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

1.1 Product identifier

Commercial Product Name	**K-RSD-PE 0200/7 FOLCO SOL K-RSD-PE**

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

Relevant identified uses	wallpaper coating

1.3 Details of the supplier of the safety data sheet

Address	Follmann GmbH & Co. KG Postfach 12 63 D-32372 Minden Telephone : +49 (571) 93 39 -0 FAX : +49 (571) 93 39 -300
Contact person	Environmental Department
Responsible Department	Environmental Department +49 (571) 9339-176
E-mail (competent person)	sicherheitsdatenblatt@follmann.de

1.4 Emergency telephone number

Emergency telephone number	Outside USA: -001 703 527 3887 (D813)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008	Aquatic Acute 1; H400 Aquatic Chronic 2; H411

2.2 Label elements

Hazard pictogram

GHS09

Signal word	Warning
H-statement(s)	H410: Very toxic to aquatic life with long lasting effects.
P-statement(s)	P273: Avoid release to the environment. P391: Collect spillage.
Further information	EUH208: Contains Ethylendiamin, 1,2-Diamino-ethan; Alkylarylphosphit. May produce an allergic reaction.

SECTION 3: Composition/information on ingredients

3.2 Mixture

Chemical characterization	Dispersion of polyvinylchloride in plasticizer

Hazardous ingredients

Ingredient		Classification (EC) 1272/2008	Concen-tration
COPPER	CAS No. : 7440-50-8 EC-No. : 231-159-6 REACH No. : 01-2119480154-42-XXXX	Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	15.0 - 20.0 % by weight
zinc powder - zinc dust (stabilised)	CAS No. : 7440-66-6 EC-No. : 231-175-3 Index-No. : 030-002-00-7 030-001-01-9 REACH No. : 01-2119467174-37-XXXY	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	1.0 - 5.0 % by weight
Fettsäuren, C14-18 und C16-18-Säuren Barium-salze	CAS No. : 95465-85-3 EC-No. : 305-998-4 REACH No. : 01-2119983180-39-XXXX	Acute Tox. 3; H301 Acute Tox. 4; H332	0.1 - 1.0 % by weight
Alkylarylphosphit	CAS No. : 26544-23-0 EC-No. : 247-777-4 REACH No. : 01-2119968254-31-XXXY	Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Chronic 2; H411	0.1 - 1.0 % by weight
ethylenediamine, 1,2-di-aminoethane	CAS No. : 107-15-3 EC-No. : 203-468-6 Index-No. : 612-006-00-6 REACH No. : 01-2119480383-37-XXXY	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 3; H311 Acute Tox. 3; H331 Skin Corr. 1B; H314 Resp. Sens. 1; H334 Skin Sens. 1; H317 Aquatic Chronic 3; H412	0.1 - 1.0 % by weight

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	Move out of dangerous area.Take off all contaminated clothing immediately. Do not leave the victim unattended.Show this safety data sheet to the doctor in attendance.
In case of skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation occurs, seek medical advice/attention.
In case of eye contact	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
If swallowed	Rinse mouth.Do NOT induce vomiting.Call a physician immediately.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO2), Foam, Water spray, Dry powder
Extinguishing media which must not be used for safety reasons	High volume water jet

5.2 Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases	Hazardous decomposition products formed under fire conditions. Exposure to decomposition products may be a hazard to health. Gaseous hydrogen chloride (HCl).

5.3 Advice for firefighters

Special protective equipment for firefighting	In the event of fire, wear self-contained breathing apparatus.

Additional information on firefighting	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment.

6.2 Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated surface thoroughly. Treat recovered material as described in the section "Disposal considerations".

6.4 Reference to other sections

Reference to other sections	Disposal considerations See also section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	Handle and open container with care. Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Provide appropriate exhaust ventilation at machinery.
Precautions	Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Observe label precautions.
Advice on protection against fire and explosion	No special protective measures against fire required.

