SINCE 1955
ROVAL

Safety Data Sheet

[Mixture (Paint)]

1． Products and company identification

Product name	ROVAL SILVER ECOTYPE
Supplier	Roval Corporation
Address	6-41-1, Ikuno, Katano, Osaka
Section in charge	Technical service department
Phone number	072-892-7791
Fax number	072-892-6391
e-mail address	jp-info@roval-group.com
Emergency Phone Number	072-892-9955
Preparation, revision, and confirmation	Feb. 8, 2021
Product type	One-component organic zincrich paint (high-concentration zinc dust paint)
Recommended use	Anti-corrosion of steel/iron

2． HAZARDS IDENTIFICATION

[GHS Classification]

PHYSICAL HAZARDS	Flammable Liquid	Category 2			
HEALTH HAZARDS					
Acute toxicity	Oral	Dermal	Inhalation (Gas)	Inhalation (Vapors)	Inhalation (Dust/Mist)
	Not classified	Not classified	Classification not possible	Classification not possible	Not classified
	Skin Corrosion/ Irritation	Serious eye damage/ irritation	Respiratory sensitisation (Solid/Liquid)	Respiratory sensitisation (Gas)	Skin sensitisation
	Not classified	Category 2	Classification not possible	Classification not possible	Not classified
	Germ Cell Mutagenicity	Carcinogenicity	Reproductive toxicity	Effects on or via lactation	
	Classification not possible	Classification not possible	Classification not possible	Classification not possible	
TOST (Single exposure)	Category 1 ———		Category 2 respiratory system ,systemic toxicity	Category 3 ———	
TOST (Repeated exposure)	Category 1 ———		Category 2 respiratory system		

Aspiration hazard	Hazardous to the aquatic environment (Acute)	Hazardous to the aquatic environment (Chronic)	Hazardous to the ozone layer
Classification not possible	Category 1	Category 1	Classification not possible

[GHS Symbols]

Pictogram

Signal word DANGER

Hazard statement

・Highly flammable liquids and vapors ・Intense eye irritation ・May cause damage to organs

・Very strong toxicity to aquatic organisms ・Very strong toxicity to aquatic organisms due to long-term continuous effects

・Causes damage to organs through prolonged or repeated exposure

Precautionary Statement:

[SAFETY MEASURES]

- Obtain special instruction before use.
- Do not handle until all safety precautions have been read and understood.
- Keeping away from ignition sources, such as heat/sparks/open flames/ hot surfaces. No smoking.
- Keep container tightly closed.
- Ground container and receiving equipment.
- Use explosion-proof electrical/ventilating/light/equipment.
- Use non-sparking tools.
- Take precautionary measures against static discharge.
- Wash hands thoroughly after handling.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.

[FIRST AID]

- IF ON SKIN or HAIR: Remove all contaminated clothing immediately Rinse skin with water/shower.
- IF IN EYES: Rinse cautiously with water for several minutes.
  If the contact lens is attached and can be easily removed, remove it. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use carbon dioxide, foam, powder, dry sand, or atomized reinforcing liquid to extinguish the fire.
- Collect spillage.

[STORAGE]

- Store in well-ventilated place. Place in a cool place.

[DISPOSAL]

- Appropriately dispose of the contents/containers in accordance with laws and regulations.

3. Composition/information on ingredients

Substance/Mixture: Mixtures

General product description: Paint

Substance name	Ingredient	CAS No.
Aluminum	1 ~ 5	7429-90-5
Zinc	45 ~ 50	7440-66-6
Zinc oxide	1 ~ 5	1314-13-2
Mixed organic compounds	35 ~ 40	Non-disclosure

4. First-aid measures

Inhaled:

If you feel ill after breathing in steam or gas, remove to fresh air and rest in a respirable position. Seek medical attention if symptoms persist or if unconscious.

Skin contact :

Remove all contaminated clothing. Wash the affected area with plenty of water with mild soap. Do not use solvents or thinners. If irritation is continued, refer to medical attention. Remove all contaminated clothing.

Eye contact:

Gently rinse the affected eyes with clean water for at least 15 minutes lifting upper and lower eyelids occasionally. Remove contact lenses, if present and easy to do. Do not induce vomiting.

Swallowed:

Get immediate medical advice/attention. Do not induce vomiting.

Emergency measures:

Wear proper protective equipment. Keep ventilation.

