Revision n. 6 – 22.08.2025
Replaces revision n. 5 – 11.09.2024

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Commercial name	Rh Sulphate in solution (CoC)
Product code	1360
Registration number	A registration number is not available for this product as it is a mixture
UFI code	7SR3-90CU-F003-9U9R

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

Recommended uses	Industrial use. Additive for electroplating
Uses adviced against	None in particular

1.3 Details of the supplier of the safety data sheet

Name	FAGGI ENRICO S.P.A.
Adress	Via Majorana, 101/103 50019 Sesto Fiorentino FI
Telephone number	055311861
Fax number	055311791
Competent person responsible for the safety data sheet	lorenzo.magaldi@faggi.it

1.4 Emergency telephone number 111 - Medical helpline operating in England, in Scotland (NHS 24) and in Wales (NHS Direct Wales)

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture according to Regulation (EC) n. 1272/2008

Hazard class	Category codes	Hazards indications
Met. corrosive	1	H290
Skin corrosive	1 A	H314
Aq. Acute	1	H400
Aq. Chronic	1	H410

2.2 Label elements

Pictograms

Signal word **DANGER**

Hazard statements	H290	May be corrosive to metals
	H314	Causes severe skin burns and eye damage.
	H400	Very toxic to aquatic life
	H410	Very toxic to aquatic life with long lasting effects.
Precautionary advice		
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	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 [or shower].
	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.
	P308 + P313	IF exposed or concerned: get medical advice/attention.

UFI code 7SR3-90CU-F003-9U9R

2.3 Other hazards It does NOT contain PBT / vPvB substances according to Regulation (EC) 1907/2006, annex XIIIIt does NOT contain substances that interfere with the endocrine system in accordance with Regulation (EC) 1907/2006 art.59 paragraph 1 and in accordance with the criteria established in Regulation (EU) 2017/2100 and Regulation (EU) 2018/605.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixure

Product identifier	Concentration %	Classification	
		Hazard classes Category codes	Hazard statements
Dirodium trisulfate CAS 10489-46-0 CE: 234-014-5 INDEX: not available REACH N °: exempt for quantity STA: not applicable M factor (acute): 1 M factor (chronic): 1	20 ≤ C ≤ 25	Met. Corr 1 Skin Corr. 1B Eye Dam. 1 Aq. Acute 1 Aq. Chronic 1 Corrosive to the respiratory tract	H290 H314 H318 H400 H410 EUH071
Sulfuric acid CAS 7664-93-9 EC 231-639-5 INDEX 016-020-00-8 Reach No: 01-2119458838-20-XXXX STA: not applicable Specific limits: Skin Corr. 1A: C ≥ 15% Skin Irrit. 2: H315 5% ≤ C <15% Eye Irrit. 2: H319 5% ≤ C <15% M Factors: not applicable	7 ≤ C ≤ 15	Skin Corr. 1 A	H314

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Keep the injured person at rest in an airy and warm environment. In case of respiratory arrest, use artificial respiration methods
Ingestion	Do not induce vomiting. Drink plenty of water and consult a doctor
Contact with skin	Take off contaminated clothing immediately. Immediately wash skin with plenty of soap and water. Consult a physician
Contact with eyes	Immediately flush eyes with plenty of water while holding the eyelids apart. Do not use eye drops or ointments. Consult an ophthalmologist specialist

Recommendations:

• Need to see a doctor immediately	YES
• Possibility of delayed effects following exposure	YES
• Move the exposed individual from the place of exposure to the open air	YES
• Remove the clothing and shoes of the exposed individual	YES
• How to handle contaminated clothing	With gloves
• For first aiders, wear PPE	YES

4.2 Most important symptoms and effects, both acute and delayed

Eye, nose and throat irritation, chest pain, choking, skin irritation, corneal burns, skin burn (after severe exposure), nausea, vomiting: Abundant and bleeding mucous secretions, bronchitis, pulmonary edema, corneal necrosis, tissue necrosis, perforation of the gastrointestinal tract.

