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

1.1. Product identifier

WS-Zink® Spray 80/81

UFI: 5UW5-C9CN-WVJ2-XHHR

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

Use of the substance/mixture

Paint, Varnish.
industrial paint

Uses advised against

Do not use for products which come into contact with the food stuffs.

1.3. Details of the supplier of the safety data sheet

Company name:	W+S GmbH Lackchemie und Aerosol-Technik	
Street:	Am Sportplatz 5	
Place:	D-63791 Karlstein-Dettingen	
Telephone:	+49 6188 9575-0	Telefax: +49 6188 9575-30
E-mail:	info@ws-lackchemie.de	
Contact person:	Abt. Produkt / Sicherheit	
Responsible Department:	Abt. Produkt / Sicherheit	

1.4. Emergency telephone number:

+49 551-19240 GIZ-Nord Poisons Centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Hazard categories:
Aerosols: Aerosol 1
Hazardous to the aquatic environment: Aquatic Acute 1
Hazardous to the aquatic environment: Aquatic Chronic 1
Hazard Statements:
Extremely flammable aerosol.
Pressurised container: May burst if heated.
Very toxic to aquatic life with long lasting effects.

2.2. Label elements

GB CLP Regulation

Signal word: Danger

Pictograms:



Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

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.

P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P102	Keep out of reach of children.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Aerosole

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
7440-66-6	zinc powder - zinc dust (stabilised)			30 - < 35 %
	231-175-3	030-001-01-9		
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			
74-98-6	propane			15 - < 20 %
	200-827-9	601-003-00-5		
	Flam. Gas 1; H220			
106-97-8	butane			15 - < 20 %
	203-448-7	601-004-00-0		
	Flam. Gas 1; H220			
141-78-6	ethyl acetate			5 - < 10 %
	205-500-4	607-022-00-5		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
1330-20-7	xylene			5 - < 10 %
	215-535-7	601-022-00-9		
	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2; H226 H332 H312 H315			
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether			5 - < 10 %
	203-539-1	603-064-00-3		
	Flam. Liq. 3, STOT SE 3; H226 H336			
64742-95-6	Lösungsmittelnaphta, leichte aromatische, Benzolgehalt <0,1%			1 - < 5 %
	918-668-5		01-2119455851-35	
	Flam. Liq. 3, STOT SE 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H226 H335 H336 H304 H411 EUH066			
100-41-4	ethylbenzene			1 - < 5 %
	202-849-4	601-023-00-4		
	Flam. Liq. 2, Acute Tox. 4, STOT RE 2, Asp. Tox. 1; H225 H332 H373 H304			
1314-13-2	zinc oxide			1 - < 5 %
	215-222-5	030-013-00-7		
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			

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		
106-97-8	203-448-7	butane	15 - < 20 %
	inhalation: LC50 = 658 ppm (gases)		
1330-20-7	215-535-7	xylene	5 - < 10 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg		
107-98-2	203-539-1	1-methoxy-2-propanol; monopropylene glycol methyl ether	5 - < 10 %
	dermal: LD50 = 11000 mg/kg; oral: LD50 = > 5000 mg/kg		
64742-95-6	918-668-5	Lösungsmittelnaphta, leichte aromatische, Benzolgehalt <0,1%	1 - < 5 %
	inhalation: LC50 = 5,2 mg/l (vapours); dermal: LD50 = 3160 mg/kg; oral: LD50 = 2000 mg/kg		
100-41-4	202-849-4	ethylbenzene	1 - < 5 %
	inhalation: LC50 = 17,2 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 15400 mg/kg; oral: LD50 = 3500 mg/kg		
1314-13-2	215-222-5	zinc oxide	1 - < 5 %
	oral: LD50 = > 5000 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). No administration in cases of unconsiousness or cramps.

After inhalation

Provide fresh air. Put victim at rest, cover with a blanket and keep warm. If victim is at risk of losing consciousness, position and transport on their side.

After contact with skin

Take off immediately all contaminated clothing, including underwear and shoes . Wash thoroughly the body (shower or bath). After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes

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

After ingestion

Call a physician immediately. Do NOT induce vomiting. Give nothing to eat or drink.

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

Frequently or prolonged contact with skin may cause dermal irritation.