5. Fire-fighting measures

Extinguishing media:

Carbon dioxide, foam, powder, dry sand, and atomized reinforcing liquid

Fire extinguishing agents not to be used:

Water (rod-shaped water, high-pressure water)/rod-shaped reinforcing liquid

Special methods for extinguishing fires, protection of persons who extinguish fires:

Wear proper protective equipment.

Remove sources of ignition.Use specified extinguishing media.

Cool closed containers which may be exposed to heat. Extinguish from windward side.

6. Accidental release measures

Precautions for the Human Body, Protective Equipment, and Emergency Measures:

Use the necessary personal protective equipment when handling. Ventilating firmly indoors. In outdoor cases, working from the windward. Prevent secondary disasters by prohibiting access to the surrounding area and keeping other people away. Avoid sparks, flames and anything which can cause fire.

Prepare extinguishing media for accidental fire.

Environmental precautions:

Be careful not to cause environmental effects due to discharge into rivers, etc.

Containment and Purification Methods and Equipment:

For small spill, absorb spills with inert materials, then place in a chemical waste containers. Disposal of deposits, waste, etc. shall be made in accordance with relevant laws and regulations. Collect by using a tool made of a material that does not generate sparks due to impact or static electricity. Absorb in dry sand, soil, or other non-combustible materials for recovery. A large amount of leakage is prevented by surrounding with embankment.

7. Handling and storage

Handling:

Handle in a well-ventilated place. The container is sealed each time. Keep away any source of flame, sparks, and heat.

Wear antistatic cloths and shoes. Use sparkless equipment.

For countermeasures against static electricity, the equipment, etc. shall be grounded, and explosion-proof type shall be used for the electrical equipment, etc.

Soak used wiping cloths, paint film, and spray dust in water until disposal.

Handle in a well-ventilated area. Wear personal protective cloths.

Wear protective equipment to keep skin, mucous membranes, or clothing from touching or coming into the eyes.

Wash hands and face completely after the handling.

Storage:

Avoid direct sunlight. Store in a dry, well-ventilated area. Keep locked to prevent theft.

Keep out of reach of children. Keep containers away from fire/flame.

8. Exposure controls/Personal protection

Substance name	Exposure limits
	ACGIH (FY2016)
Aluminum	1 mg /㎥(TWA)
Zinc	—
Zinc oxide	2 mg /㎥(TWA)
Mixed organic compounds	—

[Equipment Measures]

Use air extractors to prevent fume formation. Use air extractors to prevent fume formation.

Use electrical grounding equipment to transport/pump/stir the liquid.

Equipment shall be installed in the vicinity of the handling site so as not to be subject to high temperatures or ignition sources.

In indoor painting operation, equipment which can ensure that workers are not exposed directly, such as the automatic spraying machine or local exhaust facilities, should be installed.

When working in a sealed place such as the inside of a tank, install a device that can sufficiently ventilate to the bottom of the sealed place.

[Protection]

Respiratory protective equipment :

Wear gas masks for organic gases. In cases of inadequate ventilation, a respiratory protective device should be worn to prevent overexposure.

Hand protectors:

Wear gloves made of a material that is impermeable to organic solvents or chemicals.

Eye protection:

Wear protective glasses for handling.

Skin and body protection:

When handling, wear clothing that does not expose the skin directly. It is best to wear the clothing made of a material that can prevent the penetration of chemical reagents.

Other:

When performing electrostatic painting work, wear shoes that are energized.

9. Physical and Chemical Properties

Physical State	:Liquid	Physical property (color)	:Silver
Odor	:Solvent odor	Densities (g/ml)	:1.60
Flash point	:22.0℃	Vapor pressure	:266Pa(20℃)
Auto-ignition temp	: ≥ 200℃	Boiling point	:105℃
Explosion Limits	: LEL 1. 0 vol %	UEL 7.6 vol %	

10. Stability and Reactivity

Stability: Stable in normal handling.

Conditions to avoid: Heating, high temperature, contact with incompatible hazardous materials.
Forming of mixture with atmosphere within flammable limit.

Incompatible materials: May react with oxidizers.

Hazardous decomposition products:

Thermal decomposition produces carbon monoxide and carbon dioxide. Generate stimulant gas.