4.3 Indication of any immediate medical attention and special treatment needed

Consult a physician immediately. Emergency showers and eye washing systems must be available in the workplace.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Water spray, carbon dioxide, foam.
Unsuitable extinguishing media	None in particular

5.2 Special hazards arising from the substance or mixture

If involved in a fire it can develop sulfur oxides, toxic for inhalation.

5.3 Advice for firefighters

General information	Prevent the water used to extinguish the fire from flowing into the sewer, groundwater or surface water. Cool containers at risk with water.
Equipment	Normal fire-fighting clothing, such as self-contained open-circuit compressed air breathing apparatus (EN137), flame retardant suit (EN469), flame retardant gloves (EN659) and firefighter boots (HOA29 or A30)

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Move away from the contaminated area immediately and keep upwind.

6.1.2. For emergency responders

To wear:
Gloves for chemical risks compliant with EN420 EN374 Standards
Complete clothing compliant with the UNI EN 13034: 2006 standard
Semi-face masks with ABEK2P3 R filters conforming to EN14387: 2004 + A1: 2008

6.2 Environmental precautions

Prevent infiltration into the sewer, groundwater, and surface water

6.3 Methods and material for containment and cleaning up

6.3.1. Advice in order to contain a spill

Contain spill with appropriate absorbent material (sand, bentonite) and place in airtight container. Sprinkle the spill with baking soda to neutralize the acidity.

6.3.2. Advice in order to clean-up a spill

Wash the area with plenty of water.

6.3.3 **Other information**

None

6.4 Reference to other sections

None

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Raccomentations in order to manipulate the substance or the mixture in a safe manner, such as containement measures and prevention of fire and aereosol and powders formation

Keep in original sealed and labeled packaging

7.1.2. General recommendation on work hygiene

Do not eat, drink and smoke in work areas. Wash your hands after use. Remove contaminated clothing and protective equipment before entering eating areas

7.2. Conditions Safe storage, including any incompatibilities

Keep away from bases.

7.2.1. Risk management associated with explosive atmospheres, corrosive conditions, flammability hazards, incompatible substances or mixtures, evaporative conditions, potential ignition sources

Store in the original containers and close them immediately after use.

7.2.2 Containment of the effects of weather conditions, pressure, temperature, sunlight, humidity and vibrations

Store in a cool, dry place.

7.2.3. Conditions for keeping substances / mixtures intact

The packages must be well closed and labeled.

7.2.4 **Provisions relating to ventilation, specific design of storage rooms or containers, quantitative limits in storage conditions, compatibility of packaging**

Use PE and PP plastic packaging or other resistant materials. Keep the packages in a containment basin.

7.3. Specific end use(s)

Industrial use. Additive for electroplating.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters (related to sulfuric acid)

SULPHURIC ACID

DNEL

Workers

Systemic effects for long-term exposure – inhalation: no hazard identified

Systemic effects for short-term exposure – inhalation: no hazard identified
Local effects for long-term exposure – inhalation: 0.05 mg/m3
Local effects for short-term exposure – inhalation: 0.1 mg/m3
Systemic effects for long-term exposure – dermal: no hazard identified
Systemic effects for short-term exposure – dermal: no hazard identified
Local effects for long-term exposure – dermal: high hazard (no derived threshold)
Local effects for short-term exposure – dermal: high hazard (no derived threshold)
Eye hazards: high risk (no derived threshold)

General population

Systemic effects for long-term exposure – inhalation: no hazard identified
Systemic effects for short-term exposure – inhalation: no hazard identified
Local effects for long-term exposure – inhalation: high hazard (no derived threshold)
Local effects for short-term exposure – inhalation: high hazard (no derived threshold)
Systemic effects for long-term exposure – dermal: no hazard identified
Systemic effects for short-term exposure – dermal: no hazard identified
Local effects for long-term exposure – dermal: high hazard (no derived threshold)
Local effects for short-term exposure – dermal: high hazard (no derived threshold)
Systemic effects for long-term exposure – oral: no hazard identified
Systemic effects for short-term exposure – oral: no hazard identified
Eye hazards: high hazard (no derived threshold)

