SAFETY DATA SHEET

Based on Regulation (EC) no. 1907/2006 (REACH) Article 31 and Annex II

Zinc Spray

1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the substance or preparation:
Productname : Zinc Spray

1.2 Use of the substance/preparation:
Primer

1.3 Company/undertaking identification:
SOUDAL N.V.
Everdongenlaan 18-20
B-2300 Turnhout
Tel: +32 14 42 42 31
Fax: +32 14 44 39 71
e-mail address: msds@soudal.com

1.4 Emergency telephone:
+32 14 58 45 45 (24/24 h)
Brandweerinformatiecentrum voor Gevaarlijke Stoffen (BIG)
Technische Schoolstraat 43 A, B-2440 Geel, Belgium

2. Hazards identification

- Extremely flammable
- Repeated exposure may cause skin dryness or cracking
- Vapours may cause drowsiness and dizziness
- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- Aerosol may explode under the effect of heat

3. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc.(%)	Hazards (R-phrases)	Hazard symbol
zinc powder - zinc dust (stabilized)	7440-66-6 231-175-3	25 - <50	50/53 (1)	N
dimethyl ether	115-10-6 204-065-8	25 - <50	12 (1)(2)	F+
low boiling point naphtha, unspecified (conc benzene <0.1%)	64742-95-6 265-199-0	2.5 - <20	10-37-51/53-65-66-67 (1) (Labelling in compliance with CONCAWE)	Xn;N
acetone	67-64-1 200-662-2	10 - <25	11-36-66-67 (1)(2)	F;Xi
xylene, mixture of isomers	1330-20-7 215-535-7	1 - <2.5	10-20/21-38 (1)(2)	Xn

(1) For R-phrases in full: see heading 16
(2) Substance with a Community workplace exposure limit
(3) PBT-substance

4. First aid measures

4.1 After inhalation:
- Respiratory difficulties: consult a doctor/medical service
- Remove the victim into fresh air

4.2 Skin contact:
- Rinse immediately with plenty of water
- Take victim to a doctor if irritation persists

4.3 Eye contact:
- Rinse with water
- Do not apply neutralizing agents
- Take victim to an ophthalmologist if irritation persists

4.4 After ingestion:
- Rinse mouth with water
- Do not induce vomiting
- If you feel unwell: consult a doctor/medical service

5. Fire-fighting measures

5.1 Suitable extinguishing media:
- Water spray
- Alcohol-resistant foam
- BC powder
- Carbon dioxide

5.2 Unsuitable extinguishing media:
- No data available

5.3 Special exposure hazards:
- Gas/vapour spreads at floor level: ignition hazard
- Gas/vapour flammable with air within explosion limits
- Upon combustion CO and CO2 are formed and formation of metallic fumes

5.4 Instructions:
- Cool closed containers with water if they are exposed to the fire
- Dilute toxic gases with water spray
- Take account of environmentally hazardous fire-fighting water

5.5 Special protective equipment for firefighters:
- Heat/fire exposure: compressed air/oxygen apparatus
- Protective clothing

6. Accidental release measures

6.1 Personal precautions:
See heading 8.2

6.2 Environmental precautions:
- Use appropriate containment to avoid environmental contamination
- Dam up the liquid spill
- See heading 13

6.3 Methods for cleaning up:
- Take up liquid spill into absorbent material e.g. sand/earth
- Shovel absorbed substance in closing drums
- Carefully collect the spill/leftovers
- Clean contaminated surfaces with an excess of water
- Take collected spill to manufacturer/competent authority
- Wash clothing and equipment after handling

7. Handling and storage

7.1 Handling:
- Observe normal hygiene standards
- Use spark-/explosionproof appliances and lighting system
- Remove contaminated clothing immediately
- Clean contaminated clothing
- Use only in well-ventilated areas

7.2 Storage:
- Keep out of direct sunlight
- Store in a cool area
- Store in a dry area
- Ventilation at floor level

- Keep away from: heat sources, ignition sources

Storage temperature	:	< 50	**°C**
Quantity limit	:	N.D.	**kg**
Storage life	:	N.D.	**days**
Materials for packaging	:		
- suitable	:	aerosol dispenser	

