

Material Safety Data Sheet

1. Products and company identification

Product name: EPO ROVAL
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 November 19, 2012

2. Hazards identification

PHYSICAL HAZARDS: Flammable Liquid Category 2

HEALTH HAZARDS:

Acute Toxicity Oral: Category 5
 Dermal: Category 5
 Inhalation (Vapors): Category 4
 Inhalation (Dust, Fume): Not classified

Skin Corrosion/Irritation: Category 2
 Eye Effects/Serious eye damage/Eye irritation: Category 2
 Respiratory sensitizer: Classification not possible
 Skin sensitizer: Not Classified
 Germ Cell Mutagenicity: Category 2
 Carcinogenicity: Category 2
 Reproductive Toxicity: Category 1B
 TOST: Single Exposure: Category 1 (central nerve system, kidney, respiratory system, liver, and lien)
 Category 2 (central nerve system, lung, and kidney)
 Category 3 (Not Classified)
 Repeated Exposure: Category 1 (peripheral nerve system, central nerve system, nerve system, respiratory organs, liver, kidney)
 Category 2 (Not classified)
 Aspiration Hazard: Classification not possible

ENVIRONMENTAL HAZARDS:

Acute Aquatic Toxicity: Category 2
 Chronic Aquatic Toxicity: Category 3

Hazard Symbols:



Signal Word: DANGER

Hazard Statement:

- Highly flammable liquid and vapor
- May be harmful if swallowed
- May be harmful in contact with skin
- Harmful if inhaled
- Causes skin irritation
- Suspected of causing genetic defects
- Causes serious eye irritation
- Suspected of causing cancer
- Suspected of damaging fertility or the unborn child
- Causes damage to organs
- Causes damage to organs through prolonged or repeated exposure
- Toxic to aquatic life
- Toxic to aquatic life with long lasting effects

Precautionary Statements:

[PREVENTION]

- Keep container tightly closed.
- Do not handle until all safety precautions have been read and understood
- Obtain special instruction before use
- Do not eat, drink or smoke when using this product
- Keep away from heat/sparks/open flames/hot surfaces – No smoking
- Ground container and receiving equipment.
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapor/spray
- Take precautionary measures against static discharge
- Use explosion-proof electrical/ventilating/light/equipment
- Wear protective gloves/protective clothing/eye protection/face protection
- Wash hands thoroughly after handling.
- Avoid release to the environment

[FIRST AID]

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF IN EYES: Rinse continuously 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: Get immediate medical advice/attention. Do NOT induce vomiting and rinse mouth.
- IF ON SKIN: Rinse skin with water/shower. Take off contaminated clothing and wash before use..

[STORAGE]

- Store in a cool, well ventilated place.
- Store locked up.

[DISPOSAL]

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

[EMERGENCY]

- In case of fire: Use carbon-rich gas, foam, or powder extinguisher for extinction.
- In case of spillage: Absorb spillage with dry sand or other incombustible materials.

3. Composition/information on ingredients

Substance/Mixture: Mixture

General product description: Paint

Chemical Identity	CAS Number	% Weigh
Xylene	1330-20-7	5.2
Ethyl benzene	100-41-4	4.7
Cyclohexanone	108-94-1	5-10
Methyl Ethyl Ketone	78-93-3	5-10

4. First-aid measures

- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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. If irritation is continued, refer to medical attention.
- 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:** Do not induce vomiting. Drink a glass of water or milk to dilute. Call a Physician or poison control immediately.

5. Firefighting measures

Extinguishing Media: Carbon dioxide, dry chemical powder, form, dry sand
Water must NOT be used for extinction.

Special protective equipment and precaution for fire fighters: 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. Keep distant during fire fighting, heated container may burst.

6. Accidental release measures

Personal precautions:

Use the necessary personal protective equipment when handling. Keep away any person who is not concerned. Prepare extinguishing media for accidental fire. Be careful not to spill the content when shaking.

Environmental precautions:

Do not empty into drains or water. Avoid sparks, flames and anything which can cause fire.

