

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0. issued: 28.10.2022 Region: GB

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

1.1 **Product identifier**

Trade name

einzA Zinkstaubfarbe, zinkgrau

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

Relevant identified uses of the substance or mixture

decorative paints/finishes

Uses advised against

No data available

1.3 Details of the supplier of the safety data sheet

Address

einzA Farben GmbH & Co KG

Junkersstraße 13 30179 Hannover

+49 (0)511 67490-0 Telephone no. +49 (0)511 67490-20 Fax no e-mail info@einzA.com

Advice on Safety Data Sheet

sdb info@umco.de

Emergency telephone number

For medical advice (in German and English): +49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 (CLP)

Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Flam. Liq. 3; H226 STOT RE 2: H373

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC)

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements

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

Hazard pictograms







Signal word

Warning Hazardous component(s) to be indicated on label:

Hydrocarbons, C8-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Hazard statement(s)

H226 Flammable liquid and vapour.



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Reglaced version: 4.0.0, issued: 28.10.2022 Region: GB

H373 May cause damage to organs through prolonged or repeated exposure

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

P260 Do not breathe vapours/spray. P273 Avoid release to the environment.

P370+P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to

extinguish.

P391 Collect spillage.

P501 Dispose of contents/container to a facility in accordance with local and national

regulations.

2.3 Other hazards

PBT assessment

The components of this product are not considered to be a PBT.

vPvB assessment

The components of this product are not considered to be a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable. The product is not a substance.

3.2 Mixtures

Hazardous ingredients

No	Substance name		Addit	ional informatio	n	
	CAS / EC / Index /	Classification (EC) 1272/2008 (CLP)	Conc	entration		%
	REACH no					
1	zinc powder - zinc	dust (stabilized)				
	7440-66-6	Aquatic Acute 1; H400	>	70.00 - <	90.00	wt%
	231-175-3	Aquatic Chronic 1; H410				
	030-001-01-9					
	01-2119467174-37					
2	Hydrocarbons, C9,	aromatics	pls. re	efer to footnote	(2)	
	64742-95-6	Flam. Liq. 3; H226	>=	5.00 - <	10.00	wt%
	918-668-5	STOT SE 3; H335				
	649-356-00-4	STOT SE 3; H336				
	01-2119455851-35	Aquatic Chronic 2; H411				
		Asp. Tox. 1; H304				
		EUH066				
3	xylene					
	1330-20-7	STOT RE 2; H373	>=	5.00 - <	10.00	wt%
	215-535-7	Flam. Liq. 3; H226				
	601-022-00-9	Asp. Tox. 1; H304				
	01-2119488216-32	Acute Tox. 4; H312				
		Skin Irrit. 2; H315				
		Eye Irrit. 2; H319				
		STOT SE 3; H335				
		Acute Tox. 4; H332				
4	zinc oxide					
	1314-13-2	Aquatic Acute 1; H400	>=	2.50 - <	25.00	wt%
	215-222-5	Aquatic Chronic 1; H410				
	030-013-00-7					
	01-2119463881-32					
5	ethylbenzene					



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0, issued: 28.10.2022 Region: GB

	100-41-4 202-849-4 601-023-00-4 01-2119489370-35	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Acute Tox. 4; H332 STOT RE 2; H373 Aquatic Chronic 3; H412	<	2.50	wt%
6		C12, n-alkanes, isoalkanes, cyclics, aromatics (2-			
	25%)	[=:			
	-	Flam. Liq. 3; H226	<	2.50	wt%
	927-344-2	Asp. Tox. 1; H304			
	-	STOT SE 3; H336			
	01-2119463586-28	STOT RE 1; H372			
		Aquatic Chronic 2; H411			
		EUH066			

Full Text for all H-phrases and EUH-phrases: pls. see section 16

⁽²⁾ According to the latest state of knowledge and applying the criteria set out in annex I to Regulation (EC) No 1272/2008, the aforementioned classification is required. This classification goes beyond the classification set out in table 3, Annex VI to Regulation (CE) No 1272/2008.

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
2	Р	-	-	-
3	С	STOT RE 2; H373: C >= 10%	-	-
4	-	-	M = 1	M = 1

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

No	Route, target organ, concrete effect
5	H373
	-; hearing organs; -

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Alcohol resistant foam, CO2, powders, water spray

Unsuitable extinguishing media



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Reglaced version: 4.0.0, issued: 28.10.2022 Region: GB

water jet.

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); Toxic pyrolysis products; Exposure to decomposition products may cause a health hazard.

