SINCE 1955 ROVAL

Safety Data Sheet

1. Products and company identification

Product name: **SUISEI ROVAL Part A: Powder**

Recommended use: Anti-corrosion of steel/iron.

Supplier: Roval Corporation
6-41-1, Ikuno, Katano
Osaka, 5760054, Japan
+81-72-892-7791

Emergency phone number: +81-72-892-9955

Date Revised: March 5, 2018

2. Hazards identification

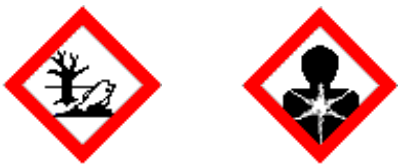
PHYSICAL HAZARDS: Spontaneous-ignitable solid: Not classified
Water-reactive flammable chemical: Not classified

HEALTH HAZARDS:

Acute Toxicity	Oral:	Not Classified
	Dermal:	Not Classified
	Inhalation (Dust/Mist)	Not Classified
Skin Corrosion/Irritation:		Not Classified
Eye Effects/Serious eye damage/Eye irritation:		Category 2
Skin sensitizer:		Not Classified
Reproductive Toxicity:		Category 2
TOST: Single Exposure:		Category 2 (systemic toxicity)
	Repeated Exposure:	Not classified
Acute Aquatic Toxicity:		Category 1 (powder)
Chronic Aquatic Toxicity:		Category 1 (powder)
Hazard to Ozone:		Classification not possible

*Item without description of classification means “classification not possible” or “not classified”.

Symbol :



Signal Word : Warning

Hazard Statement:

-Causes serious eye irritation -Suspected of damaging fertility or the unborn child

-May causes damage to organs -Very toxic to aquatic life with long lasing effects

Precautionary Statements:

[PREVENTION]

-Obtain special instruction before use

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

-Do not inhale dust

-Wash hands thoroughly after handling

-Do not eat, drink or smoke when using this product

-Avoid release to the environment

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

[FIRST AID]

-IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

-IF EXPOSED (or possible): Get medical attention.

-If eye irritation persists: Get medical advice/attention.

-Recover the leakage.

[STORAGE]

-Keep locked up.

[DISPOSAL]

-Follow the regulations of your country when disposing of the container.

3. Composition/information on ingredients

Ingredient Name	%	CAS No.	EINECS No.	UN No.
Zinc	93 ~ 98	7440-66-6	231-175-3	1436
Zinc Oxide	<5.0	1314-13-2	215-222-5	3077

4. First-aid measures

Inhalation: Slight irritation on upper air passage. Let him/her gargle. Keep rest in fresh air in case of metal fume fever. Get medical attention.

Skin contact: Rinse with water and soap.

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. Get immediate medical attention.

Ingestion: Rinse his/her mouth with water and let him/her vomit. Keep rest in fresh air in case of zinc chill. Get medical attention.

Symptom expected: Irritation of eye, skin, or respiratory system / headache / chill / boke / diarrhea / languor / metal fume fever

Protection for whom does first-aid: Wear appropriate protective equipment.

Special advise to doctor: Metal fume fever may appear in a couple of hours.

5. Firefighting measures

Extinguishing Media	: Powder extinguisher, dry sand
Unsuitable Extinguishing Media	: Water (react with zinc and cause gassing)
Unique hazard	: May cause zinc fume by fire
Protection for fire-fighter	: Wear aspirated protective equipment

6. Accidental release measures

Personal precautions:

Use the necessary personal protective equipment (gloves, masks, aprons, and goggles) and avoid contact to eye and skin and inhalation of dust and fume.

Environmental precautions:

Be careful not to affect environment by releasing the product to waterway.

Recovery and neutralization:

Avoid further leakage and contain properly. After containing the leakage into closed container by broom, shovel, or vacuum, dispose of it in accordance with local regulation. Operate a countermeasure properly in case of the leakage to the environment.

Equipment and method for containment and cleaning-up:

Not regulated but recommended to remove by boring.

Measure against second accident:

Avoid leakage to drain, sewer, basement, or closed area.

7. Handling and Storage

[HANDLING]

Technical Precautions :

Install the equipment in accordance with Section 8. Operator must wear protective equipment.