Containment& Cleaning up:

For small spill, absorb spills with inert materials, then place in a chemical waste containers.

For large spill, dike for later disposal, cover spills with foam, then place in a chemical waste container using non-sparking tools.

Other information:

The vapor can form an explosive mixture with air.

7. Handling and Storage

[Handling]

Handle in a well ventilated area. Keep away any source of flame, sparks, and heat.

Use spark-less equipment. Wear antistatic cloths and shoes. Use explosion-proof equipment.

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

Wear personal protective cloths. Wash hands and face completely after the handling.

Handle in a well-ventilated area.

[Storage]

Avoid direct sunshine. Store in a dry, well-ventilated area. Keep containers away from fire/flame.

8. Exposure controls/ Personal protection

Control parameters:

Chemical Identity	ACGIH TLV (2011)
Xylene	100ppm (TWA)
Ethyl Benzene	20ppm (TWA)
Cyclohexanone	20ppm (TWA)
Methyl Ethyl Ketone	200ppm (TWA)

Engineering measures: Use air extractors to prevent fume formation.

Ventilate adequately to keep vapor concentration below TLV.

Personal protection measures:

Eye protection: Chemical goggles with side shields or face recommended.

Hand protection: Protective gloves.

Respiratory protection: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases of inadequate ventilation, a respiratory protective device should be worn to prevent overexposure.

Hygienic Practices: Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical State:	Liquid	Color:	Glau
Odor:	Smells like solvent.	pH:	N/A
Boiling Point:	79.6~144°C	Melting Point:	N/A

Flash Point:	9.9°C	Explosion Limits(vol%):	LEL 1.1 UEL 11.4
Vapor Pressure:	1.27kPa (25°C)	Vapor Density:	N/A
Specific Gravity:	2.55	Solubility in water:	Insoluble
Auto-ignition Temp:	404°C	Decomposing Temperature:	N/A
Water Partition Coefficient:	3.16 (theoretical)		

10. Stability and Reactivity

Stability:	Stable under normal condition and anticipated storage.
Conditions to avoid:	Heat, open fire and sparks. Forming of mixture with atmosphere within flammable limit.
Possibility of Hazardous Reactions:	May cause react with oxidizers..
Hazardous decomposition Products:	Generate carbon monoxide and carbon dioxide. Generate stimulant gas.

11. Toxicological information

[ACUTE TOXICITY]

Material	Oral	Category	Dermal	Category	Vapor	Category
Xylene	3.5 g / kg	5	4.35 g / kg	5	6.7 g / kg	5
Ethyl Benzene	3.5 g / kg	5	15.4 g / kg	Not Classified	4.0 g / kg	4
Cyclohexanone	1.5 g / kg	4	0.9 g / kg	3	2.5 g / kg	3
Methyl Ethyl Ketone	2.5 g / kg	4	>5.0 g / kg	Not Classified	11.7 g / kg	5
as composite	2.3 g / kg	5	2.4 g / kg	5	4.1 g / kg	4

[SKIN CORROSION/IRRITANT]

Material	Category	Comment
Xylene	2	Skin irritant
Ethyl Benzene	3	Slight skin irritant
Cyclohexanone	2	Skin irritant
Methyl Ethyl Ketone	2	Skin irritant

[SERIOUS EYE DAMAGE/EYE IRRITANT]

Xylene	2A	Strong eye irritant
Ethyl Benzene	2B	Eye irritant
Cyclohexanone	2A	Strong eye irritant
Methyl Ethyl Ketone	2B	Eye irritant

[SKIN SENSITIZATION]

Xylene	Not possible	
Ethyl Benzene	Not possible	
Cyclohexanone	Not Classified	

Methyl Ethyl Ketone	Not possible	
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[GERM CELL MUTAGENICITY]

Xylene	Not Classified	
Ethyl Benzene	Not Classified	
Cyclohexanone	2	Suspected of causing genetic defects
Methyl Ethyl Ketone	Not Classified	

[CARCINOGENICITY]

