

## Safety Data Sheet



### **RH2PB - READY TO USE RHODIUM PEN PLATING SOLUTION 2G/100ML BLACK COLOR**

Safety Data Sheet dated 4/20/2023 version 5

Compliant with regulation (CE) n. 1907/2006 REACH, Annex II, and subsequent amendments introduced by Commission Regulation (EU) no. 2020/878

## **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

### **1.1. Product identifier**

Mixture identification:

Trade name: RH2PB - READY TO USE RHODIUM PEN PLATING SOLUTION 2G/100ML BLACK COLOR

Trade code: RH2PB

Product type and use: SL

Registration Number N/A

### **1.2. Relevant identified uses of the substance or mixture and uses advised against**

Recommended use: For electroplating industry

Uses advised against: N.A.

### **1.3. Details of the supplier of the safety data sheet**

Company: LEGOR GROUP S.p.A.

Via del Lavoro, 1

36050 Bressanvido (VI)

Italy

Tel.: +39.0444.467911

Fax.: +39.0444. 660677

Competent person responsible for the safety data sheet: info@legor.com

### **1.4. Emergency telephone number**

CENTRO ANTIVELENI OSPEDALE NIGUARDA CA' GRANDA

P.ZZA OSPEDALE MAGGIORE, 3 MILANO

Tel 02 66101029 Fax 02 64442768

AZIENDA OSPEDALIERA PAPA GIOVANNI XXIII PIAZZA OMS, 1 24127 BERGAMO

Tel 800 883300

CENTRO ANTIVELENI AZIENDA OSPEDALIERA S.G.BATTISTA - MOLINETTE DI TORINO

CORSO A.M. DOGLIOTTI, 14 TORINO

Tel 011 6637637 Fax 011 6672149

CEN.NAZ.INFORM.TOSSIC.FOND. S.MAUGERI CLINICA DEL LAVORO E DELLA RIABILITAZIONE

VIA A.FERRATA, 8 PAVIA

Tel A 0382 24444 Fax 02 64442769

SERV. ANTIV. - CEN.INTERDIPARTIMENTALE DI RICERCA SULLE INTOSSICAZIONI ACUTE DIP.DI FARMAC. E.MENEGHETTI UNIVERSITÀ DEGLI STUDI DI PADOVA

LARGO E.MENEGHETTI, 2 PADOVA

Tel 049 8275078 Fax 049 8270593

SERVIZIO ANTIVELENI SERV.PR.SOCC., ACCETT. E OSS. ISTITUTO SCIENTIFICO G. GASLINI

LARGO G. GASLINI, 5 GENOVA

Tel 010 5636245 Fax 010 3760873

CENTRO ANTIVELENI - U.O. TOSSICOLOGIA MEDICA AZIENZA OSPEDALIERA CAREGGI

VIALE G.B. MORGAGNI, 65 FIRENZE  
Tel 055 4277238 Fax 055 4277925

CENTRO ANTIVELENI POLICLINICO A.GEMELLI - UNIVERSITA' CATTOLICA DEL SACRO CUORE  
LARGO F.VITO, 1 ROMA  
Tel 06 3054343 Fax 06 3051343

CENTRO ANTIVELENI - ISTITUTO DI ANESTESIOLOGIA E RIANIMAZIONE UNIVERSITÀ DEGLI STUDI DI ROMA LA SAPIENZA  
VIALE DEL POLICLINICO, 155 ROMA  
Tel 06 49970698 Fax 06 4461967

AZ. OSP. UNIV. FOGGIA  
V.LE LUIGI PINTO, 1 71122 FOGGIA  
Tel 0881 732326

CENTRO ANTIVELENI AZIENDA OSPEDALIERA A. CARDARELLI  
VIA CARDARELLI, 9 NAPOLI  
Tel 081 7472870 Fax 081 7472880

## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

Skin Corr. 1A Causes severe skin burns and eye damage.  
Eye Dam. 1 Causes serious eye damage.

Adverse physicochemical, human health and environmental effects:  
No other hazards

### 2.2. Label elements

#### Regulation (EC) No 1272/2008 (CLP):

#### Pictograms and Signal Words



Danger

#### Hazard statements

H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.

#### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
1  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
3  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
8  
P310 Immediately call a doctor.  
P501 Dispose of contents and container in accordance with applicable regulations.