7.2 Conditions for safe storage, including any incompatibilities

Storage space and container requirements	Keep in properly labelled containers.Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage specifications	Protect from frost.
TRGS 510	10
Recommended storage temperature	0 - 30 °C 0 - 30 °C

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

COPPER

DNEL

Value	Target group	Exposure route	Exposure frequency	Source
273 mg/kg	Workers	Skin	Short-term effects systemic	2
20 mg/kg	Workers	Inhalation	Short-term effects systemic	2
137 mg/kg	Workers	Skin	Long term effects systemic	2

Source : 2 - SimChem

PNEC

Value	Exposure route	Source
7,8 µg/l	freshwater	2
5,2 µg/l	marine water	2
230 g/l	Onsite STP	2
87 mg/kg	freshwater sediment	2
676 mg/kg	marine sediment	2
65,5 mg/kg	Soil	2

Source : 2 - SimChem

ZINC POWDER - ZINC DUST

DNEL

Value	Target group	Exposure route	Exposure frequency	Source
50 mg/day	Workers	Oral insoluble	Exposure time per day	100
5000 mg/day	Workers	dermal insoluble	Exposure time per day	100
2,5 mg/m³	Consumers	inhale insoluble		100
5 mg/m³	Workers	inhale insoluble		100

Source : 100 - Firmendaten

PNEC

Value	Target group	Exposure route	Source
20,6 µg/l	Environment	fresh water	100
6,1 µg/l	Environment	marine water	100
117,8 mg/kg	Environment	freshwater sediment	100
56,5 mg/kg	Environment	marine sediment	100
52 µg/l	Environment	STP	100
35,6 mg/kg	Environment	Soil	100

Source : 100 - Firmendaten

Fettsäuren, C14-18 und C16-18-Säuren Bariumsalze

DNEL

Value	Target group	Exposure route	Exposure frequency	Source
8,8 mg/m³	Workers	inhale	Long term effects sys-temic	100
43,2 mg/kg	Workers	dermal	Long term effects sys-temic	100
2,6 mg/m³	Consumers	inhale	Long term effects sys-temic	100

Source : 100 - Firmendaten

PNEC

Value	Exposure route	Source
227,8 µg/l	freshwater	100
50,1 mg/l	STP	100
792,7 mg/kg	marine sediment	100
207,7	Soil	100

Source : 100 - Firmendaten

Ethylenediamine

DNEL

Value	Target group	Exposure route	Exposure frequency	Source
25 mg/m³	Workers	Inhalation	Long term effects systemic	100
3,6 mg/kg	Workers	Skin	Long term effects systemic	100

Source : 100 - Firmendaten

PNEC

Value	Exposure route	Source
0,768 mg/kg	freshwater sediment	100
0,768 mg/kg	marine sediment	100
4,36 mg/kg	Soil	100
16 µg/l	freshwater	100
2 µg/l	marine water	100
0,5 mg/l	Onsite STP	100

Source : 100 - Firmendaten

8.2 Exposure controls

Respiratory protection	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Note: Should no job-related limit values are indicated, the product, which a monitoring exposure limit is allocated, do not contains ingredients in relevant concentrations.
Hand protection	Protective gloves complying with EN 374.Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Unsuitable material :	woven fabric, Leather gloves
Suitable material :	Nitriles
Eye protection	Tightly fitting safety goggles
Skin and body protection	Wear suitable protective equipment. Long sleeved clothing
General protective and hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and at the end of workday. Use protective skin cream before handling the product. Avoid contact with the skin and the eyes.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Form	paste
Colour	glimmer
Odour	characteristic
pH	not applicable
Melting point [°C] / Freezing point [°C]	not applicable
Boiling point [°C]	not applicable

Flash point [°C]	> 100 °C
Evaporation rate [kg/(s*m²)]	not determined
Vapour pressure [kPa]	not applicable
Vapour density	not determined
Density [g/cm³]	1,32 -1,34 g/cm³
Temperature :	20 °C
Partition coefficient n-octanol /water (log P O/W)	not determined
Autoignition temperature [°C]	not determined
Viscosity, dynamic [kg/(m*s)]	2.000 - 4.000 mPas*s
Temperature :	20 °C
Measuring method :	Haake-Viscotester
Explosive properties	Not relevant
Oxidising properties	Not relevant

9.2 Other information

Ignition temperature [°C]	not applicable

SECTION 10: Stability and reactivity

10.4 Conditions to avoid

Conditions to avoid	Hazardous decomposition products may be produced when the recommended processing temperatures or times are exceeded.