7.3 Specific use(s):
- See information supplied by the manufacturer for the identified use(s)

8. Exposure controls/Personal protection

8.1 Exposure limit values:

8.1.1 Occupational exposure:

XYLENE, mixture of isomers:

TLV-TWA	:		**mg/m³**	100	**ppm**
TLV-STEL	:		**mg/m³**	150	**ppm**
TLV-Ceiling	:		**mg/m³**		**ppm**
WEL-LTEL	:	220	**mg/m³**	50	**ppm**
WEL-STEL	:	441	**mg/m³**	100	**ppm**
TRGS 900	:	440	**mg/m³**	100	**ppm**
MAK	:	440	**mg/m³**	100	**ppm**
GWBNL-TGG 8 h	:	210	**mg/m³**	(wettelijk)	
GWKNL-TGG 15 min.	:	442	**mg/m³**		
Ceiling	:		**mg/m³**		
VME-8 h	:	221	**mg/m³**	50	**ppm**
VLE-15 min.	:	442	**mg/m³**	100	**ppm**
GWBB-8 h	:	221	**mg/m³**	50	**ppm**
GWK-15 min.	:	442	**mg/m³**	100	**ppm**
Momentary value	:		**mg/m³**		**ppm**
EC	:	221	**mg/m³**	50	**ppm**
EC-STEL	:	442	**mg/m³**	100	**ppm**

DIMETHYL ETHER:

WEL-LTEL	:	766	**mg/m³**	400	**ppm**
WEL-STEL	:	958	**mg/m³**	500	**ppm**
TRGS 900	:	1900	**mg/m³**	1000	**ppm**
MAK	:	1900	**mg/m³**	1000	**ppm**
GWBNL-TGG 8 h	:	950	**mg/m³**	(wettelijk)	
GWKNL-TGG 15 min.	:	1500	**mg/m³**		
VME-8 h	:	1920	**mg/m³**	1000	**ppm**
VLE-15 min.	:	-	**mg/m³**	-	**ppm**
GWBB-8 h	:	1920	**mg/m³**	1000	**ppm**
GWK-15 min.	:	-	**mg/m³**	-	**ppm**
EC	:	1920	**mg/m³**	1000	**ppm**
EC-STEL	:	-	**mg/m³**	-	**ppm**

ACETONE:

TLV-TWA	:		**mg/m³**	500	**ppm**
TLV-STEL	:		**mg/m³**	750	**ppm**
WEL-LTEL	:	1210	**mg/m³**	500	**ppm**
WEL-STEL	:	3620	**mg/m³**	1500	**ppm**
TRGS 900	:	1200	**mg/m³**	500	**ppm**
MAK	:	1200	**mg/m³**	500	**ppm**
GWBNL-TGG 8 h	:	1210	**mg/m³**	(wettelijk)	
GWKNL-TGG 15 min.	:	2420	**mg/m³**		
VME-8 h	:	1210	**mg/m³**	500	**ppm**
VLE-15 min.	:	2420	**mg/m³**	1000	**ppm**
GWBB-8 h	:	1210	**mg/m³**	500	**ppm**
GWK-15 min.	:	2420	**mg/m³**	1000	**ppm**
EC	:	1210	**mg/m³**	500	**ppm**
EC-STEL	:	-	**mg/m³**	-	**ppm**

8.1.2 Sampling methods:

- Acetone	OSHA 69
- Acetone	OSHA CSI
- Acetone (ketones 1)	NIOSH 1300
- Acetone (ketones I)	NIOSH 2555
- Acetone (organic and inorganic gases by Exractive FTIR)	NIOSH 3800
- Acetone (Volatile Organic 1671 1671 compounds)	NIOSH 2549
- Methyl ether	OSHA CSI
- Petroleum Distillate (Naphthas)	NIOSH 1550
- Petroleum Distillates fractions	OSHA 48
- Xylenes	OSHA CSI
- Xylene (Hydrocarbons, aromatic)	NIOSH 1501
- Xylene (o-, m-, & p-isomers)	OSHA 7
- Xylenes (Volatile Organic 1671 1671 compounds)	NIOSH 2549
- Zinc	OSHA ID 121
- Zinc	OSHA ID 125G
- Zinc (Zn)	NIOSH 8005
- Zinc (Zn)	NIOSH 8310