5.3 Advice for firefighters

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses. Appropriate breathing apparatus may be required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Exclude sources of ignition and ventilate the area. Avoid breathing vapours. Refer to protective measures listed in sections 7 and 8.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Is not allowed to be released into the sewerage or water courses. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Avoid the inhalation of dust, particulates and spray mist arising from the application of this mixture. Dry sanding, flame cutting and/or welding of the dry paint film may give rise to dust and/or hazardous fumes. Wet [sanding]/[flatting] should be used wherever possible. Avoid inhalation of dust from sanding. For personal protection see section 8.

General protective and hygiene measures

Avoid skin and eye contact. Do not eat or drink during work - no smoking. Wash hands before breaks and after work. Clean skin thoroughly after work; apply skin cream.

Advice on protection against fire and explosion

Isolate from sources of heat, sparks and open flame. No sparking tools should be used. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Comply with legal health and safety regulations; Prevent unauthorised access. Keep container tightly closed and dry in a cool, well-ventilated place. Protect from heat and direct sunlight. Keep away from sources of ignition. No smoking.

Requirements for storage rooms and vessels

Always keep in containers of same material as the original one. Never use pressure to empty: container is not a pressure vessel. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed. Observe label precautions.

Incompatible products

Store away from oxidising agents, from strongly alkaline and strongly acid materials.



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0, issued: 28.10.2022 Region: GB

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

No	Substance name	CAS no.		EC no.	
1	xylene	1330-20-7		215-535-7	
	2000/39/EC				
	Xylene, mixed isomers, pure				
	WEL short-term (15 min reference period)	442	mg/m³	100	ppm
	WEL long-term (8-hr TWA reference period)	221	mg/m³	50	ppm
	Skin resorption / sensibilisation	Skin			
	List of approved workplace exposure limits (WELs) / E	H40			
	Xylene, o-, m-, p- or mixed isomers				
	WEL short-term (15 min reference period)	441	mg/m³	100	ppm
	WEL long-term (8-hr TWA reference period)	220	mg/m³	50	ppm
	Comments	Sk,BMGV			
2	ethylbenzene	100-41-4		202-849-4	
	2000/39/EC				
	Ethylbenzene				
	WEL short-term (15 min reference period)	884	mg/m³	200	ppm
	WEL long-term (8-hr TWA reference period)	442	mg/m³	100	ppm
	Skin resorption / sensibilisation	Skin			
	List of approved workplace exposure limits (WELs) / E	H40			
	Ethylbenzene				
	WEL short-term (15 min reference period)	552	mg/m³	125	ppm
	WEL long-term (8-hr TWA reference period)	441	mg/m³	100	ppm
	Comments	Sk			

DNEL, DMEL and PNEC values

DNEL values (worker)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	Hydrocarbons, C9, aroma	itics		64742-95-6	
			-	918-668-5	
	dermal	Long term (chronic)	systemic	12.5	mg/kg/day
	inhalative	Long term (chronic)	systemic	151	mg/m³
2	xylene			1330-20-7	
				215-535-7	
	dermal	Long term (chronic)	systemic	212	mg/kg/day
	inhalative	Short term (acut)	systemic	442	mg/m³
	inhalative	Long term (chronic)	systemic	221	mg/m³
	inhalative	Long term (chronic)	local	221	mg/m³
	inhalative	Short term (acut)	local	442	mg/m³
3	zinc oxide			1314-13-2	
				215-222-5	
	dermal	Long term (chronic)	systemic	83	mg/kg/day
	with reference to: Zn				
	Comments: insoluble				
	inhalative	Long term (chronic)	systemic	5	mg/m³
	with reference to: Zn				
	Comments: insoluble				
	inhalative	Long term (chronic)	local	0.5	mg/m³
	with reference to: Zn				
	Comments: insoluble				



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0, issued: 28.10.2022 Region: GB

4	ethylbenzene			100-41-4 202-849-4	
	dermal	Long term (chronic)	systemic	180	mg/kg/day
	inhalative	Long term (chronic)	systemic	77	mg/m³
	inhalative	Short term (acut)	local	293	mg/m³
5	Hydrocarbons, C8-C12, n-	alkanes, isoalkanes, cycli	cs, aromatics (2-25%)	-	
				927-344-2	
	dermal	Long term (chronic)	systemic	21	mg/kg bw/day
	inhalative	Long term (chronic)	systemic	330	mg/m³
	inhalative	Short term (acut)	systemic	570	mg/m³

DNEL value (consumer)

