

**Issue Date:** 31-Oct-2014

**Revision Date:** 06-Nov-2014

**Version** 1

**1. IDENTIFICATION**

**Product Name:** BLACK RHODIUM PEN PLATING  
**Product Number(s):** 2100977

**Supplier:** Paul H. Gesswein & Co., Inc.  
201 Hancock Ave.  
Bridgeport, CT 06605

**Phone:** 203-366-5400, **FAX** 203-366-3953

**Emergency phone number:** CHEMTEL - 800-255-3924

**2. HAZARDS IDENTIFICATION**

**Appearance** Dark brown liquid

**Physical State** Liquid

**Odor** Characteristic

**Classification**

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1

**Signal Word**

**Danger**

**Hazard Statements**

Causes severe skin burns and eye damage



**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Wash face, hands and any exposed skin thoroughly after handling

**Precautionary Statements - Response**

Immediately call a poison center or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a poison center or doctor/physician  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a poison center or doctor/physician  
 IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Hazards**

Harmful to aquatic life with long lasting effects

**Unknown Acute Toxicity**

4% of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Sulfuric Acid	7664-93-9	15-25
Rhodium Sulfate	10489-46-0	3-5
EDTA	60-00-4	1-3

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST-AID MEASURES

**First Aid Measures**

<b>General Advice</b>	Provide this SDS to medical personnel for treatment.
<b>Eye Contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
<b>Skin Contact</b>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician. Wash contaminated clothing before reuse.
<b>Inhalation</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
<b>Ingestion</b>	IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

**Most important symptoms and effects**

**Symptoms** Causes severe skin burns and eye damage.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Not determined.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Contaminated extinguishing water must be disposed of in accordance w/ all official regulations.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Use personal protective equipment as required. Keep unprotected persons away.

**Environmental Precautions** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so. Prevent runoff to storm sewers and ditches leading to natural waterways.

**Methods for Clean-Up** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use a neutralizing agent. Dispose of in accordance with federal, state and local regulations.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on Safe Handling** Keep container tightly closed when not in use. Ensure adequate ventilation, especially in confined areas. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep locked up and out of reach of children. Keep away from incompatible materials, open flames, and high temperatures.

**Incompatible Materials** Non-noble metals. Strong alkalis.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric Acid 7664-93-9	TWA: 0.2 mg/m <sup>3</sup> thoracic fraction	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 15 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Rhodium Sulfate 10489-46-0	TWA: 0.01 mg/m <sup>3</sup> Rh	TWA: 0.001 mg/m <sup>3</sup> Rh (vacated) TWA: 0.001 mg/m <sup>3</sup> Rh	IDLH: 2 mg/m <sup>3</sup> Rh TWA: 0.001 mg/m <sup>3</sup> Rh

**Appropriate engineering controls**

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations. Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** Avoid contact with eyes. Safety glasses, Tightly sealed goggles, Full face protection.

**Skin and Body Protection** Wear protective gloves and protective clothing. Material of gloves: Butyl rubber, BR Nitrile rubber, NBR Chloroprene rubber, CR Fluorocarbon rubber (Viton) Neoprene.

**Respiratory Protection** In case of brief exposure or low pollution, use breathing filter apparatus. In case of intensive or longer exposure, use breathing apparatus that is independent of circulating air.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical State</b>	Liquid	<b>Odor</b>	Characteristic
<b>Appearance</b>	Dark brown liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Dark brown		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	<1	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	110 °C / 230 °F	
Flash Point	Not applicable	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid- Not Applicable	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	Not determined	
Water Solubility	Fully miscible	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not an explosive	
Oxidizing Properties	None	

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

Contact with strong alkalis (e.g. Ammonia and its solutions, Sodium hydroxide (caustic), Potassium hydroxide, chlorites) may generate heat, splattering or boiling and toxic vapors.

### Conditions to Avoid

Keep out of reach of children. Incompatible Materials.

