

Safety Data Sheet

1. Products and company identification

Product name	ROVAL SILVER Zinc Rich Spray
Supplier Name	SHANGHAI ROVAL ZINC RICH PAINT CORPORATION
Supplier Address	NO.393 Fenggong RD, Jiading Malu Shanghai, China
Telephone number	+86-21-69156584
FAX	+86-21-69156593
Emergency Telephone number	+86-400-6267-911
E-mail	sh-info@roval.cn
Recommended use	Galvanizing Repair and Anti-corrosion of steel
Date of revision	Aug 4 th , 2022

2. Hazards identification

2.1 Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Flammable aerosol: Category 2

HEALTH HAZARDS

Acute toxicity inhalation (vapors): Category 4

Skin corrosion/irritation: Category 2

Serious eye damage/Eye irritation: Category 2

Carcinogenicity: Category 1

Reproductive toxicity: Category 1

STOT: Single exposure: Category 1 (central nerve system, respiratory system, liver, kidney)

Category 2 (organs)

Repeated exposure: Category 1 (nerve system, respiratory system)

Category 2 (central nerve system, kidney)

ENVIRONMENTAL HAZARDS:

Acute aquatic toxicity: Category 1

Chronic aquatic toxicity: Category 1

(Note) GHS classification without description: Not classified/Classification not possible

2.2 Label elements



Signal word: DANGER

HAZARD STATEMENT

H223 Flammable aerosol

H229: Pressurized container: may burst if heated

H315: Causes skin irritation

H319: Causes serious eye irritation

H332: Harmful if inhaled

H351: Suspected of causing cancer

H360: May damage fertility or the unborn child

H362: May cause harm to breast-fed children

H370: Causes damage to organs

H372: Causes damage to organs through prolonged or repeated exposure

H410: Very toxic to aquatic life with long-lasting effects.

PRECAUTIONARY STATEMENT

Prevention

P201: Obtain special instruction before use.

P202: Do not handle until all safety precautions have been read and understood.

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P211: Do not spray on an open flame or other ignition source.

P240: Ground/bond container and receiving equipment.

P251: Do not pierce or burn, even after use.

P260: Do not breathe dust/fumes/gas/mist/vapors/spray.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+312: IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P308+313: If exposed: Call a POISON CENTER or doctor/physician.

P370+378: In case of fire: Use carbon dioxide/dry powder/foam/dry sand to extinguish.

Storage

P410+411: Protect from sunlight. Store at temperatures not exceeding 40°C/104°F.

P405: Store locked up.

Disposal

P501: Dispose of contents/container in accordance with local/national regulation.

3. Composition /information on ingredients

Mixture / Substance selection: Mixture

Chemical identity	% Weigh	CAS number
Aluminum	1~5	7429-90-5
Toluene	17.8	108-88-3
Xylene	4.9	1330-20-7
Ethyl benzene	4.6	100-41-4
Ethanol	<1.0	64-17-5
Mineral spirit	1~5	8052-41-3
Dimethyl ether	45~50	115-10-6
Zinc	20~25	7440-66-6
Zinc oxide	<5.0	1314-13-2

4. First-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor / physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water / shower.

Wash with plenty of soap and water.

If skin irritation occurs: Get medical advice / attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses. If present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice / attention.

IF SWALLOWED

Do NOT induce vomiting.

Immediately call a POISON CENTER or doctor / physician.

5. Fire-fighting measures

5.1 Extinguishing media

In case of fire, use carbon dioxide/dry powder/foam/dry sand to extinguish.

Do not use direct water jet.

5.2 Advice for firefighters

Evacuate non-essential personnel to safe area.

Eliminate all ignition sources if safe to do so.

Cool container with water spray.

Wear fire/flame resistant/retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

6. Accidental release measures

6.1 Personnel precautions, protective equipment and emergency procedures

Evacuate area.

Keep unauthorized personnel away.

Wear an air-supplied respirator for handling a spill at a poor ventilated workplace.

Wear proper protective equipment.

Eliminate all sources of ignition and ventilate the area.

6.2 Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

6.3 Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Fill the disposal into labelled, closable containers.

6.4 Preventive measures for secondary accident

Collect spillage.

Prepare extinguishers before catching fire.

Stop leak if safe to do so.

7. Handling and storage

7.1 Precautions for safe handling

Avoid breathing gas/mist/vapors/spray.

Keep away from heat/sparks/open flames/hot surfaces. -No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Exhaust/ventilator should be available.

Avoid contact with skin/eyes.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/eye protection/face protection.

Use personal protective equipment as required.

7.2 Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

8. Exposure controls / personal protection

8.1 Control parameters

Chemical identity	ACGIH_TLV (2016)
Aluminum	1mg/m ³ (TWA)
Toluene	20ppm (TWA)
Xylene	100ppm (TWA)
Ethyl benzene	20ppm (TWA)
Ethanol	1000ppm (STEL)
Zinc oxide	2mg/m ³ (TWA)

8.2 Exposure controls

Appropriate engineering controls

Exhaust/ventilator should be available.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection

Hand protection

Wear protective gloves. Recommended material: impermeable or chemical resistant rubber

Eye protection

Wear safety glasses with side -shields or chemical safety goggle.

Skin and body protection

Wear protective clothing.

Wear impervious clothing and boots in case of repeated or prolonged treatment.

