

RHODUNA® J 1 Replenisher Solution

Version 1.3

SDS Number: 300000002568

Revision Date: 10/09/2016

SECTION 1. IDENTIFICATION

Product name : RHODUNA® J 1 Replenisher Solution

Material number : 000000574101500503

Product code : 300000002568

Manufacturer or supplier's details

Company name of supplier : Umicore Galvanotechnik GmbH

Address : 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

Poison Center

Telephone : 1 800 222 1222

Hours of operation : 24HRS

SupplierEmergency telephone number : 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.

Recommended use of the chemical and restrictions on use

Recommended use : Electroplating

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Corrosive to metals : Category 1

Skin corrosion : Category 1

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Serious eye damage : Category 1

GHS Label element

Hazard pictograms :



Signal word : Danger

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

 Precautionary statements : **Prevention:**
 P234 Keep only in original container.
 P264 Wash skin thoroughly after handling.
 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.
 P363 Wash contaminated clothing before reuse.
 P390 Absorb spillage to prevent material damage.
Storage:
 P405 Store locked up.
 P406 Store in corrosive resistant stainless steel container with a resistant inner liner.
Disposal:
 P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 7.3 %

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (% w/w)
Sulphuric acid	7664-93-9	<=20
phosphoric acid, rhodium(3+) salt (1:1)	67859-71-6	<=7.3

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SECTION 4. 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.
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 : Clean mouth with water and drink afterwards plenty of water.
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.
- Most important symptoms and effects, both acute and delayed : Skin contact may provoke the following symptoms:
Burn
corrosive effects
Redness
Eye contact
Excessive lachrymation

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet

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Specific hazards during fire-fighting	: Cool closed containers exposed to fire with water spray. In the presence of fire, note caustic and corrosive effect. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: Sulphur oxides Metal oxides
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.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment.
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.
Methods and materials for containment and 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.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	: Normal measures for preventive fire protection.
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.
Conditions for safe storage	: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with

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the technological safety standards.
 To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Sulphuric acid	7664-93-9	TWA (Thoracic fraction)	0.2 mg/m ³	ACGIH
		TWA	1 mg/m ³	NIOSH REL
		TWA	1 mg/m ³	OSHA Z-1
		TWA	1 mg/m ³	OSHA P0

Hazardous components without workplace control parameters

Components	CAS-No.
phosphoric acid, rhodium(3+) salt (1:1)	67859-71-6

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

Personal protective equipment
Hand protection

Material : Nitrile rubber
 Break through time : > 240 min
 Glove thickness : 0.38 mm

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

Skin and body protection : Impervious clothing

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
 Colour : brown
 Odour : characteristic
 pH : 0 - 1

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Flash point	: Not applicable
Vapour pressure	: Not applicable
Relative density	: 1.2 - 1.3
Density	: 1.2 - 1.3 g/cm ³
Solubility(ies)	
Water solubility	: completely miscible
Auto-ignition temperature	: not determined

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Stable at normal ambient temperature and pressure.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.
Conditions to avoid	: None known.
Incompatible materials	: Strong bases Alkali metals Alkaline earth metals Metals
Hazardous decomposition products	: No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Acute dermal toxicity : Remarks: No data available

Components:**Sulphuric acid:**

Acute oral toxicity : LD50 (Rat): 2,140 mg/kg

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

phosphoric acid, rhodium(3+) salt (1:1):

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Acute oral toxicity : Assessment: No data available

Acute inhalation toxicity : Assessment: No data available

Acute dermal toxicity : Assessment: No data available

Skin corrosion/irritation**Product:**

Remarks: Extremely corrosive and destructive to tissue.

Components:**Sulphuric acid:**

Result: Corrosive after 3 minutes or less of exposure

Remarks: data waiving in REACH dossier

Serious eye damage/eye irritation**Product:**

Remarks: May cause irreversible eye damage.

