

## RHODUNA® Diamond Bright Rhodium Concentrate

Version 1.0

IT

SDS Number: 300000003724

Revision Date: 30.06.2016

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

Product identifier : RHODUNA® Diamond Bright Rhodium Concentrate

Product code : 300000003724

Material number : 000000574121400200

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

Use of the Sub-  
stance/Mixture : Electroplating

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

Company : Umicore Galvanotechnik GmbH  
Klarenbergstraße 53-79  
73525 Schwäbisch Gmünd  
Germany

Telephone : +49 (0)7171 607-01

Telefax : +497171607316

E-mail address of person  
responsible for the SDS : info.ipds@umicore.com

#### 1.4 Emergency telephone number

##### Poison Center

Telephone : +39 06 305 43 43

Hours of operation : 24HRS

Only intended to inform professional caregivers in acute poisoning

##### Supplier

Emergency telephone num-  
ber : For transport in Europe, Central- and South America, Israel  
and Africa (Non-Arabic speaking countries): +32 3 213 15 70  
For transport in the Middle East (Israel excluded) & Arabic  
speaking Africa: +32 3 213 33 79  
For transport in the USA and Canada: 1-877 986 4267  
For transport in Asian and the Pacific (China excluded): +65  
62 64 78 36  
For transport in China: 400 88 71 190

Hours of operation : This telephone number is available 24 hours per day, 7 days  
per week.

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

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Corrosive to metals, Category 1	H290: May be corrosive to metals.
Skin corrosion, Category 1A	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**  
P280 Wear protective gloves/ protective clothing/  
eye protection/ face protection.

#### **Response:**

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 + P338 + P310 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.

P390 Absorb spillage to prevent material damage.

Hazardous components which must be listed on the label:

Sulphuric acid

dirrhodium trisulphate

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 49,8 %

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### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
Sulphuric acid	7664-93-9  231-639-5 / 01- 2119458838-20	Met. Corr. 1; H290 Skin Corr. 1; H314 Eye Dam. 1; H318	<= 43
dirhodium trisulphate	10489-46-0  234-014-5 /	Met. Corr. 1; H290 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Corr. 1A; H314 Eye Dam. 1; H318	<= 6,8

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Move to fresh air.  
If symptoms persist, call a physician.  
If unconscious, place in recovery position and get medical attention immediately.
- In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.  
Wash contaminated clothing before reuse.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
Remove contact lenses.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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Continue rinsing eyes during transport to hospital.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

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

Symptoms : Skin contact may provoke the following symptoms:  
Burn  
corrosive effects  
Redness  
Eye contact  
Excessive lachrymation

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

No information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

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

Unsuitable extinguishing media : High volume water jet

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

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Sulphur oxides  
Metal oxides  
Sulphuric acid

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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### SECTION 6: Accidental release measures

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

Personal precautions : Use personal protective equipment.

#### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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

Methods for cleaning up : Neutralize with chalk, alkali solution or ammonia.  
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

#### 6.4 Reference to other sections

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
To avoid spills during handling keep bottle on a metal tray.  
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke.  
Wash hands before breaks and at the end of workday.

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

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards. To maintain product quality, do not store in heat or direct sunlight.

Other data : Keep in a dry place. No decomposition if stored and applied as directed.

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### 7.3 Specific end use(s)

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Sulphuric acid	7664-93-9	TWA (mist, thoracic fraction)	0,05 mg/m <sup>3</sup>	IT OEL
Further information	When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds., The mist is defined as the thoracic fraction.			
		TWA (Mist)	0,05 mg/m <sup>3</sup>	2009/161/EU
Further information	Indicative, When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds., The mist is defined as the thoracic fraction.			

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Sulphuric acid	Workers	Inhalation	Acute local effects	0,1 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	0,05 mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Sulphuric acid	Fresh water	0,0025 mg/l
	Sediment	0,002 mg/l
	Marine water	0,00025 mg/l
	Marine sediment	0,002 mg/l
	Sewage treatment plant	8,8 mg/l

### 8.2 Exposure controls

#### Engineering measures

Handle only in a place equipped with local exhaust (or other appropriate exhaust).

#### Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166  
Wear face-shield and protective suit for abnormal processing problems.

Hand protection  
Material : Nitrile rubber

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Break through time : > 240 min  
Glove thickness : 0,38 mm

Skin and body protection : Impervious clothing

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### SECTION 9: Physical and chemical properties

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

Appearance : liquid  
Colour : dark brown  
pH : 0 - 1  
Relative density : 1,38 - 1,45  
Density : 1,38 - 1,45 g/cm<sup>3</sup>

#### 9.2 Other information

No data available

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

#### 10.2 Chemical stability

No decomposition if stored and applied as directed.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

#### 10.4 Conditions to avoid

#### 10.5 Incompatible materials

Materials to avoid : Strong bases  
Alkali metals  
Alkaline earth metals  
Metals

#### 10.6 Hazardous decomposition products

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

##### Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg

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Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

### Components:

#### **Sulphuric acid:**

Acute oral toxicity : LD50 (Rat): 2.140 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : Assessment: The substance or mixture has no acute dermal toxicity

#### **dirhodium trisulphate:**

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : Acute toxicity estimate: 1,5 mg/l  
Test atmosphere: dust/mist  
Method: Expert judgement

Acute dermal toxicity : Remarks: No data available

### **Skin corrosion/irritation**

#### Product:

Remarks: Extremely corrosive and destructive to tissue.