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2). Foam. Extinguishing powder. Dry extinguishing powder.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Heating causes rise in pressure with risk of bursting. Combustible. Vapours may form explosive mixtures with

air. Special exposure hazards arising from the substance itself, combustion products, resulting gases: Nitrogen oxides (NOx). Carbon monoxide

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Contaminated fire-fighting water must be collected separately.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Wear personal protection equipment. See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Explosion hazard. Retain contaminated washing water and dispose it.

6.3. Methods and material for containment and cleaning up

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Information for safe handling: If handled uncovered, arrangements with local exhaust ventilation have to be used. The following must be prevented: inhalation. skin contact. Eye contact.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Vapours may form explosive mixtures with air.

Advice on general occupational hygiene

Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
Only use the material in places where open light, fire and other flammable sources can be kept away. Keep only in the original container in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Material, rich in oxygen, oxidizing. Materials to avoid: Acid. Base. Oxidizing agents. Paper.

Further information on storage conditions

Store only in original container. Protect against: heat. Heating causes rise in pressure with risk of bursting.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
107-98-2	1-Methoxypropan-2-ol	100	375		TWA (8 h)	WEL
		150	560		STEL (15 min)	WEL
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL
141-78-6	Ethyl acetate	200	734		TWA (8 h)	WEL
		400	1468		STEL (15 min)	WEL
100-41-4	Ethylbenzene	100	441		TWA (8 h)	WEL
		125	552		STEL (15 min)	WEL
1330-20-7	Xylene: mixed isomers	50	220		TWA (8 h)	WEL
		100	441		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
1330-20-7	Xylene, o-, m-, p- or mixed isomers	methyl hippuric acid (creatinine)	650 mmol/mol	urine	Post shift

Additional advice on limit values

source:

8.2. Exposure controls

Appropriate engineering controls

Refer to chapter 7. No further action is necessary.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: Goggles.

Hand protection

Tested protective gloves are to be worn:
Suitable material: NBR (Nitrile rubber). , Butyl rubber.
Thickness of glove material: >0,4mm
penetration time (maximum wearing period): >480min
DIN-/EN-Norms EN ISO 374

Skin protection

Additional body protection measures: Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500. Do not eat, drink, smoke or sneeze at the workplace. Avoid contact with skin, eyes and clothes. Wash hands before breaks and after work. Set out skin protection guidelines.

Respiratory protection

Filtering device (full mask or mouthpiece) with filter:

Environmental exposure controls

Refer to chapter 7 No further action is necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Aerosol
Colour:	characteristic
Odour:	characteristic
Odour threshold:	not determined

		Test method
Boiling point or initial boiling point and boiling range:	-42 °C	
Lower explosion limits:	1 vol. %	
Upper explosion limits:	13,1 vol. %	
Flash point:	-25 °C	DIN EN ISO 1523
Auto-ignition temperature:	273 °C	DIN 51794
Vapour pressure: (at 20 °C)	3,2 hPa	DIN EN 12
Density:	1,051 g/cm³	

9.2. Other information

Other safety characteristics

Solvent content:	VOCV (CH): 58,17 % VOC (EU): 611,4 g/l
Solid content:	~40 %
Flow time:	32 (3 mm)

SECTION 10: Stability and reactivity

10.1. Reactivity

No risks worthy of mention. Please observe the information on the safety data sheet at all times.

10.2. Chemical stability

No risks worthy of mention. Please observe the information on the safety data sheet at all times.

10.3. Possibility of hazardous reactions

No risks worthy of mention. Please observe the information on the safety data sheet at all times.

10.4. Conditions to avoid

Keep away from heat. Ignition hazard. Danger of bursting container.

10.5. Incompatible materials

Reacts with : Alkalis (alkalis). Oxidizing agents.