PNEC

Fresh water: no hazard identified
Marine water: no hazard identified
Sewage treatment plant: no hazard identified
Sediment (fresh water): no hazard identified
Sediment (sea water): no hazard identified
Soil: no hazard identified

DIRHODIUM TRISULPHATE

DNEL

No data available up to now

PNEC

Chronic Ecotoxic Reference Value (ERV): 46 µg Rh/L (P. subcapitata)(growth rate)
Acute Ecotoxic Reference Value (ERV): 290 µg Rh/L (D. magna)

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Use only under a fume hood. Emergency showers and eye washing system near the work area.

8.2.2. Individual protection measures, such as personal protective equipment

Eye/face protection	Splash goggles compliant with Directive 89/686 / EEC and standard EN166: 2001
Skin protection (hands)	Chemical gloves according to EN 420 EN 374 Glove material: Fluorinated rubber Material thickness: 0.5 mm Penetration time: ≥ 60 min DIN EN374 method
Skin protection (body)	Complete clothing compliant with the UNI EN 13034: 2006 standard

Respiratory protection	Semi-face masks with ABEK2P3 R filters conforming to EN14387: 2004 + A1: 2008
Thermal hazards	Information not available

8.2.3. Environmental exposure controls

Maintain suction in all environments using localized collection and ambient air exchange systems. Convey the aspirated volumes to an abatement system and then into the atmosphere. Do not use recirculating air suction systems. Avoid any spillage into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Color	Dark brown
Odor	Pungent
Melting point / freezing point	About -1 ° C
Boiling point or initial boiling point and boiling range	About 105 ° C
Flammability	Not inflammable
Lower and upper explosive limits	Not explosive
Flash point	Not inflammable
Self-ignition temperature	Not inflammable
Decomposition temperature	The mixture does not decompose
pH	<2
Cinematic viscosity	Data not available
Solubility	Fully miscible in water
Production coefficient n-octanol / water (logarithmic value)	Not applicable
Vapor pressure	2.33 KPa at 20 ° C
Density and / or relative density	1.15 g / cm3
Relative vapor density	Data not available
Characteristics of the particles	Not applicable

9.2. Other information

None

10. STABILITY AND REACTIVITY

10.1 Reactivity

The product exhibits strongly acidic behavior

10.2 Chemical stability

Stable under normal storage conditions

10.3 Possibility of hazardous reactions

It can generate flammable gases and ignite in contact with organic sulphides, elemental metals and strong reducing agents. It can generate toxic gases in contact with halogenated organic substances, sulphides, nitrides, nitriles, organophosphates and strong oxidizing agents.

10.4 Conditions to avoid

Overheating

10.5 Incompatible materials

Bases, organic substances

10.6 Hazardous decomposition products

Sulfur oxides

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity	Based on available data, the classification criteria are not met
Skin corrosion / irritation	Corrosive to the skin and mucous membranes
Serious eye damage/irritation	Strongly corrosive
Respiratory or skin sensitization	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT – single exposure	Based on available data, the classification criteria are not met
STOT – repeated exposure	Based on available data, the classification criteria are not met

11.2 Information on other hazards

None

12. ECOLOGICAL INFORMATION

12.1	**Toxicity**	Dirhodium trisulphate LC 50 (fish) 96 h: 220 mg / L EC50 (Daphnia magna) 48 h: 290 µg / L Rh EC50 (algae) 72 h: 4.5 mg/L Rh
12.2	**Persistence and degradability**	Not persistent
12.3	**Bioaccumulative potential**	Not bioaccumulative
12.4	**Mobility in soil**	Undefined
12.5	**Results of PBT and vPvB assessment**	Not classified
12.6	**Endocrine disrupting properties**	None known
12.7	**Other adverse effects**	None in particular

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

The substance and its packaging must be disposed of as hazardous waste by authorized companies.