Components:**Sulphuric acid:**

Species: Rabbit

Result: Irreversible effects on the eye

phosphoric acid, rhodium(3+) salt (1:1):

Result: Irreversible effects on the eye

Respiratory or skin sensitisation**Product:**

Remarks: No data available

Germ cell mutagenicity**Product:**

Genotoxicity in vitro : Remarks: No data available

Carcinogenicity**Product:**

Remarks: No data available

IARC

Group 1: Carcinogenic to humans

Sulphuric acid

sulphuric acid

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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NTP

Known to be human carcinogen

Sulphuric acid

sulphuric acid

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

Repeated dose toxicity**Components:****Sulphuric acid:**

Species: Rat, female

LOAEL: 0.0003 mg/l

Application Route: inhalation (vapour)

Method: OECD Test Guideline 412

GLP: yes

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Further information

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 7.3 %

Components:**Sulphuric acid:**

Toxicity to fish

: LC50 (Lepomis macrochirus (Bluegill sunfish)): > 16 mg/l

Exposure time: 96 h

Test Type: static test

GLP: no

Remarks: Fresh water

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes
Remarks: Fresh water

Toxicity to fish (Chronic toxicity) : NOEC (Jordanella floridae (flagfish)): 0.025 mg/l
Exposure time: 65 days
GLP: no
Remarks: Fresh water

phosphoric acid, rhodium(3+) salt (1:1):

Ecotoxicology Assessment

Acute aquatic toxicity : No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : 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.

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

SECTION 14. TRANSPORT INFORMATION
International Regulation
UNRTDG

UN number : UN 3264
 Proper shipping name : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
 (Sulphuric acid, phosphoric acid, rhodium(3+) salt (1:1))
 Class : 8
 Packing group : II
 Labels : 8



Marine pollutant : no

IATA-DGR

UN/ID No. : UN 3264
 Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s.
 (Sulphuric acid, phosphoric acid, rhodium(3+) salt (1:1))
 Class : 8
 Packing group : II
 Labels : Corrosive



Packing instruction (cargo aircraft) : 855
 Maximum quantity : 30.00 L
 Packing instruction (passenger aircraft) : 851
 Maximum quantity : 1.00 L

IMDG-Code

UN number : UN 3264
 Proper shipping name : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
 (Sulphuric acid, phosphoric acid, rhodium(3+) salt (1:1))
 Class : 8
 Packing group : II
 Labels : 8

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EmS Code : F-A, S-B
 Marine pollutant : no
 IMDG segregationcode : Acids

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

Not applicable for product as supplied.

National Regulations
49 CFR - DOT

UN/ID/NA number : UN 3264
 Proper shipping name : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
 (Sulphuric acid, phosphoric acid, rhodium(3+) salt (1:1))
 Class : 8
 Packing group : II
 Labels : CORROSIVE



ERG Code : 154
 Marine pollutant : no

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION
EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Component RQ (lbs)
sulphuric acid	7664-93-9	1000	500
sulphuric acid	7664-93-9	100	500

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
sulfuric acid	7664-93-9	1000	5000

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

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Sulphuric acid	sulphuric acid	20 %
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SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Sulphuric acid	7664-93-9	20 %
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The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Sulphuric acid	7664-93-9	20 %
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This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations
Massachusetts Right To Know

Sulphuric acid	7664-93-9	20 - 30 %
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Pennsylvania Right To Know

water	7732-18-5	70 - 90 %
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Sulphuric acid	7664-93-9	20 - 30 %
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phosphoric acid, rhodium(3+) salt (1:1)	67859-71-6	5 - 10 %
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New Jersey Right To Know

water	7732-18-5	70 - 90 %
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Sulphuric acid	7664-93-9	20 - 30 %
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phosphoric acid, rhodium(3+) salt (1:1)	67859-71-6	5 - 10 %
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California Prop. 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

Sulphuric acid	7664-93-9	
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The components of this product are reported in the following inventories:

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

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

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phosphoric acid, rhodium(3+) salt (1:1)

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	: Not in compliance with the inventory phosphoric acid, rhodium(3+) salt (1:1)
IECSC	: Not in compliance with the inventory phosphoric acid, rhodium(3+) salt (1:1)

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION
Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; 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 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; 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; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency

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Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Further information

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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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