ROVAL Corporation
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Material Safety Data Sheet

ROVAL® MC Color Matching Metallic Spray

Section 1-Product and Company Identification

SUPPLIER:	Hyuntech Corporation <www.roval.co.kr>
ADDRESS:	101-1405,Digital empireⅡ, #88, Sinwon-Ro, Yeontong-gu, Suwon-wi, Gyeonggi-do, Korea 443-734
MANUFACTURER:	shanghai Roval Zinc Rich Paint Corporation
ADDRESS:	Fenggong Road 393, Malu Town, Jiading District, Shanghai, China 20180
EMERGENCY PHONE:	(82) 31-695-6286
INFORMATION PHONE:	(82) 31-695-6288
DATE REVISED:	January 27, 2012

Section 2-Composition/Information on Ingredients

INGREDIENT	OSHA PEL	ACGIH TLV	CAS NO.	wt %
Aluminum	― ― ―	― ― ―	7429-90-5	1～5
Mineral spirit	500ppm	100ppm	8052-41-3	1～5
Xylene	100ppm	100ppm	1330-20-7	6.0
Ethyl Benzene	100ppm	100ppm	100-41-4	26.8
Propane	― ― ―	― ― ―	74-98-6	10～15
Butane	― ― ―	― ― ―	106-97-8	25～30

Section 3- Hazard Identification

Classification: Flammable liquid, vapor and high-pressure gas. Harmful or fatal if swallowed. Vapor harmful.
Emergency Overview: Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Avoid prolonged contact with eyes, skin, and clothing. DO NOT ingest. Avoid breathing vapor or mist. Keep containers closed. Use only with adequate ventilation. Wash thoroughly after handling. Aspiration hazard if swallowed: can enter lungs and cause damage.
There is some weak anesthesia. When liquefied gas touches skin again, an inflammation and frostbite are caused.
Potential Acute Health: Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.
Note to Physician: Small amounts of liquid swallowed into the respiratory organs during ingestion or vomit may cause mild to severe pulmonary injury and possibly death.

Section 4-First Aid Measures

Skin Contact: Remove coating with solvent. Immediately wash affected area with soap and water.

Eye Contact: Flush immediately with large amount of water for at least 15 minutes. Get medical attention.

Ingestion: Do not make to be spat. Do not swallow when vomiting. Get medical attention.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Pre-existing medical conditions such as eye, skin and respiratory disorders may be aggravated by exposure.

Section 5-Fire Fighting Measures

Extinguishing Media:	Carbon dioxide, dry chemical powder, form, sand
Special Fire Fighting Procedures:	Wear protective clothing, respirator, chemical safety goggles, rubber boots and heavy rubber globes.
Unusual Fire and Explosion Hazard:	Isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat. Aerosols are under pressure. Exposure to excess of 120−F may cause bursting of cans. Water may be used to cool closed containers to prevent pressure build-up and possible spontaneous ignition or explosion when exposed to extreme heat.

Section 6-Accidental Release Measure

Personal precautions:	Avoid breathing solvent vapors. Use the necessary personal protective equipment when handling.
Environmental precautions:	Do not empty into drains or water. Avoid sparks, flames and anything which can cause fire.
Methods for cleaning:	Sweep up spilt product and fill into containers for disposal.

Section 7-Handling and Storage

Storage:	Store in a cool(below 40℃) and dry place, avoid direct sunshine. Provide good room ventilation. Isolate from fire, heat and water.
Handling:	Be care that the content will spout when shaken. Hazard gas will generate when it burns.

Section 8-Exposure Controls

Eye protection:	Chemical goggles with side shields or face recommended.
Hand protection:	Protective gloves.
Hygienic Practices	Wash thoroughly after handling.
Others:	Protective creams and clothing recommended to skin contact.

Section 9-Physical and Chemical Properties

Boiling Point	-41.1 ~ 144.0 ℃	**Specific Gravity**	0.90 (liquid paint)
Vapor Pressure(kPa	1275 (20℃)	**Melting Point**	Not available.
Vapor Density(AIR=	>air	**Evaporation Rate (Butyl Acetate=1)**	Not available.
Solubility in Water	Insoluble.	**MIR**	1.73g O3/g (<1.90 Metallic Coatings)
Appearance and Odo	Silver sheen liquid.	Smells like thinner.	
Flash Point	-104.49℃	**Flammable Limits (vol %)**	**LEL** 1.0 **UEL** 9.5

Section 10-Stability and Reactivity

Stability:	Stable.
Condition to Avoid:	Not applicable.
Incompatibility(Materials to Avoid):	Hydrogen is generated by aluminum reacting with water, acid and alkali.
Hazardous Decomposition or Byproducts:	Not applicable.
Hazardous Polymerization:	Will Not Occur.