14. TRANSPORT INFORMATION

14.1	**UN number or ID number**	UN3264
14.2	**Official UN shipping name**	
	ADR/RID ADN IMDG ICAO/IATA	Corrosive, acidic inorganic liquid, n.o.s. (sulphuric acid, dirhodium trisulphate)
14.3	**Transport hazard class**	
	ADR/RID/ADN/IMDG/ICAO-IATA	Class 8
	ADR/RID/ADN/IMDG/ICAO-IATA	Label 8 + mark enviromental hazard
	ADR: Tunnel restriction code	E
	IMDG - EmS:	F-A, S-B
14.4	**Packing group**	I
14.5	**Dangers for the environment**	
	ADR/RID/ICAO-IATA:	yes

IMDG: Marine Contaminant: Dangerous for environment

14.6 Special precautions for user

Transport must be carried out by vehicles authorized for the transport of dangerous goods according to the provisions of the current edition of the A.D.R. Agreement. and the applicable national provisions. Transport must be carried out in the original packaging and, in any case, in packaging which is made of materials which cannot be attacked by the contents, and which are not likely to generate dangerous reactions. Those responsible for loading and unloading dangerous goods must have received appropriate training on the risks presented by the preparation and on any procedures to be adopted in the event of emergency situations.

14.7 Maritime transport in bulk according to IMO

No bulk transport is foreseen

15. REGULATORY INFORMATION

15.1 **Safety, health and environmental regulations/legislation specific for the substance or mixture**	**Applicability**
Reg. (EC) 1907/2006 / EC Reach	YES
Reg. (EC) 1272/2008 CLP and subsequent changes and additions	YES
Reg. (CE) 2037/2000 "Substances that deplete the ozone layer"	NO
Reg. (EC) 850/2004 "Persistent organic pollutants"	NO
Reg. (EC) 689/2008 "export and import of dangerous chemicals"	NO
Substance listed in Annex I of Dir. 2012/18 / EU so-called Seveso	NO
Legislative Decree 81/2008 Consolidated Law on health and safety at work	YES
Directive 2014/103 / EU "Adr"	YES
Reg. (CE) 1907/2006/CE Reach art. 59 – Candidate List of Substances of Very High Concern (SVHC)	NO
Reg. (CE) 1907/2006/CE Reach - Annex XIV – Authorisation List	NO
Reg. (CE) 1907/2006/CE Reach - Annex XVII – Restriction List https://echa.europa.eu/it/substances-restricted-under-reach	Limited use Item 3 - 75 (check link)
REGULATION (EU) 2019/1148 "Explosives precursors"	YES

15.2 **Chemical safety assessment**

A chemical safety assessment was not carried out

16. OTHER INFORMATION

Changes compared to the previous edition

Changes to section 2-3-8-12-14-16

Acronim and abbreviation legend

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
GHS: Globally Harmonized System of Classification and Labeling of Substances
EINECS: European Inventory of Chemical Substances
CAS: Chemical Abstract Service
STA: Acute Toxicity Estimate
PBT: Persistent, Bioaccumulative and Toxic.
vPvB: (very persistent and very bioaccumulative). Very persistent and very bioaccumulative

LD: lethal dose
PNEC: predicted no effect concentration
DNEL: derived no effect level
TLV (ceiling value): threshold limit value
STEL: short-term exposure limit
EU-OEL: European occupational exposure limit
TWA: time-weighted average
EC: effective concentration
NOAEL: no observed adverse effect level
LC: lethal concentration
NOEC: no observed effect concentration
LOEC: lowest observed effect concentration
Bw: body weight
Koc: organic carbon-water partition coefficient

Main references and data sources

ECHA's data bank on registered substances and soon to be registered substances: https://chem.echa.europa.eu/

Indication, for mixtures, of which methods of evaluation of the information have been used for the purposes of classification

Classification		**Classification procedure**
Met. Corr	H290	calculation
Skin corrosive 1 A	H314	According to 3.3.3.1.2 of Annex I to CLP
Aq. Acute 1	H400	calculation
Aq. Chronic 1	H410	calculation

Adequate training for workers in order to ensure the protection of human health and the environment

Chemical Risk Training pursuant to Legislative Decree 81/08 Title IX dangerous substances
PPE training