 50	Flam. Liq. 2, H225 / Asp. Tox. 1, H304 / Aquatic Chronic 2, H411 / Skin Irrit. 2, H315 / STOT SE 3, H336

REACH

CAS No	Name	REACH registration number
64-17-5	ethanol	01-2119457610-43
67-63-0	propan-2-ol	01-2119457558-25
67-64-1	acetone	01-2119471330-49
75-28-5	isobutane	01-2119485395-27
5989-27-5	(R)-p-mentha-1,8-diene	01-2119529223-47
74-98-6	propane	01-2119486944-21
64742-49-0	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	01-2119475515-33
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	01-2119475514-35-xxxx

Labelling for contents according to regulation (EC) No 648/2004, annex VII
less than 5 % scents (D-LIMONENE)
30 % and more aliphatic hydrocarbons

SECTION 4: First aid measures

4.1. Description of first aid measures
General information
Remove contaminated soaked clothing immediately.

In case of inhalation
Ensure of fresh air.
In the event of symptoms refer for medical treatment.

In case of skin contact
In case of contact with skin wash off with soap and water.
Consult a doctor if skin irritation persists.

In case of eye contact
In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

In case of ingestion
Do not induce vomiting.
Medical treatment.

4.2. Most important symptoms and effects, both acute and delayed
No information available.

4.3. Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Foam
Dry powder
Carbon dioxide

Unsuitable extinguishing media
Full water jet

5.2. Special hazards arising from the substance or mixture
May lead to formation of explosive/easily ignitable vapour air mixtures.
Danger of bursting
In case of fire formation of dangerous gases possible.
Carbon monoxide (CO)
Carbon dioxide (CO2)

5.3. Advice for firefighters
Special protective equipment for fire-fighters
Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus.

Additional information
Cool endangered containers with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
Ensure adequate ventilation.
Use personal protective clothing.
Keep away sources of ignition.

6.2. Environmental precautions
Inform pollution control authorities if product gets into the sewerage systems or open waters.
Do not discharge into the drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up
Take up with absorbent material (e.g. sand, kieselguhr, acid binder, general-purpose binder, sawdust).
Disposal according to regulations.

6.4. Reference to other sections
Safe handling: see section 7
Disposal: see section 13
Personal protection equipment: see section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
Care for thoroughly room ventilation, if necessary use in well ventilated area with local exhaust ventilation at workplace.

General protective measures
Avoid contact with eyes and skin
Do not inhale gases/vapours/aerosols.

Hygiene measures
At work do not eat, drink, smoke or take drugs.
Wash hands before breaks and after work.

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking
Do not spray on a naked flame or any incandescent material.
Pressurized container.
Do not pierce or burn even after use.
Vapours can form an explosive mixture with air.
Take precautionary measures against static discharges.
Avoid effect of heat.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Adhere to administrative regulations relating to storage of compressed gas cylinders / containers.

Further information on storage conditions
Protect from heat and direct solar radiation.
Keep container in a well-ventilated place
Storage temperature may not exceed 50°C (=122°F).
Keep in a cool place.
Recommended storage temperature: room temperature.

7.3. Specific end use(s)
Recommendation(s) for intended use
See section 1.2

! SECTION 8: Exposure controls/personal protection

8.1. Control parameters
! Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
67-64-1	Acetone	8 hours	1210	500	EH40/2005
		Short-term	3620	1500	
106-97-8	Butane	8 hours	1450	600	EH40/2005
		Short-term	1810	750	

Ingredients with occupational exposure limits to be monitored (continued)

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
124-38-9	Carbon dioxide	8 hours Short-term	9150 27400	5000 15000	EH40/2005
64-17-5	ethanol	8 hours	1920	1000	EH40/2005
67-63-0	propan-2-ol	8 hours Short-term	999 1250	400 500	EH40/2005

Indicative occupational exposure limit values (91/322/EEC, 2000/39/EC, 2006/15/EC or 2009/161/EU)

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
124-38-9	carbon dioxide	8 hours	9000	5000	
67-64-1	acetone	8 hours	1210	500	

DNEL-/PNEC-values

DNEL worker

CAS No	Substance name	Value	Code	Remark
64-17-5	ethanol	1900 mg/m3	DNEL acute inhalative (local)	
		343 mg/kg	DNEL long-term dermal (systemic)	
		950 mg/m3	DNEL acute inhalative (systemic)	
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	773 mg/kg bw/day	DNEL long-term dermal (systemic)	
		2035 mg/m3	DNEL long-term inhalative (systemic)	
64742-49-0	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	300 mg/kg bw/day	DNEL long-term dermal (systemic)	
		2085 mg/m3	DNEL acute inhalative (systemic)	
67-63-0	propan-2-ol	500 mg/m3	DNEL long-term inhalative (systemic)	
		888 mg/kg bw/day	DNEL long-term dermal (systemic)	
67-64-1	acetone	1210 mg/m3	DNEL long-term inhalative (systemic)	
		2420 mg/m3	DNEL acute inhalative (local)	
		186 mg/kg	DNEL long-term dermal (systemic)	

DNEL Consumer

CAS No	Substance name	Value	Code	Remark
64742-49-0	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	447 mg/m3	DNEL long-term inhalative (systemic)	
		149 mg/kg bw/day	DNEL long-term oral (repeated)	
		149 mg/kg bw/day	DNEL long-term dermal (systemic)	

PNEC

CAS No	Substance name	Value	Code	Remark
67-64-1	acetone	3,04 mg/kg	PNEC sediment, marine water	
		1,06 mg/l	PNEC aquatic, marine water	
		30,4 mg/kg	PNEC sediment, freshwater	

DNEL-/PNEC-values (continued)

CAS No	Substance name	Value	Code	Remark
		10,6 mg/l	PNEC aquatic, freshwater	

! **Additional advice**
The statutory local and national regulations have to be observed.