No	Substance name			CAS / EC no)
	Route of exposure	Exposure time	Effect	Value	
1	Hydrocarbons, C9, aroma			64742-95-6 918-668-5	
	oral	Long term (chronic)	systemic	7.5	mg/kg/day
	dermal	Long term (chronic)	systemic	7.5	mg/kg/day
	inhalative	Long term (chronic)	systemic	32	mg/m³
2	xylene	_		1330-20-7 215-535-7	
	oral	Long term (chronic)	systemic	5	mg/kg/day
	dermal	Long term (chronic)	systemic	125	mg/kg/day
	inhalative	Short term (acut)	systemic	260	mg/m³
	inhalative	Long term (chronic)	systemic	65.3	mg/m³
	inhalative	Long term (chronic)	local	65.3	mg/m³
	inhalative	Short term (acut)	local	260	mg/m³
3	zinc oxide			1314-13-2 215-222-5	
	oral	Long term (chronic)	systemic	0.83	mg/kg/day
	with reference to: Zn Comments: insoluble				
	dermal	Long term (chronic)	systemic	83	mg/kg/day
	with reference to: Zn Comments: insoluble				
	inhalative	Long term (chronic)	systemic	2.5	mg/m³
	with reference to: Zn Comments: insoluble				
4	ethylbenzene			100-41-4 202-849-4	
	oral	Long term (chronic)	local	1.6	mg/kg/day
	inhalative	Long term (chronic)	systemic	15	mg/m³
5	•	-alkanes, isoalkanes, cyc	lics, aromatics (2-25%)	- 927-344-2	
	oral	Long term (chronic)	systemic	21	mg/kg bw/day
	dermal	Long term (chronic)	systemic	12	mg/kg bw/day
	inhalative	Long term (chronic)	systemic	71	mg/m³
	inhalative	Short term (acut)	systemic	570	mg/m³

PNEC values

No	Substance name		CAS / EC no	
	ecological compartment	Туре	Value	
1	zinc powder - zinc dust (stabilized)		7440-66-6	
			231-175-3	
	water	fresh water	14.4	μg/L
	water	marine water	7.2	μg/L
	water	fresh water sediment	146.9	mg/kg dry weight
	water	marine water sediment	162.2	mg/kg dry weight
	soil	-	83.1	mg/kg dry weight



Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0, issued: 28.10.2022 Region: GB

	sewage treatment plant	-	100	μg/L		
2	xylene	•	1330-20-7			
			215-535-7	•		
	water	fresh water	0.327	mg/L		
	water	marine water	0.327	mg/L		
	water	fresh water sediment	12.46	mg/kg		
	water	marine water sediment	12.46	mg/kg		
	soil	-	2.31	mg/kg		
	sewage treatment plant	-	6.58	mg/L		
3	zinc oxide		1314-13-2			
			215-222-5	}		
	water	fresh water	20.6	μg/L		
	with reference to: Zn					
	water	marine water	6.1	μg/L		
	with reference to: Zn					
	water	fresh water sediment	117.8	mg/kg		
	water	marine water sediment	56.5	mg/kg		
	with reference to: Zn, dry weight					
	soil	-	35.6	mg/kg		
	with reference to: Zn, dry weight					
	sewage treatment plant	-	100	μg/L		
1	ethylbenzene	<u>.</u>	100-41-4			
			202-849-4			
	water	fresh water	0.1	mg/L		
	water	marine water	0.01	mg/L		
	water	Aqua intermittent	0.1	mg/L		
	water	fresh water sediment	13.7	mg/kg dry		
				weight		
	water	marine water sediment	1.37	mg/kg dry		
				weight		
	soil	-	2.68	mg/kg dry		
				weight		
	sewage treatment plant	-	9.6	mg/L		
	secondary poisoning	Bird	0.02	mg/kg food		

8.2 Exposure controls

Appropriate engineering controls

Provide good ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Respiratory protection

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits. In case of brush application: Filter A2. When applied by spraying: Filter A2P2. (DIN EN 14387)

Eye / face protection

Wear safety googles to protect against splashes. Safety glasses with side protection shield (EN 166)

Hand protection

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific workstation suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material In case of short-term contact / splash protection: nitrile rubber

Material thickness > 0.4 mm
Breakthrough time > 120 min



Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Reglaced version: 4.0.0, issued: 28.10.2022 Region: GB

Appropriate Material In case of prolonged exposure: nitrile rubber Material thickness > 0.4 mm
Breakthrough time > 480 min

Other

Personnel should wear anti-static clothing made of natural fibre or of high temperature resistant synthetic fibre.