### Incompatible Materials

Non-noble metals. Strong alkalis.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

**Eye Contact** Causes severe eye damage.

**Skin Contact** Causes severe skin burns.

**Inhalation** Do not inhale.

**Ingestion** Do not taste or swallow.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric Acid 7664-93-9	= 2140 mg/kg ( Rat )	-	= 510 mg/m <sup>3</sup> ( Rat ) 2 h
EDTA 60-00-4	= 1700 mg/kg ( Rat )	-	-

### Information on physical, chemical and toxicological effects

**Symptoms** Please see section 4 of this SDS for symptoms.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Carcinogenicity**

IARC has classified "strong inorganic acid mist containing sulfuric acid" as a Category 1 carcinogen, substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid. Inorganic mist is not generated under normal use of this product.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sulfuric Acid 7664-93-9	A2	Group 1	Known	X

**Legend**

- ACGIH (American Conference of Governmental Industrial Hygienists)*
- A2 - Suspected Human Carcinogen*
- IARC (International Agency for Research on Cancer)*
- Group 1 - Carcinogenic to Humans*
- NTP (National Toxicology Program)*
- Known - Known Carcinogen*
- OSHA (Occupational Safety and Health Administration of the US Department of Labor)*
- X - Present*

**Numerical measures of toxicity**

Not determined

**Unknown Acute Toxicity**

4% of the mixture consists of ingredient(s) of unknown toxicity.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Toxic to aquatic life with long lasting effects.

**Component Information**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sulfuric Acid 7664-93-9		500: 96 h Brachydanio rerio mg/L LC50 static		29: 24 h Daphnia magna mg/L EC50
EDTA 60-00-4	1.01: 72 h Desmodosmus subspicatus mg/L EC50	34 - 62: 96 h Lepomis macrochirus mg/L LC50 static 44.2 - 76.5: 96 h Pimephales promelas mg/L LC50 static		113: 48 h Daphnia magna mg/L EC50 Static

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Not determined

**Other Adverse Effects**

Not determined

### 13. DISPOSAL CONSIDERATIONS

**Waste Treatment Methods**

- Disposal of Wastes**                      Disposal should be in accordance with applicable regional, national and local laws and regulations.
  
- Contaminated Packaging**              Disposal should be in accordance with applicable regional, national and local laws and regulations.

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste

Chemical Name	California Hazardous Waste Status
Sulfuric Acid 7664-93-9	Toxic Corrosive

### 14. TRANSPORT INFORMATION

**Note**    Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**

- UN/ID No**                                      UN1760
- Proper Shipping Name**                  Corrosive Liquid, n.o.s (Sulphuric acid)
- Hazard Class**                                8
- Packing Group**                              II

**IATA**

- UN/ID No**                                      UN1760
- Proper Shipping Name**                  Corrosive Liquid, n.o.s (Sulphuric acid)
- Hazard Class**                                8
- Packing Group**                              II

**IMDG**

- UN/ID No**                                      UN1760
- Proper Shipping Name**                  Corrosive Liquid, n.o.s (Sulphuric acid)
- Hazard Class**                                8
- Packing Group**                              II

### 15. REGULATORY INFORMATION

**International Inventories**

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Sulfuric Acid	Present	X		Present		Present	X	Present	X	X
Rhodium Sulfate	Present	X		Present		Present	X	Present	X	X
EDTA	Present	X		Present		Present	X	Present	X	X

**Legend:**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*
- ENCS - Japan Existing and New Chemical Substances*
- IECSC - China Inventory of Existing Chemical Substances*
- KECL - Korean Existing and Evaluated Chemical Substances*
- PICCS - Philippines Inventory of Chemicals and Chemical Substances*
- AICS - Australian Inventory of Chemical Substances*

**US Federal Regulations**

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sulfuric Acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
EDTA 60-00-4	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Sulfuric Acid - 7664-93-9	7664-93-9	15-25	1.0

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric Acid	1000 lb			X
EDTA	5000 lb			X

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Sulfuric Acid - 7664-93-9	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Sulfuric Acid 7664-93-9	X	X	X
EDTA 60-00-4	X	X	X



**16. OTHER INFORMATION**

<b><u>NFPA</u></b>	<b>Health Hazards</b> Not determined	<b>Flammability</b> Not determined	<b>Instability</b> Not determined	<b>Special Hazards</b> Not determined
<b><u>HMIS</u></b>	<b>Health Hazards</b> Not determined	<b>Flammability</b> Not determined	<b>Physical Hazards</b> Not determined	<b>Personal Protection</b> Not determined

Issue Date: 31-Oct-2014  
Revision Date: 06-Nov-2014  
Revision Note: New format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**