8.2. Exposure controls
Respiratory protection
If ventilation insufficient, wear respiratory protection.
Short term: filter apparatus, filter AX

! **Hand protection**
In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.
Chemical protective gloves must be chosen carefully in view of their design and depending on the dependence on the concentration and amounts of dangerous goods used in the specific working tasks.
Glove material specification [make/type, thickness, permeation time/life, wetting resistance]: butyl rubber, 0,7mm; 480min

Eye protection
tightly fitting goggles

Other protection measures
protective clothing

Appropriate engineering controls
Care for thoroughly room ventilation, if necessary use in well ventilated area with local exhaust ventilation at workplace.

! SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Colour	Odour
aerosol	colourless, clear	characteristic

Odour threshold
not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not determined				
boiling point	not applicable				
Melting point / Freezing point	not determined				
Flash point	not applicable				Aerosol
Vapourisation rate	not applicable				
Flammable (solid)	not determined				
Flammability (gas)	not determined				
Ignition temperature	> 200 °C				

	Value	Temperature	at	Method	Remark
Self ignition temperature					The product is not self-igniting.
Lower explosion limit	not determined				
Upper explosion limit	not determined				
Vapour pressure	not determined				
Relative density	0,699 g/cm3	20 °C			
Vapour density	not determined				
Solubility in water					No or low immiscibility
Solubility/other	not determined				
Partition coefficient n-octanol/water (log P O/W)	not determined				
Decomposition temperature	not determined				
Viscosity dynamic	not applicable				
Viscosity kinematic	not applicable				
Solvent content	97,4 %				

Oxidising properties
No information available.

Explosive properties
The product is considered non-explosive ; nevertheless explosive vapour/air mixtures can be generated .

9.2. Other information
No information available.

! SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reactions known.

10.2. Chemical stability
The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
No hazardous reactions known.

10.4. Conditions to avoid
Keep away from heat.
Formation of explosive gas/air mixtures.

10.5. Incompatible materials
No information available.

10.6. Hazardous decomposition products
Carbon monoxide and carbon dioxide.

Thermal decomposition

Remark No decomposition if used as directed.

! SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritation/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	> 2000 mg/kg			ATE
LD50 acute dermal	> 2000 mg/kg			ATE
LC50 acute inhalation	581 mg/l ()			ATE
Skin irritation	irritant			
Eye irritation	irritant			
Skin sensitization	non-sensitizing			
Sensitization respiratory system	no			

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Mutagenicity				No experimental information on genotoxicity in vitro available.
Reproduction-Toxicity				No indications of toxic effects were observed in reproduction studies in animals.
Carcinogenicity				No indications of carcinogenic effects are available from long-term trials.

! **Specific target organ toxicity (single exposure)**
May cause drowsiness or dizziness.

Experiences made from practice
Irritates mucous membranes.
Irritates eyes and skin.
Inhalation causes narcotic effect/intoxication.

Additional information
The product is to be handled with the caution usual with chemicals.
Other hazardous properties may not be excluded.

! SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects

	Value	Species	Method	Validation
Daphnia	EC50 3 mg/l (48 h)			CAS: 64742-49-0

12.2. Persistence and degradability

	Elimination rate	Method of analysis	Method	Validation
Biological degradability	The product is slightly degradable.			

12.3. Bioaccumulative potential

Because of its consistency the product cannot be dispersed in the environment. Adverse ecological effects are therefore unlikely on the basis of current knowledge.

12.4. Mobility in soil

No information available.

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.

12.6. Other adverse effects

General regulation

Toxic to aquatic life with long lasting effects.
Even in the event of low quantities penetration into the underground drinking water is contaminated.
Toxic to fishes.
Product is not allowed to be discharged into the ground water or aquatic environment.
Product is not allowed to be discharged into aquatic environment, drains or sewage treatment plants.
Harmfull to fishes and bacteria.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste code No.	Name of waste
15 01 04	metallic packaging
16 05 04*	gases in pressure containers (including halons) containing hazardous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

Recommendations for the product

Remove in accordance with local official regulations.

Recommendations for packaging

Dispose of according to the local waste regulations.

General information

For proper waste disposal a complete emptying of the tin is necessary.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	1950	1950	1950

	ADR/RID	IMDG	IATA-DGR
14.2. UN proper shipping name	AEROSOLS (Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)	AEROSOLS (Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)	Aerosols, flammable (Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
14.3. Transport hazard class(es)	2.1	2.1	2.1
14.4. Packing group	-	-	-
14.5. Environmental hazards	Yes	Yes	Yes

14.6. Special precautions for user
Caution: Gases

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

Land and inland navigation transport ADR/RID
Hazard label(s) 2.1
tunnel restriction code D
Classification code 5F
transport in "limited quantities" according to 3.4 ADR is possible

Marine transport IMDG
MARINE POLLUTANT

! SECTION 15: Regulatory information

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

VOC standard

VOC content	97,44 %
VOC value	681,4 g/L

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

SECTION 16: Other information

Recommended uses and restrictions
National and local regulations concerning chemicals shall be observed.

Further information
Each user is responsible for the implementation of the national special regulations.
The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.
Please observe the following disclaimer! --- Our safety data sheets have been compiled according to effective EU-directives, WITHOUT taking into account the special national directives concerning the handling of hazardous substances.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 9.2

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.