#### Contains

Rhodium (III) sulfate  
Sulfuric acid

#### Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

### 2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration  $\geq 0.1\%$

Other Hazards: No other hazards

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## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: RH2PB - READY TO USE RHODIUM PEN PLATING SOLUTION 2G/100ML BLACK COLOR

#### Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
15-25 %	Sulfuric acid	CAS:7664-93-9 EC:231-639-5 Index:016-020-00-8	Skin Corr. 1A, H314 Met. Corr. 1, H290  Specific Concentration Limits: 5% $\leq$ C < 15%: Eye Irrit. 2 H319 5% $\leq$ C < 15%: Skin Irrit. 2 H315 C $\geq$ 15%: Skin Corr. 1A H314 C $\geq$ 0.3%: Met. Corr. 1 H290	01-2119458838-20
< 5%	Rhodium (III) sulfate	CAS:10489-46-0	Skin Corr. 1A, H314	

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- OBTAIN IMMEDIATE MEDICAL ATTENTION.
- Remove contaminated clothing immediately and dispose off safely.
- After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

- After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
- Protect uninjured eye.

In case of Ingestion:

- Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

- Remove casualty to fresh air and keep warm and at rest.

### 4.2. Most important symptoms and effects, both acute and delayed

Eye irritation  
Eye damages  
Skin Irritation  
Erythema

### 4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media:

- Water.
- Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

- None in particular.

### 5.2. Special hazards arising from the substance or mixture

- Do not inhale explosion and combustion gases.
- Burning produces heavy smoke.

### 5.3. Advice for firefighters

- Use suitable breathing apparatus .
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Move undamaged containers from immediate hazard area if it can be done safely.

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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- Wear personal protection equipment.
- Remove persons to safety.
- See protective measures under point 7 and 8.

#### For emergency responders:

- Wear personal protection equipment.

### 6.2. Environmental precautions

- Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
- Retain contaminated washing water and dispose it.
- In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
- Suitable material for taking up: absorbing material, organic, sand

### 6.3. Methods and material for containment and cleaning up

- Suitable material for taking up: absorbing material, organic, sand
- Wash with plenty of water.

### 6.4. Reference to other sections

- See also section 8 and 13
- 

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Avoid contact with skin and eyes, inhalation of vapours and mists.
- Don't use empty container before they have been cleaned.
- Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
- Contaminated clothing should be changed before entering eating areas.
- Do not eat or drink while working.
- See also section 8 for recommended protective equipment.

### 7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

- None in particular.

Instructions as regards storage premises:

- Adequately ventilated premises.

### 7.3. Specific end use(s)

Recommendation(s)

- None in particular

Industrial sector specific solutions:

- None in particular
- 

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
Sulfuric acid CAS: 7664-93-9	NATIONAL	ITALY	Long Term: 0.05 mg/m <sup>3</sup> thoracic fraction
	ACGIH		Long Term: 0.2 mg/m <sup>3</sup> (T), A2(M) - Pulm func

#### Predicted No Effect Concentration (PNEC) values

Sulfuric acid CAS: 7664-93-9	Exposure Route: Fresh Water; PNEC Limit: 3 ug/l
	Exposure Route: Local treatment plants; PNEC Limit: 8.8 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 0.002 mg/kg/d
	Exposure Route: Marine water sediments; PNEC Limit: 0.002 mg/kg/d

#### Derived No Effect Level (DNEL) values

Sulfuric acid CAS: 7664-93-9	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 0.05 mg/m <sup>3</sup>
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 0.1 mg/m <sup>3</sup>

## 8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

N.A.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Liquid

**Color:** N.A.

**Odour:** Odourless

**Odour threshold:**

**pH:** 0,00

**Kinematic viscosity:** N.A.

**Melting point / freezing point:** N.A.

**Initial boiling point and boiling range:** N.A.

**Flash point:** N.A.

**Upper/lower flammability or explosive limits:** N.A.

**Vapour density:** N.A.

**Vapour pressure:** N.A.

**Relative density:** 1,20 g/cm<sup>3</sup>

**Solubility in water:** Total

**Solubility in oil:** N.A.

**Partition coefficient (n-octanol/water):** N.A.

**Nanoforms dispersion stability:**

**Auto-ignition temperature:** N.A.

**Decomposition temperature:** N.A.

**Flammability:** N.A.

**Particle characteristics:**

**Particle size:** N.A.

### 9.2. Other information

**VOC:** N.A.

**Miscibility:** N.A.

**Conductivity:** N.A.

**Evaporation rate:** N.A.

**No other relevant information**

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Data not available.

### 10.3. Possibility of hazardous reactions

It may generate flammable gases on contact with dithiocarbamates, elementary metals, and nitrides.