Ventilation : Local ventilation and entire ventilation necessary.

Handling Precautions :

Do not damage the container. Do not swallow or inhale. Avoid direct contact with eyes. Do not inhale dust or fume. Avoid contact with water or moisture as zinc reacts with water. Wash hands after handling. Use only outside or ventilated area. Do not eat or smoke when handling the product.

Contact Avoidance : Refer to Section 10.

[STORAGE]

Technical Precautions : Store in a closed area. Avoid contact with moisture.

Contact Hazard : Refer to Section 10.

Storage Condition : Avoid direct sunshine. Avoid contact with water.

Container : Closed container without damage.

8. Exposure controls/ Personal protection

Substance	Controlled concentration	ACGIH TLV(2016)
Zinc	N/A	N/A
Zinc Oxide	N/A	2mg / m^3

[Equipment]

Install eye washer and shower for safety. Ventilate to keep dust concentration under the exposure limit.

[Protection]

Respiration protection: Wear proper protective equipment.

Eye protection: Wear proper protective equipment.

Skin and body protection: Wear proper protective gloves and clothes.

9. Physical and Chemical Properties

Physical State:	Solid powder	Color:	Gray
Odor:	Odorless	Density (g/ml):	7.1 (20˚C)
Flash Point:	>110˚C	Explosion Limits(vol%):	Upper: N/A Lower: 480g/m3
Vapor Pressure:	N/A	Auto-ignition Temp:	600˚C
Boiling Point:	907˚C		

10. Stability and Reactivity

Stability: Generate oxide by reaction with moisture. Generate gas by reaction with water. Stable in room temperature. Soluble in acid and alkali hydroxide. Generate hydrogen in case of the reaction with large amount of acid or alkali hydroxide.

Conditions to avoid: Contact with reactive chemical hazards. Moisture, fire, impact.

Possibility of Hazardous Reactions: No possibility of auto-ignition, but generates hydrogen gas by the reaction with water and heat, which may cause the fire in some condition.

Reactive chemical hazards: Halogenated hydrocarbon, alkali hydroxide, amine, sulfur, strong oxidation, and strong base.

Hazardous decomposition Products: May generate harmful fume by high-heat.

11. Toxicological information

[ACUTE TOXICITY]

Substance	Oral	Class	Dermal	Class
Zinc	>2.0g/kg	Not classified	Classification not possible	
Zinc Oxide	>5.0g/kg	Not classified	>5.0g/kg	Not classified

[ACUTE TOXICITY]

Substance	Inhalation (gas)	Class	Inhalation (vapor)	Class	Inhalation (dust/mist)	Class
Zinc	Out of classification		Classification not possible		>5.41mg/L	Not classified
Zinc Oxide	Out of classification		Out of classification		>5.7mg/L	Not classified

Substance	Skin Corrosion/irritation	Eye damage/irritation	Respiratory Sensitization	Skin sensitization	Germ cell mutagenicity
Zinc	Not classified	Category 2B	Classification not possible	Not classified	Classification not possible
Zinc Oxide	Not classified	Not classified	Classification not possible	Not classified	Classification not possible

Substance	Carcinogenicity	Reproductive Toxicity	TOST (single)	TOST (repeated)	Aspiration hazard
Zinc	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Zinc Oxide	Classification not possible	Category 2	Category 1 (Respiratory organ, systemic toxicity)	Classification not possible	Classification not possible

12. Ecological Information

General Precaution: Be careful not to spill or leak product and wash water into river and water drain. The product may have adverse effect on environment.

Ecological Toxicity:

Material	Acute Aquatic Toxicity	Chronic Aquatic Toxicity	Hazard to Ozone
Zinc	Category 1	Category 1	Classification not possible
Zinc oxide	Category 1	Category 1	Classification not possible

13. Disposal considerations

Store recovered material in appropriate container and dispose according to your local environmental regulations.

14. Transport information

[Regulation] UN No.: 1436 UN Class: 4.3 (Flammable solid) PG: III

Sea Transport Regulation: Follow IMO

Air Transport Regulation: Follow ICAO/IATA

Proper Shipping Name: Zinc powder

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. (United Nations 2009)
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.
