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1. * Section 1. Identification of the substance/mixture and of the company/undertaking:
1.1. Product identifier: ZN SPRAY – 1 02.0003
1.2. Relevant identified uses of the substance or mixture and uses advised against: Zink spray application Sectors of use: SU21 Consumer uses: Private households/ general public/ consumers) SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen) SU3 Industrial uses: Uses of substances as such or in preparations* at industrial sites Product category: PC9a Coatings and paints, thinners, paint removers Process categories: PROC11 Non industrial spraying PROC7 Industrial spraying Environmental release category: ERC8a Wide dispersive indoor use of processing aids in open systems ERC8d Wide dispersive outdoor use of processing aids in open systems Application of the substance / the mixture: Spray varnish
1.3. Details of the supplier of the safety data sheet Identification of manufacturer/Supplier: RETECH, s.r.o. Vackova 1541/4 150 00 Praha-5 Stodůlky Telephone/Fax: +420 327 596 128, +420 327 596 428 Information: info@retech.cz
1.4. Emergency telephone number: RETECH Suchdol 212, Suchdol u Kutné Hory Tel.+420 327 596 128 (7.30-16.00 hour) Toxicology information number, Na bojišti 1, 128 08 PRAHA 2 Tel. +420 224 919 293, +420 224 915 402 (24 hours a day)
2. * Section 2. Hazard identification:
2.1. Classification of the substance or mixture: Classification according to Regulation (EC) No 1272/2008 [CLP]: Flam. Aerosol 1 H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated. Eye Irrit. 2 H319 Causes serious eye irritation. STOT SE 3 H336 May cause drowsiness or dizziness. Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects. Classification according to Directive 67/548/EEC or Directive 1999/45/EC: F+ Extremely flammable R12 Extremely flammable Xi - Irritant R36 Reizt die Augen. N - Dangerous for the environment R51/53 Toxic to aquatic organisms, may cause long-term effects in aquatic environment. R66 Wiederholter Kontakt kann zu spröder oder rissiger Haut führen. R67 Vaporous may cause drowsiness and dizziness.
2.2. Label elements: Labelling according to Regulation (EC) No 1272/2008 [CLP]: GHS02 GHS07 GHS09  Signal word: Danger Hazard statements: H222 Extremely flammable aerosol.

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

Precautionary statement:

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251 Do not pierce or burn, even after use.
P211 Do not spray on an open flame or other ignition source.
P273 Avoid release to the environment.
P271 Use only outdoors or in a well-ventilated area.
P261 Avoid breathing mist/vapours/spray.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P312 IF INHALED: Call a POISON CENTER/doctor if you feel unwell.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391 Collect spillage.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
P403 Store in a well-ventilated place.
P501 Dispose of contents/container in accordance with national regulation.

Supplemental Hazard information:

EUH066 Repeated exposure may cause skin dryness or cracking.

Contained dangerous substances:

67-64-1 Acetone

2.3. Other hazards:

Results of PBT and vPvB assessment:

PBT: Not applicable

vPvB: Not applicable

3. * Section 3. Composition/information on ingredients:

3.2. Mixtures:

Description of the mixture: Active substance with propellant

Hazardous ingredients:

CAS: 67-64-1 EINECS: 200-662-2 Reg.nr.: 01-2119471330-49	Acetone F R11; Xi R36; R66, R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066	25-<50%
CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-32	Butane (containing <0,1% butadiene (203-450-8)) F+ R12 Flam. Gas 1, H220; Press. Gas, H280	10-<25%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-2119486944-21	Propane F+ R12 Flam. Gas 1, H220; Press. Gas, H280	10-<25%
CAS: 123-86-4 EINECS: 204-658-1	n-Butyl acetate R10, R66, R67 Flam. Liq. 3, H226; STOT SE 3, H336; EUH066	3-<10%
CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	Xylene (mix) R10; Xn R20/21; Xi R38 Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	3-<10%

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CAS: 7440-66-6 EINECS: 231-175-3	Zinc powder-zinc dust (pyrophoric) F R15, R17 ; N 50/53 Pyr. Sol. 1, H250 ; Water-react. 2, H261 ; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	2.5-<3%
CAS: 7429-90-5 EINECS: 231-072-3	Aluminium powder (stabilized) F R11 Flam. Sol. 1, H228	1.0-<2.5%
CAS: 100-41-4 EINECS: 202-849-4	Ethylbenzene F R11 ; Xn R20 Flam. Liq. 2, H225; Acute Tox. 4, H332	1.0-<2.5%
CAS: 64742-95-6 EINECS: 265-199-0	Solvent naphtha (petroleum), light arom. (contains less than 0.1% benzene) Xn R65; Xi R37; N R51/53 R10, R66, R67 Flam. Liq. 3, H226; Asp. Tox.1, H304	0.3-<1%
CAS: 7779-90-0 EINECS: 231-944-3	Trizinc bis(orthophosphate) N R50/53 Aquatic Acute 1, H400; ; Aquatic Chronic 1, H410	0.3-<1%
CAS: 1314-13-2 EINECS: 215-222-5	Zinc oxide N R50/53 Aquatic Acute 1, H400; ; Aquatic Chronic 1, H410	0.1-<0.25%

For full text of H-statements and R-phrases: see SECTION 16.