Environmental exposure controls

Do not allow to enter drains or water courses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

. I illustriation on basic physical and chemical properties	
State of aggregation	
liquid	
Form	
liquid	
liquiu	
Colour	
according to product name	
Odour	
like solvents	
pH value	
No data available	

Boiling point / boiling range				
Value	>	120	°C	
Reference substance	substance solvent mixture			

Melting point/freezing point	
weiting point/freezing point	
No data available	

Decomposition temperature	
No data available	

Flash point						
Value	25	-	28	°C		
Method	closed cup					

Ignition temperature			
Value	>	200	°C
Reference substance	solvent mixture		

Oxidising properties	
Not applicable	

Flammability Not applicable

Lower explosion limit			
Value	>	0.6	% vol
Reference substance	solvent mixture		

Upper explosion limit			
Value	<	7.5	% vol
Reference substance	solvent mixture		

Vapour pressure			
Value	<	100	hPa
Reference temperature		50	°C
Reference substance	solvent mixture		

Relative vapour density
No data available



Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Reglaced version: 4.0.0, issued: 28.10.2022 Region: GB

Relative density	
No data available	

Density			
Value	2.75	- 2.85	g/cm³
Reference temperature		20	°C
Method	DIN 51757		

Solubility in water	
Comments	immiscible

Solubility No data available

Partition coefficient n-octanol/water (log value)					
No	Substance name	CAS no.		EC no.	
1	xylene	1330-20-7		215-535-7	
log F	Pow		3.12		
Refe	erence temperature		20	°C	
with	reference to	pH 7			
Soul	rce	ECHA			
2	ethylbenzene	100-41-4		202-849-4	
log F	Pow		3.6		
Meth	nod	EU Method A.8			
Soul	rce	ECHA			

Kinematic viscosity	
Value	25 - 30 sec
Reference temperature	20 °C
Method	DIN EN 2431 (6 mm)

Solvent separation test				
Value	<	3	%	
Reference temperature		20	°C	

Particle characteristics	
No data available	

9.2 Other information

Other information	
No data available.	

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage and handling conditions (See section 7).

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4 Conditions to avoid

Heat, naked flames and other ignition sources.

10.5 Incompatible materials

Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.6 Hazardous decomposition products

None if stored, handled and transported properly. In case of fire: see section 5.

SECTION 11: Toxicological information

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



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Acu	te oral toxicity				
No	Substance name		CAS no.		EC no.
1	zinc powder - zinc dust (stabilized)		7440-66-6		231-175-3
LD5	0	>		2000	mg/kg bodyweight
Spec		rat			
Meth		OECD 401			
Soul		ECHA			
2	Hydrocarbons, C9, aromatics		64742-95-6		918-668-5
LD5		>		3492	mg/kg bodyweight
Spe		rat			
Soul		ECHA			
3	xylene		1330-20-7		215-535-7
LD5				3523	mg/kg bodyweight
Spe		rat			
Meth		EU Method B	3.1		
Soul		ECHA			
4	zinc oxide		1314-13-2		215-222-5
LD5		>		5000	mg/kg bodyweight
Spe		rat			
Meth		OECD 401			
Soul		ECHA			
5	ethylbenzene		100-41-4		202-849-4
LD5		appr.		3500	mg/kg bodyweight
Spe		rat			
Soul		ECHA			
6	Hydrocarbons, C8-C12, n-alkanes, isoalk	kanes,	-		927-344-2
	cyclics, aromatics (2-25%)				
LD5		>		15000	mg/kg bodyweight
Spe		rat			
Meth		OECD 401			
Sou	rce	ECHA			

Acu	Acute dermal toxicity (result of the ATE calculation for the mixture)					
No	Product Name					
1	einzA Zinkstaubfarbe, zinkgrau					
Com	iments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part 3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective categories (ATE dermal > 2000 mg/kg).				

Acu	te dermal toxicity				
No	Substance name		CAS no.		EC no.
1	Hydrocarbons, C9, aromatics		64742-95-6		918-668-5
LD5	0	>		3160	mg/kg bodyweight
Spe	cies	rabbit			
Meth	nod	OECD 402			
Soul	rce	ECHA			
2	zinc oxide		1314-13-2		215-222-5
LD5	0	>		2000	mg/kg bodyweight
Spe	cies	rat			
Meth	nod	OECD 402			
Soul	rce	ECHA			
3	ethylbenzene		100-41-4		202-849-4
LD5	0	appr.		3500	mg/kg bodyweight
Spe	cies	rat			
Soul	rce	ECHA			

Acu	Acute inhalational toxicity (result of the ATE calculation for the mixture)		
No	Product Name		
1	einzA Zinkstaubfarbe, zinkgrau		



Product no.: 7620330

Comments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part
	3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective
	categories (ATE for inhalation: > 20.000 ppmV (gases), > 20 mg/l (vapours), > 5 mg/l (dusts/mists).