Section 11-Toxicological Information

Route(s) of Entry:	**Inhalation?**	Yes	**Skin?**	Yes	**Ingestion?**	Yes
Health Hazards(Acute and Chronic):	LD50 oral, rat : 4300mg/kg (Xylene) LD50 oral, rat : 3500mg/kg (Ethyl benzene)					
Carcinogenicity:	NTP Carcinogen Ingredient Known Anticipated IARC Category Carcinogenic Effects Xylene No No 3 A4 Ethyl benzene No No 2B A3 Proven for animals *A4 (Not classifiable for human or animal.)					
Signs and Symptoms of Exposure:	Not available.					
Medical Conditions Generally Aggravated by Exposure:	Not available.					

Section 12-Ecological Information

Ecotoxicity: Toxic to aquatic life.
Fish (Fathead minnow) - 96hr LC50 42mg/L
Fish (Rainbow trout) - 96hr LC50 13.5mg/L
Persistence and degradability: None are known.
Bioaccumulative potential: None are known.

Environmental: In air, xylenes degrade by reacting with photochemically produced hydroxyl radicals. In soil it will volatilize and leach into groundwater. Little bioconcentration is expected.

Section 13-Disposal Considerations

Constantly observing local regulations.
Contaminated, empty containers are to be treated in the same way as the contents.
Disposal should be in accordance with local state and federal regulation.
The gas should be discharged perfectly when disposing of aerosol cans.

Section 14-Transport Information

U.S. Department of Transportation (DOT)
Hazard Class: 2.1 Packing Group: - UN number: 1950
Proper Shipping Name: AEROSOLS, FLAMMABLE, Consumer Commodity ORM-D
Land Transport ADR/RID (CROSS BORDER)
ADR/RID Class: 2 GASES Item: 5F DANGER CODE (KEMLER): -
UN Number: 1950 Description of goods: 1950 AEROSOLS
International Maritime Organization IMDG
IMDG Class: 2 IMO regulation Page Number: 2102 UN Number: 1950
Packing group: II EMS Number: F-D, S-U Marine Pollutant: NO
Proper Shipping Name: AEROSOLS PRODUCT (IN LIMITED QUANITIES)
Air Transport ICAO-TI AND IATA-DGR
ICAO/IATA Class: 2.1 UN/ID Number: 1950 Packing Group: -
Proper Shipping Name: AEROSOLS, FLAMMABLE, N.O.S.

Section 15-Regulatory Information

U.S. Federal Regulations

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA) (40 CFR 302.4)

Xylene ---- 100 lbs RQ Ethyl benzene ---- 1000 lbs RQ

Releases to air, land, or water which exceed the RQ must be reported to the National Response Center [In USA: 1-(800)-424-8802] and to your Local Emergency Planning Committee.

Toxic Substances Control Act (TSCA): All components of this product are included on TSCA inventory.

Clean Air Act (CAA): This product does not contain any class 1 or 2 ozone depletors.

This product contains xylene (CAS 1330207, .6.0% by weight), ethyl benzene (CAS 100414, 26.89% by weight), listed as hazardous air pollutant.

Superfund Amendments and Reauthorization Act(SARA) Title Ⅲ Information:

SARA Section 302 (extremely hazardous substances): Not listed

304 Extremely Hazardous Substances: No listed ingredients are present on the 302/304 list.

SARA 311/312 Categories: Acute Health, Chronic Health, Fire Hazard, Sudden Release of Pressure

SARA Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Aluminum	7429-90-5	1-5%	Xylene	1330-20-7	6.0%
Ethyl Benzene	100-41-4	26.8%	Mineral Spirit	8052-41-3	1-5%

U.S. State Regulation:

California Proposition 65 Chemicals known to cause cancer or reproductive toxicity (2007):

This product contains ethyl benzene (26.8%) listed under chemicals know to the state to cause cancer.

Canadian Regulation

Canadian Environmental Protection Act:

All of the components of this product are included on the Canadian Domestic Substances list (DSL).

Canadian Workplace Hazardous Materials Information System (WHMIS):

Class A Compressed gas

Class B-5 Flammable aerosol

Class D-2B Material causing other toxic effects (TOXIC)

Section 16-Other Information

National Fire Protection Association (NFPA) Rating:

Health=2 Flammability=4 Reactivity=1 Special Hazards None

Disclaimer: The information contained herein is accurate to the best of our knowledge. My company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.