8.2 Exposure controls:

8.2.1 Occupational exposure controls:

- Measure the concentration in the air regularly

Personal protective equipment:

a) Respiratory protection:
- Gas mask with filter type A at conc. in air > exposure limit

b) Hand protection:
- Gloves

c) Eye protection:
- Protective goggles

d) Skin protection:
- Protective clothing

8.2.2 Environmental exposure controls: see heading 6.2, 6.3 and 13

9. Physical and chemical properties

9.1 General information:

Appearance (at 20°C)	: Aerosol	
Odour	: Characteristic	
Colour	: Variable in colour	

9.2 Important health, safety and environmental information:

pH value (at 20°C)	: N.D.	
Boiling point/boiling range	: N.D.	**°C**
Flashpoint/flammability	: Contains extremely flammable component	
Explosion limits (explosive properties)	: 0.7 - 18.6	**vol%**
Oxidising properties	: N.D.	
Vapour pressure (at 20°C)	: 4000	**hPa**
Vapour pressure (at 50°C)	: N.D.	**hPa**
Relative density liquid phase (20°C)	: 1.2	
Solubility liquid phase	: Insoluble	
Soluble in	: No data available	
Relative vapour density	: N.D.	
Viscosity (at °C)	: N.D.	**Pa.s**
Partition coefficient n-octanol/water	: N.D.	
Evaporation rate		
ratio to butyl acetate	: N.D.	
ratio to ether	: N.D.	

9.3 Other information:

Melting point/melting range	: N.D.	**°C**
Auto-ignition point	: 235	**°C**
Saturation concentration	: N.D.	**g/m^3**
Specific conductivity	: N.D.	**pS/m**

10. Stability and reactivity

10.1 Conditions to avoid:
- Stable under normal conditions

10.2 Materials to avoid:
- Keep away from: heat sources, ignition sources

10.3 Hazardous decomposition products:
- Upon combustion CO and CO2 are formed and formation of metallic fumes

11. Toxicological information

11.1 Acute toxicity:

DIMETHYL ETHER:

LC50 inhalation rat	: 309	**mg/l/4 h**
LC50 inhalation rat	: 163991	**ppm/4 h**

ACETONE:

LD50 oral rat	:	5800	**mg/kg**
LD50 dermal rabbit	:	20000	**mg/kg**
LC50 inhalation rat	:	71	**mg/l/4 h**
LC50 inhalation rat	:	30000	**ppm/4 h**

XYLENE, mixture of isomers:

LD50 oral rat	:	> 3608	**mg/kg**

11.2 Chronic toxicity:

DIMETHYL ETHER:

Teratogenicity (MAK) : Group D

Low boiling point NAPHTHA, unspecified:

Carcinogenicity (MAC) : K

ACETONE:

Carcinogenicity (TLV) : A4

Teratogenicity (MAK) : Group D

XYLENE, mixture of isomers:

Carcinogenicity (TLV) : A4

Teratogenicity (MAK) : Group D

IARC classification : 3

11.3 Routes of exposure: inhalation, eyes and skin

11.4 Acute effects/symptoms:

AFTER INHALATION
EXPOSURE TO HIGH CONCENTRATIONS:
- Feeling of weakness
- Irritation of the respiratory tract
- Nausea
- Vomiting
- Headache
- CNS depression
- Dizziness
- Narcosis
- Excited/restless
- Drunkenness
- Disturbed motor response
- Respiratory difficulties
- Disturbances of consciousness

AFTER SKIN CONTACT
ON CONTINUOUS EXPOSURE/CONTACT:
- Dry skin
- Cracking of the skin