Acute inhalational toxicity					
No Substance name		CAS no.		EC no	
1 zinc powder - zinc dust (stabilized)		7440-66-6		231-17	' 5-3
LC50			5.41		mg/l
Duration of exposure			4		h
State of aggregation	Dust				
Species	rat				
Method	OECD 403				
Source	ECHA				
2 Hydrocarbons, C9, aromatics	-	64742-95-6		918-66	8-5
LC50	>		6.193		mg/l
Duration of exposure			4		h
State of aggregation	Vapour				
Species	rat				
Method	OECD 403				
Source	ECHA				
Evaluation/classification	Based on ava	ailable data, the	classification		
3 zinc oxide		1314-13-2		215-22	22-5
LC50	>		5.7		mg/l
Duration of exposure			4		h
State of aggregation	Dust/mist				
Species	rat				
Method	OECD 403				
Source	ECHA				
4 ethylbenzene		100-41-4		202-84	19-4
LC50			17.8		mg/l
Duration of exposure			4		h
State of aggregation	Vapour				
Species	rat				
Source	ECHA				

		I			
Skir	corrosion/irritation				
No	Substance name		CAS no.	EC no.	
1	zinc powder - zinc dust (stabilized)		7440-66-6	231-175-3	
Spe	cies	rabbit			
Sou	rce	ECHA			
Eval	luation	non-irritant			
2	Hydrocarbons, C9, aromatics		64742-95-6	918-668-5	
Spe	cies	rabbit			
Meth	nod	OECD 404			
Sou	rce	ECHA			
Eval	luation	low-irritant			
Eval	luation/classification	Based on av	available data, the classification criteria are not met.		
3	xylene		1330-20-7	215-535-7	
Spe	cies	rabbit			
Meth	nod	EU B.4			
Sou	rce	ECHA			
Eval	luation	irritant			
4	zinc oxide		1314-13-2	215-222-5	
Spe	cies	rabbit			
Meth	nod	OECD 404			
Sou	rce	ECHA			
Eval	luation	non-irritant			
5	Hydrocarbons, C8-C12, n-alkanes, isoalk	canes,	-	927-344-2	
	cyclics, aromatics (2-25%)				
Sne	cies	rabbit			
-					



Product no.: 7620330

Method	OECD 404
Source	ECHA
Evaluation	non-irritant

Seri	Serious eye damage/irritation				
No	Substance name		CAS no.	EC no.	
1	zinc powder - zinc dust (stabilized)		7440-66-6	231-175-3	
Spe	cies	rabbit			
Metl	nod	EU B.5			
Sou	rce	ECHA			
Eva	uation	non-irritant			
2	Hydrocarbons, C9, aromatics		64742-95-6	918-668-5	
Spe	cies	rabbit			
Metl	nod	OECD 405			
Sou	rce	ECHA			
Eva	uation	non-irritant			
3	zinc oxide		1314-13-2	215-222-5	
Spe	cies	rabbit			
Metl	nod	OECD 405			
Sou	rce	ECHA			
Eva	uation	non-irritant			
4	Hydrocarbons, C8-C12, n-alkanes, isoalk	anes,	-	927-344-2	
	cyclics, aromatics (2-25%)				
Spe	Species rabbit			_	
Metl	Method OECD 405				
Sou	Source ECHA				
Eva	uation	non-irritant			

Res	piratory or skin sensitisation		
No	Substance name	CAS no. EC no.	
1	zinc powder - zinc dust (stabilized)	7440-66-6 231-175-3	
Rou	te of exposure	Skin	
Met	hod	OECD 429	
Sou	rce	ECHA	
Eva	luation/classification	Based on available data, the classification criteria are not me	et.
2	Hydrocarbons, C9, aromatics	64742-95-6 918-668-5	
Rou	te of exposure	Skin	
Spe	cies	guinea pig	
Met	hod	OECD 406	
Sou	rce	ECHA	
Eva	luation	non-sensitizing	
3	zinc oxide	1314-13-2 215-222-5	
Rou	te of exposure	respiratory tract	
Sou	rce	ECHA	
Eva	luation	non-sensitizing	
Eva	luation/classification	Based on available data, the classification criteria are not me	et.
Rou	te of exposure	Skin	
Spe	cies	Guinea pig	
Met	hod	OECD 406	
Sou	rce	ECHA	
Eva	luation	non-sensitizing	
Eva	luation/classification	Based on available data, the classification criteria are not me	et.
4	Hydrocarbons, C8-C12, n-alkanes, isoall	Ikanes, - 927-344-2	
cyclics, aromatics (2-25%)			
Rou	te of exposure	Skin	
Spe		guinea pig	
Met		OECD 406	
Sou	rce	ECHA	
Eva	luation	non-sensitizing	

Ger	Germ cell mutagenicity				
No	Substance name	CAS no.	EC no.		
1	Hydrocarbons, C9, aromatics	64742-95-6	918-668-5		



Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0, issued: 28.10.2022 Region: GB

Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.
2 xylene	1330-20-7 215-535-7
Species	Chinese hamster Ovary (CHO)
Source ECHA	
Evaluation/classification	Based on available data, the classification criteria are not met.
3 Hydrocarbons, C8-C12, n-alkanes, isoal	kanes, - 927-344-2
cyclics, aromatics (2-25%)	
Method	OECD 479
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.