10.6. Hazardous decomposition products

Thermal decomposition can lead to the escape of irritating gases and vapors.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

Propan LC50: 56 - 80 Vol.-% (Rat , 15 min.)
Dimethylether LC50: 308 mg/L (Rat)

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
106-97-8	butane					
	inhalation (4 h) gas	LC50	658 ppm	Rat	GESTIS	
1330-20-7	xylene					
	dermal	ATE mg/kg	1100			
	inhalation vapour	ATE	11 mg/l			
	inhalation dust/mist	ATE	1,5 mg/l			
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether					
	oral	LD50 mg/kg	> 5000	Rat	IUCLID	
	dermal	LD50 mg/kg	11000	Rabbit		
64742-95-6	Lösungsmittelnaphta, leichte aromatische, Benzolgehalt <0,1%					
	oral	LD50 mg/kg	2000	Rat		
	dermal	LD50 mg/kg	3160	Rabbit.		
	inhalation (4 h) vapour	LC50	5,2 mg/l	Rat		
100-41-4	ethylbenzene					
	oral	LD50 mg/kg	3500	Rat	GESTIS	
	dermal	LD50 mg/kg	15400	Rabbit	GESTIS	
	inhalation (4 h) vapour	LC50	17,2 mg/l	Rat		
	inhalation dust/mist	ATE	1,5 mg/l			
1314-13-2	zinc oxide					
	oral	LD50 mg/kg	> 5000	Rat	IUCLID	

Irritation and corrosivity

Frequently or prolonged contact with skin may cause dermal irritation.

STOT-repeated exposure

Can cause frostbite. Has de-greasing effect on the skin.

Specific effects in experiment on an animal

Toxicological data are not available.

Additional information on tests

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Aquatoxicity Harmful for Water fleas.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether					
	Acute fish toxicity	LC50 4600 - 10000 mg/l	96 h	Leuciscus idus	IUCLID	
	Acute algae toxicity	ErC50 > 1000 mg/l	72 h	Selenastrum capricornutum		
	Acute crustacea toxicity	EC50 > 500 mg/l	48 h	Daphnia magna	IUCLID	
100-41-4	ethylbenzene					
	Acute fish toxicity	LC50 4,2 mg/l	96 h	Oncorhynchus mykiss	ECHA	
	Acute algae toxicity	ErC50 3,6 mg/l	96 h	Algen	GESTIS	

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
74-98-6	propane	2,36
106-97-8	butane	2,89
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether	-0,437
100-41-4	ethylbenzene	3,15

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.
No data available

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

No data available

Further information

Do not allow to enter into surface water or drains. The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC). Do not allow uncontrolled leakage of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

List of Wastes Code - used product

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1950
14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2
14.4. Packing group:	-
Hazard label:	2.1



Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Excepted quantity:	E0
Transport category:	2
Tunnel restriction code:	D

Other applicable information (land transport)

: 190 - 327 - 625
: 2
: D

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1950
14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2
14.4. Packing group:	-
Hazard label:	2.1



Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Excepted quantity:	E0

Other applicable information (inland waterways transport)

: 190 327 625

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1950
14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2.1
14.4. Packing group:	-
Hazard label:	2.1



Special Provisions:	63, 190, 277, 327, 344, 381, 959
Limited quantity:	1000 mL
Excepted quantity:	E0
EmS:	F-D, S-U

Other applicable information (marine transport)

: 63, 190, 277, 327, 959

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1950
14.2. UN proper shipping name:	AEROSOLS, FLAMMABLE
14.3. Transport hazard class(es):	2.1
14.4. Packing group:	-
Hazard label:	2.1



Special Provisions:	A145 A167 A802
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y203
Excepted quantity:	E0
IATA-packing instructions - Passenger:	203
IATA-max. quantity - Passenger:	75 kg
IATA-packing instructions - Cargo:	203
IATA-max. quantity - Cargo:	150 kg

Other applicable information (air transport)

: A1

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 28, Entry 40, Entry 75

Directive 2004/42/EC on VOC in paints and varnishes:	VOCV (CH): 58,17 % VOC (EU): 611,4 g/l

National regulatory information

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

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Abbreviations and acronyms

Flam. Gas: Flammable gases
Flam. Liq: Flammable liquids
Acute Tox: Acute toxicity
Asp. Tox: Aspiration hazard
Skin Irrit: Skin irritation
Eye Irrit: Eye irritation
STOT SE: Specific target organ toxicity - single exposure
STOT RE: Specific target organ toxicity - repeated exposure
Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard

Relevant H and EUH statements (number and full text)

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
EUH066	Repeated exposure may cause skin dryness or cracking.

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