11.5 Chronic effects:
- Not listed in carcinogenicity class (IARC,EC,TLV,MAK)
- Not listed in mutagenicity class (EC,MAK)
- Not classified as toxic to reproduction (EC)

12. Ecological information

12.1 Ecotoxicity:

ZINC POWDER - zinc dust (stabilized):
- LC50 (96 h) : 0.14 mg/l (SALMO GAIRDNERI/ ONCORHYNCHUS MYKISS)
- EC50 (48 h) : 0.07 mg/l (DAPHNIA MAGNA)
- EC50 (96 h) : 0.03 mg/l (SELENASTRUM CAPRICORNUTUM)

DIMETHYL ETHER:
- LC50 (96 h) : >1000 mg/l (PISCES)
- LC50 (48 h) : >4400 mg/l (DAPHNIA MAGNA)

ACETONE:
- LC50 (96 h) : 5540 mg/l (SALMO GAIRDNERI/ ONCORHYNCHUS MYKISS)
- EC50 (48 h) : 39 mg/l (DAPHNIA MAGNA)
- EC50 (96 h) : 7000 mg/l (SELENASTRUM CAPRICORNUTUM)

XYLENE, mixture of isomers:
- LC50 (96 h) : 3.77 mg/l (SALMO GAIRDNERI/ ONCORHYNCHUS MYKISS)
- EC50 (48 h) : 7.4 mg/l (DAPHNIA MAGNA)
- EC50 (72 h) : 10 mg/l (SKELETONEMA COSTATUM)

- **Effect on waste water purification** : No data available

12.2 Mobility:
- **Volatile organic compounds (VOC):** 57%
- Insoluble in water

For other physicochemical properties see heading 9

12.3 Persistence and degradability:

- **Biodegradation BOD_5** : N.D. **% ThOD**
- **Water** : No data available
- **Soil** : **T ½** N.D. **days**

12.4 Bioaccumulative potential:

- **log P_{ow}** : N.D.
- **BCF** : N.D.

12.5 Results of PBT assessment:
- Not applicable, on the basis of the available data.

12.6 Other adverse effects:

- **WGK** : 2 (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)
- **Effect on the ozone layer** : Not dangerous for the ozone layer (1999/45/EC)
- **Greenhouse effect** : No data available

13. Disposal considerations

13.1 Provisions relating to waste:
- Waste material code (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 08 01 11* (waste paint and varnish containing organic solvents or other dangerous substances)
- LWCA (the Netherlands): KGA category 06
- Hazardous waste (91/689/EEC)
- Remove waste in accordance with local and/or national regulations

13.2 Disposal methods:
- Recycle/reuse
- Should not be landfilled with household waste
- Specific treatment
- Do not discharge into drains or the environment

13.3 Packaging:
- Waste material code packaging (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 15 01 10* (packaging containing residues of or contaminated by dangerous substances)

14. Transport information

14.1 Classification of the substance in compliance with UN Recommendations

UN number	:	1950
CLASS	:	2.1
SUB RISKS	:	-
PACKING GROUP	:	-

14.2 ADR (transport by road)

CLASS	:	2
PACKING GROUP	:	
CLASSIFICATION CODE	:	5F
DANGER LABEL TANKS	:	-
DANGER LABEL PACKAGES	:	2.1
PROPER SHIPPING NAME	:	

Aerosols

14.3 RID (transport by rail)

CLASS	:	2
PACKING GROUP	:	
CLASSIFICATION CODE	:	5F
DANGER LABEL TANKS	:	-
DANGER LABEL PACKAGES	:	2.1
PROPER SHIPPING NAME	:	

Aerosols

14.4 ADNR (transport by inland waterways)

CLASS	:	2
PACKING GROUP	:	
CLASSIFICATION CODE	:	5F
DANGER LABEL TANKS	:	-
DANGER LABEL PACKAGES	:	2.1

14.5 IMDG (maritime transport)

CLASS	:	2.1
SUB RISKS	:	-
PACKING GROUP	:	-
MFAG	:	-
EMS	:	F-D, S-U
MARINE POLLUTANT	:	P

14.6 ICAO (air freight)

CLASS	:	2.1
SUB RISKS	:	-
PACKING GROUP	:	-
PACKING INSTRUCTIONS PASSENGER AIRCRAFT	:	203/Y203
PACKING INSTRUCTIONS CARGO AIRCRAFT	:	203