Rep	roduction toxicity			
No	Substance name	CAS no.	EC no.	
1	zinc powder - zinc dust (stabilized)	7440-66-6	231-175-3	
Rou	te of exposure	oral		
Туре	e of examination	2 generation study		
Spe	cies	rat		
Meth	nod	OECD 416		
Sou	rce	ECHA		
Eval	uation/classification	Based on available data, the classification criteria are not met.		
2	Hydrocarbons, C9, aromatics	64742-95-6	918-668-5	
Sou	rce	ECHA		
Eval	uation/classification	Based on available data, the classifi	ication criteria are not met.	
3	Hydrocarbons, C8-C12, n-alkanes, isoalk	anes, -	927-344-2	
	cyclics, aromatics (2-25%)			
Meth	nod	OECD 413		
Sou	rce	ECHA		
Eval	uation/classification	Based on available data, the classifi	cation criteria are not met.	

Card	Carcinogenicity				
No	Substance name	CAS no.	EC no.		
1	xylene	1330-20-7	215-535-7		
Spe	cies	mouse			
Sou	rce	ECHA			
Eval	uation/classification	Based on available data, the classificatio	n criteria are not met.		
2	Hydrocarbons, C8-C12, n-alkanes, isoalk	anes, -	927-344-2		
	cyclics, aromatics (2-25%)				
Method		OECD 453			
Sou	rce	ECHA			
Eval	uation/classification	Based on available data, the classificatio	n criteria are not met.		

STOT - single exposure No data available

STOT - repeated exposure				
No Substance name	CAS no.	EC no.		
1 zinc powder - zinc dust (stabilized)	7440-66-6	231-175-3		
Route of exposure	inhalational			
Species	rat			
Method	OECD 412			
Source	ECHA			
Evaluation/classification	Based on available data, the classification	Based on available data, the classification criteria are not met.		
Route of exposure	dermal			
Species	rat			
Method	OECD 411			
Source	ECHA			
Evaluation/classification	Based on available data, the classification criteria are not met.			
2 ethylbenzene	100-41-4	202-849-4		
Target organ	hearing organs			
Source	ECHA			

Aspiration hazard



Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Reglaced version: 4.0.0, issued: 28.10.2022 Region: GB

No data available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

Other information

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No Substance name	CAS no.		EC no.
1 zinc powder - zinc dust (stabilized)	7440-66-6		231-175-3
LC50		0.169	mg/l
Duration of exposure		96	h
Species	Oncorhynchus mykiss		
Method	OECD 202		
Source	ECHA		
2 Hydrocarbons, C9, aromatics	64742-95-6		918-668-5
LL50		9.2	mg/l
Duration of exposure		96	h
Species	Oncorhynchus mykiss		
Method	OECD 203		
Source	ECHA		
3 xylene	1330-20-7	- -	215-535-7
LC50		7.6	mg/l
Duration of exposure		96	h
Species	Oncorhynchus mykiss		
Method	OECD 203 ECHA		
Source Evaluation/classification	Based on available data, the c	loogification	oritoria ara not mot
	100-41-4	iassilication	202-849-4
4 ethylbenzene		4.2	
Duration of exposure		4.2 96	mg/l h
Species Species	Oncorhynchus mykiss	90	11
Method	OECD 203		
Source	ECHA		
5 Hydrocarbons, C8-C12, n-alkanes, isoall			927-344-2
cyclics, aromatics (2-25%)	· -		321-344-2
LL50	10 -	30	mg/l
Duration of exposure		96	h
Species	Oncorhynchus mykiss		
Method	OECD 203		
Source	ECHA		

Toxicity to fish (chronic)				
No	Substance name	CAS no.	EC no.	
1	zinc powder - zinc dust (stabilized)	7440-66-6	231-175-3	
NOE	EC .	0.056	mg/l	
Dura	ation of exposure	116	day(s)	



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Species	Salmo trutta
Method	OECD 210
Source	ECHA

Toxi	Toxicity to Daphnia (acute)			
No	Substance name	CAS no.		EC no.
1	zinc powder - zinc dust (stabilized)	7440-66-6		231-175-3
EC5	0		360	μg/l
Dura	ation of exposure		48	h
Spec		Ceriodaphnia dubia		
Meth		US EPA/600/4-85/013		
Soul		ECHA		
2	Hydrocarbons, C9, aromatics	64742-95-6		918-668-5
EL50			3.2	mg/l
	ation of exposure		48	h
Spec		Daphnia magna		
Meth		OECD 202		
Soul		ECHA		
3	ethylbenzene	100-41-4		202-849-4
EC5		1.8 -	2.4	mg/l
	ation of exposure		48	h
Spec		Daphnia magna		
Soul		ECHA		
4	Hydrocarbons, C8-C12, n-alkanes, isoalk	anes, -		927-344-2
	cyclics, aromatics (2-25%)			
EL50		- 10	22	mg/l
	ation of exposure		48	h
Spec		Daphnia magna		
Meth		OECD 202		
Soul	rce	ECHA		