Xylene	Not Classified	
Ethyl Benzene	2	May cause cancer
Cyclohexanone	2	May cause cancer
Methyl Ethyl Ketone	Not Classified	

[REPRODUCTIVE TOXICITY]

Xylene	1B	May damage fertility or the unborn child
Ethyl Benzene	1B	May damage fertility or the unborn child
Cyclohexanone	2	Suspected of damaging fertility or the unborn child
Methyl Ethyl Ketone	Not Classified	

[TARGET ORGANS/SYSTEMIC TOXICITY] Single Exposure

Xylene	1	Cause damage to respiratory system, liver, central nerve system, and kidney.
	3	May cause drowsiness or dizziness
Ethyl Benzene	2	May cause damage to central nerve system
	3	May cause respiratory irritation
Cyclohexanone	1	Cause damage to liver, spleen, and central nerve system
	2	May cause damage to lung
	3	May cause drowsiness or dizziness and respiratory irritation
Methyl Ethyl Ketone	1	Cause damage to central nerve system
	2	May cause damage to kidney
	3	May cause drowsiness or dizziness

[TARGET ORGANS/SYSTEMIC TOXICITY] Repeated Exposure

Xylene	1	Causes damage to respiratory system and nerve system through prolonged or repeated exposure.
Ethyl Benzene	Not possible	
Cyclohexanone	1	Cause damage to kidney, liver, and central nerve system through prolonged or repeated exposure.
Methyl Ethyl Ketone	1	Cause damage to central nerve system and peripheral nerve system through prolonged or repeated exposure.

[ASPIRATION HAZARD]

Xylene	2	May be harmful if swallowed and enters airways
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Ethyl Benzene	1	May be fatal if swallowed and enters airways
Cyclohexanone	2	May be fatal if swallowed and enters airways
Methyl Ethyl Ketone	2	May be fatal if swallowed and enters airways

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: Acute harmful effect on aqueous milieu.

Xylene	2	Toxic to aquatic life. Fish: Rainbow trout LC ₅₀ 3.3 mg / L / 96 H
Ethyl Benzene	1	Very toxic to aquatic life. Shellfish: Brown shrimp LC ₅₀ 0.4 mg / L / 96 H
Cyclohexanone	Not Classified	Fish: Fat-head minnow LC ₅₀ 527 mg / L / 96 H
Methyl Ethyl Ketone	Not Classified	Fish: Oryzias latipes LC ₅₀ >100 mg / L / 96 H

Ecological Toxicity: Chronic harmful effect on aqueous milieu.

Xylene	2	Toxic to aquatic life with long lasting effects.
Ethyl Benzene	Not Classified	
Cyclohexanone	Not Classified	
Methyl Ethyl Ketone	Not Classified	

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

Ethyl Benzene has rapid degradative, stripping from water.

Bioaccumulation potential: Xylene; may be low potential (log K_{ow} = 3.16)

Ethyl Benzene; may be low potential (log K_{ow} = 3.15)

Mobility in soil: No data available.

13. Disposal considerations

[Residual Wastage]

Wasted paint and empty container should be disposed of by industrial waste disposal contractor after the consignment contract. Do not release empty container and wash water into environment. For other wastage arouse in effluent processing or incineration, dispose of them in accordance with the law or entrust it. Disposal of the spray can must be done after making sure it is empty and no gas pressure inside. Keep away source of flame and do not inhale mist during outgassing. In case incinerating the container, incinerate them by bits after absorbing the rest of paint with diatom earth or something, or spray the rest of paint into incinerator. In case the generation of harmful gas is expected, entrust disposal of them to industrial waste disposal contractor.

[Container and Package]

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

[Regulation] UN No.: 1263 UN Class: 3 (Flammable liquid) PG: II

Any especial precaution on the transport or conveyance:

- Keep away from sources of ignition.
- Keep away from strong alkalis, strong acid, oxidizing materials and source of ignition.
- Type of container for supply: Steel can
- Follow all regulation on the transport in your country or region.

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) MSDS 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 MSDS periodically as new information becomes available.