9. Physical and chemical properties

Physical state	: Liquid
Color	: Silver
Odor	: Smells like solvent
Boiling point	: -24.8°C ~144.4°C
Flash point	: Paint liquid 17.1°C, propellant -41.1°C
Auto-ignition temperature	: 230°C
Lower and upper explosion limit/flammability limit:	
Lower explosion limit	: 0.8vol%
Upper explosion limit	: 26.7vol%
Vapor pressure	: 506.6kPa (20.8°C)
Specific Gravity	: 0.92

10. Stability and Reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

Stable under normal storage/handling conditions.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame).

10.5 Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological Information

Acute Toxicity

Material	Oral	Category	Dermal	Category
Aluminum	Not possible		Not possible	
Toluene	5.0g/kg	Not classified	12.0g/kg	Not classified
Xylene	3.5g/kg	Not classified	Not possible	
Ethyl benzene	3.5g/kg	Not classified	15.4g/kg	Not classified
Mineral spirit	>5.0g/kg	Not classified	Not possible	
Ethanol	>6.2g/kg	Not classified	>20.0g/kg	Not classified
Dimethyl ether	Not possible		Not possible	
Zinc	>2.0g/kg	Not classified	Not possible	
Zinc oxide	>5.0g/kg	Not classified	>5.0g/kg	Not classified

Material	Gas	Category	Vapor	Category	Dust / Mist	Category
Aluminum	Not applicable		Not possible		Not possible	
Toluene	Not applicable		4000ppm	4	Not possible	
Xylene	Not applicable		6700ppm	4	Not possible	
Ethyl benzene	Not applicable		4000ppm	4	Not possible	
Mineral spirit	Not applicable		Not possible		Not possible	
Ethanol	Not applicable		63000ppm	Not classified	Not possible	
Dimethyl ether	164000ppm	Not classified	Not applicable		Not applicable	
Zinc	Not applicable		Not possible		>5.41mg/L	Not classified
Zinc oxide	Not applicable		Not applicable		>5.7mg/L	Not classified

Material	Skin corrosion/Irritation	Eye damage/Irritation	Respiratory sensitization	Skin sensitization
Aluminum	Not possible	Not possible	Not possible	Not possible
Toluene	2	2B	Not possible	Not classified
Xylene	2	2A	Not possible	Not possible
Ethyl benzene	3	2B	Not possible	Not possible
Mineral spirit	2	Not classified	Not possible	Not classified
Ethanol	Not classified	2B	Not possible	Not possible
Dimethyl ether	Not possible	Not possible	Not possible	Not possible
Zinc	Not classified	2B	Not possible	Not classified
Zinc oxide	Not classified	Not classified	Not possible	Not classified

Material	Germ cell mutagenicity	Carcinogenicity	Reproductive toxicity
Aluminum	Not possible	Not possible	Not possible
Toluene	Not classified	Not possible	1A
Xylene	Not classified	Not classified	1B
Ethyl benzene	Not classified	2	1B
Mineral spirit	Not classified	Not possible	Not classified
Ethanol	Not possible	1A	1A
Dimethyl ether	Not possible	Not possible	Not possible
Zinc	Not possible	Not possible	Not possible
Zinc oxide	Not possible	Not possible	2

Material	STOT (single)	STOT (Chronic)	Aspiration Hazard
Aluminum	Not possible	1 (lung)	Not possible
Toluene	1 (central nerve system)	1 (central nerve system, liver)	1
	3 (respiratory tract irritation, anesthetic action)		
Xylene	1 (respiratory system, liver, central nerve system, kidney)	1 (respiratory system, nerve system)	2
	3 (anesthetic action)		
Ethyl Benzene	2 (central nerve system)	Not possible	1
	3 (respiratory tract irritation)		
Mineral spirit	3 (respiratory tract irritation, anesthetic action)	2 (liver, testicle)	1
Ethanol	3 (respiratory tract irritation, anesthetic action)	1 (liver)	Not possible
		2 (central nerve system)	
Dimethyl ether	3 (anesthetic action)	Not possible	Not possible
Zinc	Not possible	Not possible	Not possible
Zinc Oxide	1 (respiratory system, systemic toxicity)	Not possible	Not possible

12. Ecological Information

12.1 Ecotoxicity

Material	Acute aquatic toxicity	Chronic aquatic toxicity	Hazard to Ozone
Aluminum	Not possible	4	Not possible
Toluene	2	3	Not possible
Xylene	2	2	Not possible
Ethyl benzene	1	Not classified	Not possible
Mineral spirit	1	1	Not possible
Ethanol	Not classified	Not classified	Not possible
Dimethyl ether	Not classified	Not classified	Not possible
Zinc	1	1	Not possible
Zinc oxide	1	1	Not possible

12.2 Persistence and degradative

Xylene does not have rapid degradative (BOD: 39%)

Ethyl benzene has rapid derivative, stripping from water (BOD: 81-126%)

Mineral spirit does not have rapid degradative (BOD: 12-13%)

12.3 Bioaccumulation potential

Xylene may be low potential (log Kow=3.16)

Ethyl Benzene may be low potential (log Kow=3.15)

Mineral spirit: no data

13. Disposal considerations

Waste treatment methods

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

Dispose to an authorized waste collection point.

14. Transport information

UN No. : 1950

UN Class : 2.1 (Flammable gas)

PG : ---

15. Regulatory information

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

Other information is not available.

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

16. Other information

International Chemical Safety Cards (ICSCs)/ Hazardous Substances Data Bank (HSDB)

MSDS from The Japan Paint Manufacturers Association (JPMA)

MSDS from manufacturers of raw materials

This data sheet is created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.