Toxi	city to Daphnia (chronic)			
No	Substance name	CAS no.		EC no.
1	zinc powder - zinc dust (stabilized)	7440-66-6		231-175-3
NOE	EC		91	μg/l
Dura	ation of exposure		21	day(s)
Spec	cies	Daphnia longispina		
Soul	rce	ECHA		
2	ethylbenzene	100-41-4		202-849-4
NOE	ELR		0.96	mg/l
Dura	ation of exposure		7	day(s)
Spec	cies	Ceriodaphnia dubia		
Soul	rce	ECHA		
3	Hydrocarbons, C8-C12, n-alkanes, isoalk	anes, -		927-344-2
	cyclics, aromatics (2-25%)			
NOE	EC		0.097	mg/l
Species		Daphnia magna		
Method		OECD 211		
Soul	rce	ECHA		

Toxi	Toxicity to algae (acute)				
No	Substance name	CAS no.		EC no.	
1	zinc powder - zinc dust (stabilized)	7440-66-6		231-175-3	
EC5	0		350	μg/l	
Dura	ation of exposure		72	h	
Spe	cies	Planothidium lanceolatum			
Meth	nod	OECD 201			
Soul	rce	ECHA			
2	Hydrocarbons, C9, aromatics	64742-95-6		918-668-5	
EL5)		2.9	mg/l	
Dura	ation of exposure		72	h	
Spe	cies	Pseudokirchneriella subcap	itata		
Meth	nod	OECD 201			



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0, issued: 28.10.2022 Region: GB

Soul	rce	ECHA		
3	xylene	1330-20-7		215-535-7
EC5	0		4.7	mg/l
Dura	ation of exposure		72	h
Spe	cies	Selenastrum capricornutum		
Meth	nod	OECD 201		
Soul	rce	ECHA		
Eval	uation/classification	Based on available data, the	classification	r criteria are not met.
4	ethylbenzene	100-41-4		202-849-4
EC5	0		3.6	mg/l
Dura	ation of exposure		96	h
Spe	cies	Pseudokirchneriella subcapit	ata	
Soul	rce	ECHA		
5	Hydrocarbons, C8-C12, n-alkanes, isoalk	anes, -		927-344-2
	cyclics, aromatics (2-25%)			
EL5	0		4.1	mg/l
Dura	ation of exposure		72	h
Spe	cies	Raphidocelis subcapitata		
Meth	nod	OECD 201		
Soul	rce	ECHA		

Toxicity to algae (chronic) No data available

Bac	Bacteria toxicity				
No	Substance name	CAS no	١.	EC no.	
1	zinc powder - zinc dust (stabilized)	7440-66	6-6	231-175-3	
EC5	0		5.2	mg/l	
Dura	ation of exposure		3	h	
Spe	cies	activated sludge			
Meth	nod	OECD 209			
Soul	rce	ECHA			
2	Hydrocarbons, C9, aromatics	64742-9	5-6	918-668-5	
EC5	0	>	99	mg/l	
Dura	ation of exposure		10	min	
Spe	cies	activated sludge			
Meth	nod	OECD 209			
Soul	rce	ECHA			

12.2 Persistence and degradability

z Fersistence and degradability				
legradability				
Substance name	CAS	no.	EC no.	
Hydrocarbons, C9, aromatics	6474	2-95-6	918-668-5	
	BSB			
e		78	%	
ition		28	d	
nod	OECD 301 F			
ce	ECHA			
uation	readily biodegradal	ole		
xylene	1330	-20-7	215-535-7	
	aerobic biodegrada	tion		
e		94	%	
ition		28	d	
nod	OECD 301 F			
ce	ECHA			
uation	readily biodegradal	ole		
Hydrocarbons, C8-C12, n-alkanes, isoal	kanes, -		927-344-2	
cyclics, aromatics (2-25%)				
e		74.7	%	
tion		28	day(s)	
nod	OECD 301 F			
rce	ECHA			
uation	readily biodegradal	ole		
	Substance name Hydrocarbons, C9, aromatics e e ition iod ice iuation xylene e e ition iod ice uation hydrocarbons, C8-C12, n-alkanes, isoal	Substance name CAS Hydrocarbons, C9, aromatics BSB e Intion India OECD 301 F ECHA Interpretation India OECD 301 F ECHA Intion	Substance name CAS no. Hydrocarbons, C9, aromatics BSB e	Substance name