### **Serious eye damage/eye irritation**

#### Product:

Remarks: May cause irreversible eye damage.

### Components:

#### **Sulphuric acid:**

Species: Rabbit

Result: Irreversible effects on the eye

### **Respiratory or skin sensitisation**

#### Product:



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Remarks: No data available

### Germ cell mutagenicity

**Product:**

Genotoxicity in vitro : Remarks: No data available

### Carcinogenicity

**Product:**

Remarks: No data available

### Reproductive toxicity

**Product:**

Effects on fertility : Remarks: No data available

### STOT - single exposure

**Product:**

Remarks: No data available

### STOT - repeated exposure

**Product:**

Remarks: No data available

### Further information

**Product:**

Remarks: No data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Further information

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 49,8 %

**Components:**

**Sulphuric acid:**

Ecotoxicology Assessment

Acute aquatic toxicity : No data available

**dirrhodium trisulphate:**

Ecotoxicology Assessment

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Acute aquatic toxicity : No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### 12.6 Other adverse effects

#### Product:

Additional ecological information : No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Do not dispose of waste into sewer.  
Dispose of in accordance with the European Directives on waste and hazardous waste.  
In accordance with local and national regulations.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.  
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

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## SECTION 14: Transport information

### 14.1 UN number

ADN : UN 3264

ADR : UN 3264

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**RID** : UN 3264

**IMDG** : UN 3264

**IATA** : UN 3264

### 14.2 UN proper shipping name

**ADN** : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(Sulphuric acid, dirhodium trisulfate)

**ADR** : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(Sulphuric acid, dirhodium trisulfate)

**RID** : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(Sulphuric acid, dirhodium trisulfate)

**IMDG** : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(Sulphuric acid, dirhodium trisulfate)

**IATA** : Corrosive liquid, acidic, inorganic, n.o.s.  
(Sulphuric acid, dirhodium trisulfate)

### 14.3 Transport hazard class(es)

**ADN** : 8



**ADR** : 8



**RID** : 8



**IMDG** : 8



**IATA** : 8



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### 14.4 Packing group

#### ADN

Packing group : II  
Classification Code : C1  
Hazard Identification Number : 80  
Labels : 8

#### ADR

Packing group : II  
Classification Code : C1  
Hazard Identification Number : 80  
Labels : 8  
Tunnel restriction code : (E)  
Limited quantity : 1,00 L

#### RID

Packing group : II  
Classification Code : C1  
Hazard Identification Number : 80  
Labels : 8

#### IMDG

Packing group : II  
Labels : 8  
EmS Code : F-A, S-B  
IMDG segregationcode : Acids

#### IATA

Packing instruction (cargo aircraft) : 855  
Maximum quantity : 30,00 L  
Packing instruction (passenger aircraft) : 851  
Maximum quantity : 1,00 L  
Packing instruction (LQ) : Y840  
Packing group : II  
Labels : Corrosive  
Remarks :

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : no

#### ADR

Environmentally hazardous : no

#### RID

Environmentally hazardous : no

#### IMDG

Marine pollutant : no

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### 14.6 Special precautions for user

Not applicable

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

Other regulations : Legislative Decree February 3, 1997, 52 (Implementation of Directive 92/32/EEC concerning the classification, packaging and labeling of dangerous substances.) and subsequent amendments  
Legislative Decree March 14, 2003, 65 (Implementation of Directives 1999/45/EC and 2001/60/EC relating to the classification, packaging and labeling of dangerous preparation) and subsequent amendments  
Legislative Decree April 9, 2008, 81 (Implementation of Article 1 of the Law of 3 August 2007, n. 123, concerning the protection of health and safety in the workplace.) and subsequent amendments  
Legislative Decree April 3, 2006, n.152, (Environmental standards) and subsequent amendments  
Legislative Decree February 6, 2009, 21 (Regulations for the execution of the provisions laid down in Regulation (EC) no. 648/2004 on detergents)

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

### The components of this product are reported in the following inventories:

CH INV : On the inventory, or in compliance with the inventory

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TSCA	: On TSCA Inventory
DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory

### 15.2 Chemical Safety Assessment

#### SECTION 16: Other information

##### Full text of H-Statements

H290	: May be corrosive to metals.
H302	: Harmful if swallowed.
H312	: Harmful in contact with skin.
H314	: Causes severe skin burns and eye damage.
H318	: Causes serious eye damage.
H332	: Harmful if inhaled.

##### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Eye Dam.	: Serious eye damage
Met. Corr.	: Corrosive to metals
Skin Corr.	: Skin corrosion

(Q)SAR - (Quantitative) Structure Activity Relationship; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect

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Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

### Further information

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.

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