14.7 Special precautions : None

14.8 Limited quantities (LQ) :

When substances and their packaging meet the conditions established by ADR/RID/ADNR in chapter 3.4, only the following prescriptions shall be complied with:
each package shall display a diamond-shaped figure with the following inscription:
- 'UN 1950'
or, in the case of different goods with different identification numbers within a single package:
- the letters 'LQ'

15. Regulatory information

15.1 EU Legislation:

Labelling in accordance with EC directives 67/548/EEC, 1999/45/EC and 2006/8/EC

Extremely flammable

Dangerous for the environment

R50/53	:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R66	:	Repeated exposure may cause skin dryness or cracking
R67	:	Vapours may cause drowsiness and dizziness
S23	:	Do not breathe spray
S26	:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S29/56	:	Do not empty into drains, dispose of this material and its container to hazardous or special waste collection point
S(46)	:	(If swallowed, seek medical advice immediately and show this container or label)
S51	:	Use only in well-ventilated areas
S61	:	Avoid release to the environment. Refer to special instructions/safety data sheets.

Keep away from sources of ignition - No smoking.
Keep out of the reach of children.
Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C.
Do not pierce or burn after use.
Do not spray on a naked flame or any incandescent material.

15.2 National provisions:

the Netherlands:
Waterbezwaarlijkheid: 4

Germany:
WGK : 2 (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)

16. Other information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

N.A. = NOT APPLICABLE
N.D. = NOT DETERMINED
(*) = INTERNAL CLASSIFICATION (NFPA)

PBT-substances = persistent, bioaccumulative and toxic substances

Exposure limits:

TLV	:	Threshold Limit Value - ACGIH US
WEL	:	Workplace Exposure Limits - United Kingdom
TRGS 900	:	Technische Regel für Gefahrstoffe 900 (Arbeitsplatzgrenzwerte) - Germany
MAK	:	Maximale Arbeitsplatzkonzentrationen - Germany
GWBNL	:	Grenswaarde voor blootstelling - the Netherlands
GWKNL	:	Grenswaarde korte duur - the Netherlands
VME	:	Valeurs limites de Moyenne d'Exposition - France
VLE	:	Valeurs limites d'Exposition à court terme - France
GWBB	:	Grenswaarde beroepsmatige blootstelling - Belgium
GWK	:	Grenswaarde kortstondige blootstelling - Belgium
EC	:	Indicative occupational exposure limit values

I : Inhalable fraction = **T** : Total dust = **E** : Einatembarer Aerosolanteil
R : Respirable fraction = **A** : Alveolengängiger Aerosolanteil/Alveolar dust
C : Ceiling limit

a:	aerosol		**r:**	rook/Rauch	(fume)
d:	damp	(vapour)	**st:**	stof/Staub	(dust)
du:	dust		**ve:**	vezel	(fibre)
fa:	Faser	(fibre)	**va:**	vapour	
fi:	fibre		**om:**	oil mist	
fu:	fume		**on:**	olienevel/Ölnebel	(oil mist)
p:	poussière	(dust)	**part:**	particles	

Chronic toxicity:

K	:	List of the carcinogenic substances and processes - The Netherlands

Full text of any R-phrases referred to under headings 2 and 3:

R10	:	Flammable
R11	:	Highly flammable
R12	:	Extremely flammable
R20/21	:	Harmful by inhalation and in contact with skin
R36	:	Irritating to eyes
R37	:	Irritating to respiratory system
R38	:	Irritating to skin
R50/53	:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53	:	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	:	Harmful: may cause lung damage if swallowed
R66	:	Repeated exposure may cause skin dryness or cracking
R67	:	Vapours may cause drowsiness and dizziness