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0, issued: 28.10.2022 Region: GB

12.3 Bioaccumulative potential

	io Biodocamalativo potentiai				
Biod	Bioconcentration factor (BCF)				
No	Substance name	CAS no.		EC no.	
1	ethylbenzene	100-41-4		202-849-4	
BCF			1		
Spe	cies	Oncorhynchus mykiss			
Sou	rce	ECHA			

Part	Partition coefficient n-octanol/water (log value)				
No	Substance name	CAS no.		EC no.	
1	xylene	1330-20-7		215-535-7	
log F	Pow		3.12		
Refe	rence temperature		20	°C	
with	reference to	pH 7			
Soul	ce	ECHA			
2	ethylbenzene	100-41-4		202-849-4	
log F	Pow		3.6		
Meth	nod	EU Method A.8			
Soul	ce	ECHA			

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	The components of this product are not considered to be a PBT.
vPvB assessment	The components of this product are not considered to be a vPvB.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

12.8 Other information

Other information	
Do not allow to enter drains or water courses.	

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste code 08 01 11* waste paint and varnish containing organic solvents or other hazardous substances

The listed waste code numbers, according to the European Waste Catalogue, are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company. Disposal of the product should be carried out in accordance with all applicable regulations following consultation with the responsible local authority and the disposal company in an authorised and suitable disposal facility.

Packaging

Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer. Empty containers must be scrapped or reconditioned.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

Class 3
Classification code F1
Packing group III
Hazard identification no. 30
UN number UN1263
Proper shipping name PAINT



Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Reglaced version: 4.0.0, issued: 28.10.2022 Region: GB

Tunnel restriction code D/E

Label

Environmentally hazardous Symbol "fish and tree"

substance mark

14.2 Transport IMDG

Class 3
Packing group III
UN number UN1263
Proper shipping name PAINT

Technical name zinc powder - zinc dust (stabilized)
Hydrocarbons, C9, aromatics

EmS F-E+S-E

Label 3

Marine pollutant mark Symbol "fish and tree"

14.3 Transport ICAO-TI / IATA

Class 3
Packing group III
UN number UN1263
Proper shipping name Paint
Label 3

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

Transport within the user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information

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

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII. No 3, 40

The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

No	Substance name	CAS no.	EC no.	No	
1	2-methylpentane-2,4-diol	107-41-5	203-489-0	75	
2	toluene	108-88-3	203-625-9	75	
3	xylene	1330-20-7	215-535-7	75	
4	zinc powder - zinc dust (stabilized)	7440-66-6	231-175-3	75	

Directive 2012/18/EU on the control of major-accident hazards involving dangerous s	substances
This product is subject to Part I of Annex I, risk category:	E1, P5c



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Reglaced version: 4.0.0, issued: 28.10.2022 Region: GB

If the properties of the substance/product give rise to more than one classification, for the purposes of 2012/18/UE, the lowest qualifying quantities set out in Part 1 and Part 2 of Annex I shall apply.

Directive 2010/75/EU on industrial emissions	(integrated pollution prevention and control)
VOC content	14.85 %

Directive 2004/42/CE on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products

relevant VOC limit value as referred to in Annex II of Directive 2004/42/CE , Cat. : i, type: lb = 500 g/l Max. VOC content (limit value) of the product in its ready for use condition = < 500 g/l

National regulations

Other national regulations

Adhere to national regulations for proper handling and use of hazardous materials. Use appropriate personal protective equipment.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture.

SECTION 16: Other information

Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

EUH066 Repeated exposure may cause skin dryness or cracking.

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H312 Harmful in contact with skin.
H315 Causes skin irritation.

H319 Causes serious eve irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.H336 May cause drowsiness or dizziness.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)

C Some organic substances may be marketed either in a specific isomeric form or as a

mixture of several isomers. In this case the supplier must state on the label whether the

substance is a specific isomer or a mixture of isomers.

P The harmonised classification as a carcinogen applies unless the full refining history is

known and it can be shown that the substance from which it is produced is not a carcinogen, in which case a classification in accordance with Title II of this Regulation

shall be performed also for that hazard class.

Creation of the safety data sheet

UMCO GmbH

Georg-Wilhelm-Str. 187, D-21107 Hamburg

Tel.: +49 40 / 555 546 300 Fax: +49 40 / 555 546 357 e-mail: umco@umco.de

This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.



Trade name: einzA Zinkstaubfarbe, zinkgrau

Product no.: 7620330

Current version: 5.0.0, issued: 03.01.2024 Replaced version: 4.0.0, issued: 28.10.2022 Region: GB

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

Document protected by copyright. Alterations or reproductions require the express written permission of UMCO GmbH.

Prod-ID 653847