10.5 Incompatible materials

Materials to avoid	Oxidizing agents (strong)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Hazardous ingredients

COPPER

Oral toxicity [mg/kg]	Test criterion	Test species	Source
>480 mg/kg	LD50	rat	2

Source : 2 - SimChem

ZINC POWDER - ZINC DUST

Oral toxicity [mg/kg]	Test species	Source
> 2001 mg/kg	rat	100

Source : 100 - Firmendaten

Inhalative toxicity [mg/l]	Test criterion	Test species	Exposure duration	Source
5,41 mg/l	LC50	rat	4 h	2

Source : 2 - SimChem

Fettsäuren, C14-18 und C16-18-Säuren Bariumsalze

Oral toxicity [mg/kg]	Test criterion	Test species	Exposure duration	Measuring method	Remarks	Source
> 66 mg/kg	LC50	rat	1 h	OECD Test Guideline 401	Information given is based on data obtained from similar substances.	100
132 mg/kg	LD50	rat	1h	OECD Test Guideline 401		100

Source : 100 - Firmendaten

Dermal toxicity [mg/kg]	Test criterion	Test species	Duration	Measuring method	Remarks	Source
> 2001 mg/kg	LC50	rat	4 h	OECD Test Guideline 402	Information given is based on data obtained from similar substances.	100

Source : 100 - Firmendaten

Inhalative toxicity [mg/l]	Test criterion	Test species	Exposure duration	Measuring method	Source
> 1,1	LC50	rat	4 h	OECD Test Guideline 403	100

Source : 100 - Firmendaten

LC50 Inhalation 4h for vapours [mg/l]	Test criterion	Test species	Exposure duration	Measuring method	Remarks	Source
	LC50	rat	1 h	OECD Test Guideline 403	Information given is based on data obtained from similar substances.	100

Source : 100 - Firmendaten

LC50 Inhalation 4h for dusts and sprays [mg/l]	Source
> 1,1 mg/l	100

Source : 100 - Firmendaten

Irritant effect on skin	No skin irritation
Measuring method	OECD Test Guideline 404
Test species	rabbit
Exposure duration	4 h
Irritant effect on eyes	No eye irritation
Measuring method	OECD Test Guideline 405
Test species	rabbit

Exposure duration	1 h
Irritant effect on the respiratory tract	None known.
Sensitization	No sensitization responses were observed.
Measuring method	Maximisation Test
Test species	guinea pig
Exposure type	dermal, inhale
Reference substance	Information given is based on data obtained from similar substances.
Exposure duration	72 h
Mutagenicity	not mutagenic
Measuring method	In vitro methods
Method of administration	OECD 476
	not mutagenic
Measuring method	OECD 471
Test species	Mutagenicity (Salmonella typhimurium - reverse mutation assay)

Specific target organ toxicity (repeated exposure) [mg/kg]	Source
110 mg/kg	100

Source : 100 - Firmendaten

Alkylarylphosphit

Oral toxicity [mg/kg]	Test criterion	Test species	Remarks	Source
> 4000 mg/kg	LD50	rat	Value taken from the literature	100

Source : 100 - Firmendaten

Dermal toxicity [mg/kg]	Test criterion	Test species	Duration	Remarks	Source
> 5000	LD50	rabbit	24 h	Value taken from the literature	100

Source : 100 - Firmendaten

Inhalative toxicity [mg/l]	Test criterion	Test species	Note	Exposure duration	Source
> 8,4 mg/l	LD50	rabbit	Value taken from the literature	1 h	100

Source : 100 - Firmendaten

Irritant effect on skin	Mild skin irritation
Measuring method	Draize Test
Remarks	Value taken from the literature
Irritant effect on eyes	Mild eye irritation
Measuring method	Draize Test
Remarks	Value taken from the literature

Mutagenicity	negative
Measuring method	In vitro methods
Remarks	Value taken from the literature

Ethylenediamine

Oral toxicity [mg/kg]	Test criterion	Test species	Measuring method	Source
866 mg/kg	LD50	rat	OECD Test Guideline 401	100

Source : 100 - Firmendaten

Dermal toxicity [mg/kg]	Test criterion	Test species	Source
730 mg/kg	LD50	rabbit	100

Source : 100 - Firmendaten

LC50 Inhalation 4h for vapours [mg/l]	Test criterion	Test species	Source
9,2 mg/l	LC50	rat	100

Source : 100 - Firmendaten

11.2 Additional information

Other information (chapter 11.) No toxicology information is available.