4. Section 4. First aid measures:

- 4.1. Description of first aid measures:
 After inhalation: Move the exposed person to fresh air. Consult a doctor in case of symptoms.
 After skin contact: Wash with water and soap and rinse thoroughly. Generally the product does not irritate the skin.
 After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
 After swallowing: Do not induce vomiting. Rinse mouth with plenty of water. Call for a doctor immediately.
- 4.2. Most important symptoms and effects, both acute and delayed: No further relevant information available.
- 4.3. Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5. Section 5. Fire fighting measures:

- 5.1. Extinguishing media:
 Suitable extinguishing agents: Water haze, Fire-extinguishing powder, Carbon dioxide, Alcohol resistant foam
 For safety reasons unsuitable extinguishing agents: Water with full jet.
- 5.2. Special hazards arising from the substance or mixture:
 No further relevant information available.
- 5.3. Advice for firefighters: Wear protective clothing and self-contained breathing apparatus.

6. Section 6. Accidental release measures:

- 6.1. Personal precautions, protective equipment and emergency procedures:
 Wear protective equipment see Section 8.2. Keep unprotected persons away. Ensure adequate ventilation.
- 6.2. Environmental precautions:
 Do not allow to enter sewage system, surface or ground water.
 Inform respective authorities in case of seepage into water course or sewage system.
- 6.3. Methods and material for containment and cleaning up:
 Ensure adequate ventilation.
 Dispose contaminated material as waste according to Section 13.
- 6.4. Reference to other sections:
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

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7. Section 7. Handling and storage:

- 7.1. Information for safe handling: Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- Measures to prevent fire: Do not spray onto a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.
- 7.2. Conditions for safe handling, including any incompatibilities:
Technical measures and storage conditions: Store in a cool location.
Observe official regulations on storing packaging with pressurized containers.
Requirements for storage rooms and vessels: Observe official regulations on storing packaging with pressurized containers.
Further information on storage conditions: Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- 7.3. Specific end use(s): No further relevant information available.

8. * Section 8. Exposure controls and personal protection:

8.1 Control parameters:

Components with limit values that require monitoring at the workplace:

WEL (UK)	Long-term (8h TWA)		Short-term (STEL)		
67-64-1 Acetone	1210 mg/m ³	500 ppm	3620 mg/m ³	1500 ppm	
106-97-8 Butane	1450 mg/m ³	600 ppm	1810 mg/m ³	750 ppm	*Carc (if more than 0.1% of buta-1.3-diene)
123-86-4 n-Butyl acetate	724 mg/m ³	150 ppm	966 mg/m ³	200 ppm	
1330-20-7 Xylene (mix)	220 mg/m ³	50 ppm	441 mg/m ³	100 ppm	*Sk; BMGV
100-41-4 Ethylbenzene	441 mg/m ³	100 ppm	552 mg/m ³	125 ppm	*Sk

* BMGV - Biological monitoring guidance values

Carc - Capable of causing cancer and/or heritable genetic damage

Sk - Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

OEL (EU)	Long-term (8h TWA)		Short-term (STEL)		
67-64-1 Acetone	1210 mg/m ³	500 ppm			
1330-20-7 Xylene (mix)	221 mg/m ³	50 ppm	442 mg/m ³	100 ppm	Skin
100-41-4 Ethylbenzene	442 mg/m ³	100 ppm	884 mg/m ³	200 ppm	Skin

DNELs

Oral	DNEL Long term-systemic	62 mg/kg bw/day (Consumer)
Dermal	DNEL Long term-systemic	62 mg/kg bw/day (Consumer) 186 mg/kg bw/day (Worker)
Inhalative	DNEL Acute-local	2400 mg/m ³ (Worker)
	DNEL Long term-systemic	200 mg/m ³ (Consumer) 1210 mg/m ³ (Worker)

PNECs

PNEC Freshwater sediment	30.4 mg/kg (Undefined)
PNEC Marine water	1.06 mg/l (Undefined)
PNEC Marine water sediment	3.04 (Undefined)
PNEC Soil	29.5 mg/kg (Undefined)

Biological limit values

	BMGV
1330-20-7 Xylene (mix)	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid

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Additional information: The lists that were valid during the compilation were as basis.