11. Toxicological information

ACUTE TOXICITY

Substance name	Oral	Classification	Dermal	Classification
Aluminum	Classification not possible		Classification not possible	
Zinc	> 2.0 g / kg	Not classified	Classification not possible	
Zinc oxide	> 5.0 g / kg	Not classified	> 5.0 g / kg	Not classified
Mixed organic compounds	Category 5		Classification not possible	

ACUTE TOXICITY

Substance name	Inhalation (Gas)	Classification	Inhalation (Vapors)	Classification	Inhalation (Dust/Mist)	Classification
Aluminum	Not applicable		Not applicable		Classification not possible	
Zinc	Not applicable		Classification not possible		> 5.41 mg / L	Not classified
Zinc oxide	Not applicable		Not applicable		> 5.7 mg / L	Not classified
Mixed organic compounds	Classification not possible		Classification not possible		Classification not possible	

Substance name	Skin corrosion/irritant	Serious eye damage/eye irritant	Respiratory sensitisation	Skin sensitisation
Aluminum	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Zinc	Not classified	Category 2B	Classification not possible	Not classified
Zinc oxide	Not classified	Not classified	Classification not possible	Not classified
Mixed organic compounds	Category 2	Category 2B	Classification not possible	Classification not possible

Substance name	Germ Cell Mutagenicity	Carcinogenicity	Reproductive toxicity
Aluminum	Classification not possible	Classification not possible	Classification not possible
Zinc	Classification not possible	Classification not possible	Classification not possible
Zinc oxide	Classification not possible	Classification not possible	Category 2
Mixed organic compounds	Classification not possible	Classification not possible	Classification not possible

Substance name	TOST (Single)	TOST (Repeat)	Aspiration hazard
Aluminum	Category 1 (Respiratorys)	Category 1 (Respiratorys)	Classification not possible
Zinc	Classification not possible	Classification not possible	Classification not possible
Zinc oxide	Category 1 (respiratory, systemic toxicity)	Classification not possible	Classification not possible
Mixed organic compounds	Category 3 (anesthetic effect, respiratory tract irritation)	Classification not possible	Category 1

１２． Ecological information

General Precautions:

Handle the product carefully in case of leakage, disposal, etc., as this may affect the environment.

The product may have adverse effect on environment.

Ecotoxicity

Substance name	Acute Aquatic Toxicity	Chronic Aquatic Toxicity	Hazardous to the ozone layer
Aluminum	Classification not possible	Classification not possible	Classification not possible
Zinc	Category 1	Category 1	Classification not possible
Zinc oxide	Category 1	Category 1	Classification not possible
Mixed organic compounds	Category 2	Classification not possible	Classification not possible

Persistence and degradability:

No rapid degradability (metal compound) <zinc>

１３． Disposal considerations

[Residual Waste, Contamination Containers and Packaging]

In the case of disposal, the relevant laws and regulations and the standards of local governments shall be complied with. Waste including residue and container should be disposed by licensed industrial waste disposer after the consignment contract. Wash water used for cleansing containers and equipment must not be released into environment. For other wastage arouse in effluent processing or incineration, dispose of them in accordance with the law or entrust it. Dispose of the empty container after the rest of paint completely removed. It is recommended to recycle empty containers and packaging.

Dispose of the empty container after the rest of paint completely removed. Empty container should be disposed of by industrial waste disposal contractor after the consignment contract.

１４. Transport information

[Regulations:] UN No. 1263 UN Classification: 3 PG: II

Transport:

Follow the instructions in the Handling and Storage Precautions section.

Check that there is no leaking in the container, and load. Prevent collapse of the container so that there is no falling or damage.

Land transport:

Pursuant to the Fire Defense Law, the Industrial Safety and Health Law, and other transportation methods stipulated in the relevant laws. The consignor shall issue the Carriage Precautions (Yellow Card) to the Carrier.

Maritime transportation:

In accordance with the Ship Safety Law.

Air Transportation:

In accordance with the provisions of the Aeronautical Law.

Safety measures:

Follow the instructions in the Handling and Storage Precautions section.

Check that there is no leaking in the container, and load. Prevent collapse of the container so that there is no falling or damage.

１５. Regulatory information

Classification and labeling in accordance with Labor Safety and Health Act:

See Section 2

Other regulation for foreign countries:

Regulatory information with regards to this preparation in your country or region should be examined by your own responsibility.

１６. Other information

References:

1) GHS Classification Guidance for Enterprises.
2) SDS from manufacturers of raw materials
3) Roval's own data

The information herein is given in good faith, but no warranty, express or implied, is made.

The information contained herein is, to the best of Roval's knowledge and belief, accurate and reliable as of the data issued. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions. We reserve the right to revise SDS periodically as new information becomes available.