SECTION 12: Ecological information

12.1 Toxicity

Hazardous ingredients

COPPER

NOEC (fish) [mg/l]	Test species	Source
0,0114 mg/l	Oncorhynchus mykiss (rainbow trout)	100

Source : 100 - Firmendaten

Fettsäuren, C14-18 und C16-18-Säuren Bariumsalze

NOEC (daphnia) [mg/l]	Source
> 2,9 mg/l	100

Source : 100 - Firmendaten

NOEC (algae) [mg/l]	Measuring method	Remarks	Exposure duration	Source
> 61,1 mg/l	OECD Test Guideline 201	Information given is based on data obtained from similar substances.	72 h	100

Source : 100 - Firmendaten

Bioaccumulation Does not bioaccumulate.

Toxicity to bacteria [mg/l]	Test criterion	Exposure duration	Reference substance	Source
> 1000 mg/l	EC50	3 h	Information given is based on data obtained from similar substances.	100

Source : 100 - Firmendaten

Alkylarylphosphit

Toxicity to fish [mg/l]	Source
> 16 mg/l	100

Source : 100 - Firmendaten

Toxicity to daphnia [mg/l]	Source
5 mg/l	100

Source : 100 - Firmendaten

Toxicity to algae [mg/l]	Source
1,6 mg/l	100

Source : 100 - Firmendaten

Biodegradability	1,31 %
Duration	28 day(s)
Reference substance	Information given is based on data obtained from similar substances.
Evaluation	Not inherently biodegradable.
Bioaccumulation	Does not bioaccumulate.
Bioconcentration factor (BCF)	17

Ethylenediamine

Toxicity to fish [mg/l]	Source
640 mg/l	100

Source : 100 - Firmendaten

Toxicity to daphnia [mg/l]	Source
16,7 mg/l	100

Source : 100 - Firmendaten

Toxicity to algae [mg/l]	Source
645 mg/l	100

Source : 100 - Firmendaten

12.5 Results of PBT and vPvB assessment

Results of PBT characteristics determination	This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.6 Other adverse effects

Further information on ecology	We have no quantitative data concerning the ecological effects of this product.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Disposal considerations	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. The following Waste Codes are only suggestions:
Waste Code	07 02 08* other still bottoms and reaction residues
Uncleaned empty packaging	- -

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG	Air transport ICAO/IATA
14.1 UN-No	3082	3082	3082
14.2 Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.2 UN proper shipping name		ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	Environmentally hazardous substance, liquid, n.o.s.
14.3 Transport hazard class(es)	9	9	9
14.4 Packaging group	III	III	III
Danger releasing substance	Zinkpulver - Zinkstaub (stabilisiert), Ethylendiamin	zinc powder - zinc dust (stabilised), ethylenediamine	zinc powder - zinc dust (stabilised), ethylenediamine
Inducer/cause of environmental hazard	KUPFER	COPPER	COPPER
14.5 Environmental hazards	U - Environmentally hazardous	U - marine pollutant	U - Environmentally hazardous
Labels	9 	9 	9 
Risk No.	90		
Category	3		
Factor	1		
Classification Code	M6		
Tunnel restriction code	E		
EmS		F-A;S-F	
Stowage category		A	

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not relevant

SECTION 15: Regulatory information

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

Additional regulations	Additionally, observe any national regulations!

SECTION 16: Other information

Relevant H-phrases	EUH208: Contains Ethylendiamin, 1,2-Diamino-ethan; Alkylarylphosphit. May produce an allergic reaction.

H226: Flammable liquid and vapour.
H301: Toxic if swallowed.
H302: Harmful if swallowed.
H311: Toxic in contact with skin.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H331: Toxic if inhaled.
H332: Harmful if inhaled.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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.
H412: Harmful to aquatic life with long lasting effects.

Wording of the hazard classes

Aquatic Acute: Hazardous to the aquatic environment
Aquatic Chronic: Hazardous to the aquatic environment
Acute Tox.: Acute toxicity
Skin Irrit.: Skin irritation
Skin Sens.: Skin sensitization
Flam. Liq.: Flammable liquid
Skin Corr.: Skin corrosion
Resp. Sens.: Respiratory sensitization

Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 [CLP]

Classification	evaluation
Aquatic Acute 1; H400	
Aquatic Chronic 2; H411	

Department issuing safety data sheet

Environmental Department

Further information

Full text of R-phrases referred to under sections 2 and 3

Modifications of the previous version are denoted with an asterisk (*).

This information is provided in accordance with the current status of our knowledge and experience. The Safety Data Sheet describes products with a view to relevant safety requirements. This information does not constitute a warranty of properties, features or qualities.