8.2 Exposure controls:
Personal protection equipment:
Breathing equipment: Use suitable respiratory protective device in case of insufficient ventilation. In case of brief exposure or low pollution use respiratory filter device (filter AX/P2). In case of intensive or longer exposure use self-contained respiratory protective device.
Eye protection: Tightly sealed goggles
Protection of hands: Protective gloves
Solvat resistant gloves
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Material of gloves: Nitrile rubber, NBR
Penetration time of glove material: The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Protection of skin: Protective suit.

8.3. General protective and hygienic measures: Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes.

9. * Section 9. Physical and chemical properties:

Appearance:
Form: Aerosol
Colour: Silver
Odour: Solvent-like
Odour threshold: Not determined
Value pH: Not determined
Melting point/freezing point: Not determined
Initial boiling point/boiling range: -44°C
Flash point: -97°C
Evaporation rate: Not applicable
Flammability (solid, gas): Not applicable
Explosive properties: The product is not explosive. However, formation of explosive air/steam mixtures is possible.
Explosive limits: lower: 1.0 Vol %
upper: 13.0 Vol %
Vapour pressure at 20°C: 4 Bar
Vapour density at 20 °C: Not determined
Density at 20°C: 0.733 g/cm³
Relative density: Not determined
Solubility in/miscibility with:
- water: Not miscible or difficult to mix.
Partition coefficient (n-octanol/water): Not determined
Ignition temperature: 365°C
Decomposition temperature: Not determined
Self-igniting: The product is not selfigniting.
Viscosity: Not determined
Oxidising properties: Not determined

9.2. Other information:
Organic solvents: 86.8%
Solid content: 13.2%
VOC-EU: 645.9 g/l

10. Section 10. Stability and reactivity:

10.1. Reactivity: No further relevant information available.
10.2. Chemical stability: No decomposition if used according to specifications.

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- 10.3. Possibility of hazardous reactions: No dangerous reactions known.
 10.4. Conditions to avoid: No further relevant information available.
 10.5. Incompatible materials: No further relevant information available.
 10.6. Hazardous products of decomposition: No dangerous decomposition products known.

11. * Section 11. Toxicological information:

11.1 Information on toxicological effects:

Acute toxicity:

LD/LC50 values relevant for classification:

67-64-1 Acetone

Oral LD50 5800 mg/kg (Rat)

Dermal LD50 7800 mg/kg (Rabbit)

Inhalative LC50/4 h >20 mg/l (Rat)

1330-20-8 Xylene (mix)

Oral LD50 4300 mg/kg (Rat)

Dermal LD50 2000 mg/kg (Rabbit)

7440-66-6 Zinc powder-zinc dust (pyrophoric)

Oral LD50 >2000 mg/kg (Rat)

LDLo 338 mg/kg (Duck)

100-41-4 Ethylbenzene

Oral LD50 3500 mg/kg (Rat)

Dermal LD50 17800 mg/kg (Rabbit)

Inhalative LD50 >2000 mg/kg (Rat)

7779-90-0 Trizinc bis(orthophosphate)

Oral LD50 5000 mg/kg (Rat)

Irritation: on the skin: Long-term or repeated contact may cause skin irritation.

on the eye: Irritating effect.

Corrosivity: Not corrosive.

Sensitization: No sensitizing effect known.

Repeated dose toxicity: No further relevant information available.

Carcinogenicity: No further relevant information available.

Mutagenicity: No further relevant information available.

Toxicity for reproduction: No further relevant information available.

Other information: No further relevant information available.

12. * Section 12. Ecological information:

12.1. Toxicity:

Aquatic toxicity:

67-64-1 Acetone

EC50 8800 mg/l (Daphnia magna)

8300 (96h) mg/l (Fish)

1330-20-8 Xylene

EC50 (48h) 3.2-9.5 mg/l (Daphnia magna)

LC50 (96h) 8.9-16.4 mg/l (Pimephales promelas)

7440-66-6 Zinc powder-zinc dust (pyrophoric)

EC50 (48h) 2.8 mg/l (Daphnia magna)

LC50 0.57 mg/l (Daphnia magna)

0.24 mg/l (Oncorhynchus mykiss (96h))

0.238 mg/l (Pimephales promelas (96 h))

100-41-4 Ethylbenzene

EC50 >100 mg/l (Daphnia magna)

LC50 >10 mg/l (Fish (96h))

7779-90-0 Trizinc bis(orthophosphate)

EC (48h) 2.34 mg/l (Daphnia magna)

ErC(50) (72h) 0.14 mg/l (Desmodemus subspicatus)

LC50 (96h) 0.14 mg/l (Oncorhynchus mykiss)

12.2. Persistence and degradability: No further relevant information available.






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- 12.3. Bioaccumulative potential: No further relevant information available.
 12.4. Mobility in soil: No further relevant information available.
 Ecotoxic effects:
 Remark: Toxic for fish.
 Additional ecological information:
 General notes:
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms.
 12.5. Results of PBT and vPvB assessment:
 PBT: Not applicable
 vPvB: Not applicable
 12.6. Other adverse effects: No further relevant information available.