It may generate toxic gases on contact with amides, aliphatic and aromatic amines, azo, diazo, and hydrazine compounds, carbamates, inorganic fluorides, halogenated organic substances, isocyanates, sulphides, organic nitrous compounds, organophosphat

It may catch fire on contact with alcohols and glycols, aldehydes, dithiocarbamates, esthers, ethers, aromatic and aliphatic hydrocarbons, halogenated organic substances, isocyanates, ketones, sulphides, organic nitrous compounds, phenols, and cresols.

ATTENTION! Contact with cyanides or aqueous solutions containing cyanides will develop highly toxic hydrogen cyanide fumes.

### 10.4. Conditions to avoid

Stable under normal conditions.

#### 10.5. Incompatible materials

None in particular.

#### 10.6. Hazardous decomposition products

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### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### Toxicological Information of the Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin Corr. 1A(H314)
c) serious eye damage/irritation	The product is classified: Eye Dam. 1(H318)
d) respiratory or skin sensitisation	Not classified Based on available data, the classification criteria are not met
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

##### Toxicological information on main components of the mixture:

Sulfuric acid                      a) acute toxicity                      LD50 Oral Rat = 2140 mg/kg

##### Endocrine disrupting properties:

No endocrine disruptor substances present in concentration  $\geq$  0.1%

#### 11.2. Information on other hazards

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

##### List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

##### List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Sulfuric acid	CAS: 7664-93-9 - EINECS: 231-639-5 - INDEX: 016-020-00-8	a) Aquatic acute toxicity : LC50 Fish <i>Gambusia affinis</i> - Adult = 42 Ppm 96h

No endocrine disruptor substances present in concentration  $\geq$  0.1%

#### 12.2. Persistence and degradability

N.A.

#### 12.3. Bioaccumulative potential

N.A.

#### 12.4. Mobility in soil

N.A.

## 12.5. Results of PBT and vPvB assessment

No PBT Ingredients are present

## 12.6. Endocrine disrupting properties

## 12.7. Other adverse effects

N.A.

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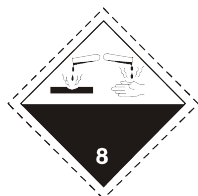
## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

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## SECTION 14: Transport information



### 14.1. UN number or ID number

2796

### 14.2. UN proper shipping name

ADR-Shipping Name: SULPHURIC ACID

IATA-Technical name: SULPHURIC ACID with 51% or less acid

IMDG-Technical name: SULPHURIC ACID with not more than 51% acid

### 14.3. Transport hazard class(es)

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

### 14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

### 14.5. Environmental hazards

No

Environmental Pollutant: No

### 14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: -

ADR-Transport category (Tunnel restriction code): 2 (E)

Air (IATA):

IATA-Passenger Aircraft: 851

IATA-Cargo Aircraft: 855

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisions: -

Sea (IMDG):

IMDG-Stowage Code: Category B

IMDG-Stowage Note: SGG1a SG36 SG49

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: -

IMDG-EMS: F-A, S-B

IMDG-MFAG: N/A

### 14.7. Maritime transport in bulk according to IMO instruments

N.A.

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## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 2020/878

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

Provisions related to directive EU 2012/18 (Seveso III):

N.A.

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

German Water Hazard Class.

Class 3: extremely hazardous.

SVHC Substances:

No data available

### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

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## SECTION 16: Other information

Code	Description
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Code	Hazard class and hazard category	Description
2.16/1	Met. Corr. 1	Substance or mixture corrosive to metals, Category 1
3.2/1A	Skin Corr. 1A	Skin corrosion, Category 1A
3.3/1	Eye Dam. 1	Serious eye damage, Category 1

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
3.2/1A	On basis of test data (pH)
3.3/1	On basis of test data (pH)

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European



Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: KAFH

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

LDLo: Leathal Dose Low

N.A.: Not Applicable

N/A: Not Applicable

N/D: Not defined/ Not available

NA: Not available

NIOSH: National Institute for Occupational Safety and Health

NOAEL: No Observed Adverse Effect Level

OSHA: Occupational Safety and Health Administration.

PBT: Persistent, Bioaccumulative and Toxic

PGK: Packaging Instruction

PNEC: Predicted No Effect Concentration.

PSG: Passengers

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

vPvB: Very Persistent, Very Bioaccumulative.

WGK: German Water Hazard Class.

**\* Sheet model entirely changed in compliance to regulatory update.**