13. Section 13. Disposal considerations:

- 13.1 Waste treatment methods:
 Product: Must not be disposed together with household garbage. Do not allow product to reach sewage system.
 Dispose in safe manner in accordance with local/national regulation.
 Uncleaned packagings: Disposal must be made according to official regulations.

14. Section 14. Transport information:

- 14.1. UN-Number:
 ADR, IMDG, IATA UN1950
- 14.2. UN proper shipping name:
 ADR 1950 AEROSOLS, ENVIROMENTALLY HAZARDOUS
 IMDG AEROSOLS (ZINC POWDER, Solvent naphtha (petroleum), light arom. Benzene<0.1%), MARINE POLLUTANT
 IATA AEROSOLS, flammable
- 14.3. Transport hazard classes:
 ADR
- | | | |
|--------------|---|---|
| |  |  |
| Class | 2 5F Gases | |
| Hazard label | 2.1 | |
| IMDG |  |  |
| Class | 2.1 | |
| Hazard label | 2.1 | |
| IATA |  | |
| Class | 2.1 | |
| Hazard label | 2.1 | |
- 14.4. Packaging group:
 ADR, IMDG, IATA Void
- 14.5. Enviromental hazards:
 Product contains environmentally hazardous substances:
 zinc powder -zinc dust (pyrophoric)
 Marine pollutant: Yes
 Symbol (fish and tree)
 Special marking (ADR): Symbol (fish and tree)
- 14.6. Special precautions for user: Warning: Gases
 Danger Code (Kemler): Not determined
 EMS Number: F-D, S-U
 Segregation groups: Heavy metals and their salts (including their organometallic compounds)

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14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable
 Transport/ Additional information: ADR
 Limited quantities (LQ) 1L
 Transport category 2
 Tunnel restriction code D
 UN "Model Regulation": UN1950 , AEROSOLS, ENVIROMENTALLY HAZARDOUS, 2.1

15. * Section 15. Regulatory information:

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

Used legislation:

Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), as amended
 Directive 67/548/EEC and Directive 1999/45/EC on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances, as amended
 Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (CLP), as amended
 Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents, as amended

National regulations:

Danish MAL Code 4-3

15.2. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. * Section 16. Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant R-phrases and H-statements:

R10 Flammable.
 R11 Highly flammable.
 R12 Extremely flammable.
 R15 Reagiert mit Wasser unter Bildung hochentzündlicher Gase.
 R17 Selbstentzündlich an der Luft.
 R20 Gesundheitsschädlich beim Einatmen.
 R20/21 Gesundheitsschädlich beim Einatmen und bei Berührung mit der Haut.
 R36 Reizt die Augen.
 R37 Reizt die Atmungsorgane.
 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.
 H220 Extremely flammable gas.
 H225 Highly flammable liquid and vapour.
 H226 Flammable liquid and vapour.
 H250 Catches fire spontaneously if exposed to air.
 H260 In contact with water releases flammable gases which may ignite spontaneously.
 H280 Contains gas under pressure; may explode 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.

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H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

ADR Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG International Maritime Code for Dangerous Goods
IATA International Air Transport Association
ICAO International Civil Aviation Organization
GHS Globally Harmonized System of Classification and Labelling of Chemicals
EINECS European Inventory of Existing Commercial Chemical Substances
CAS Chemical Abstracts Service (division of the American Chemical Society)
MAL-Code Måleteknisk Arbejdshygiejnisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)
WEL Workplace exposure limits
OEL Occupational Exposure Limit
STEL Short-term exposure limit
TWA Time-Weighted Average
LC50 Lethal concentration, 50 percent
LD50 Lethal dose, 50 percent
EC50 Effective concentration, 50 percent
DNEL Derived No-Effect Level
PNEC Predicted No-Effect Concentration
LOEC Lowest Observed Effect Concentration
NOEC No Observed Effect Concentration
BMGV Biological monitoring guidance values
PBT Persistent Bioaccumulative Toxic
vPvB Very Persistent, Very Bioaccumulative
VOC Volatile Organic Compounds

The product is labeled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

***Compared to the last version the data has been changed.**