

**Safety data sheet**  
**According to Regulation no. 1907/2006 and Regulation 878/2020**  
**RHODIUM TRICHLORIDE SOLUTION**



Revision no. I – 01.03.2023

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

**1.1 Product identifier**

Trading name Rhodium trichloride solution  
 Product code 526

**1.2 Relevant identified uses of the substance and uses advised against**

Recommended uses: industrial use  
 Uses advised against: see section 15

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

Name FAGGI ENRICO S.P.A.  
 Address Via Majorana, 101/103 50019 Sesto Fiorentino FI  
 Phone +39 055311861  
 Fax +39 055311791  
 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)

**1.5 Registration number** A REACH registration number is not available for this substance as it is a mixture.

**2. HAZARDS IDENTIFICATION**

**2.1 Classification of the mixture according to Regulation (EC) No 1272/2008**

Hazard classes	Category codes	Hazard warnings
Metal Corrosive	1	H290
Skin corrosive	1B	H314
Eye Dam.	1	H318
STOT SE	3	H335
Muta	2	H341
Aquatic chronic	1	H400
Aquatic acute	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  
 H318 Causes serious eye damage  
 H335 May cause respiratory irritation  
 H341 Suspected of causing genetic defects  
 H400 Very toxic to aquatic life

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<b>Precautionary statements</b>	H410	Very toxic to aquatic life with long lasting effects
	P270	Do not eat, drink or smoke when using this product
	P280	Wear protective gloves/clothing. Protect your eyes/face.
	P303+P361+P353	IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower
	P305+P351+P388	IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
	P301+P330+P331	IF SWALLOWED: rinse mouth. Do not induce vomiting
	P304+P340	IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing.

**2.3 Other hazards**  
 DOES NOT contain PBT/vPvB substances as defined in Regulation (EC) 1907/2006, Annex XIII  
 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 set out in Regulation (EU) 2017/2100 and Regulation (EU) 2018/605.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixture**

Product identifier	Concentration	Classification	
		Hazard classes Category codes	Hazard warnings
Rhodium (III) chloride trihydrate CAS: 20765-98-4 EC: 606-630-8 Index Number: not available ATE (oral): LD50 753 - 1 257 mg/kg bw (rat) M-factor acute: 1 M-factor chronic: 1	0.5% ≤ C ≤ 5%	Met. Corr. 1 Acute Tox. 4 Eye Dam. 1 Muta 2	H290 H302 H318 H341
Hydrochloric acid CAS 7647-01-0 EC 231-595-7 INDEX: 017-002-01-X N. Reach 01-211948862-27-XXXX ATE: LC50 (rat) (inhalation): 4701 ppm Specific limits:	10% ≤ C ≤ 30%	Aquatic Acute 1 Aquatic Chronic 1  Met. Corr. 1 Skin Corr. 1 B STOT SE 3	H400 H410  H290 H314 H335

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Skin Corr. 1B; H314 C ≥ 25 %  
Skin Irrit. 2; H315: 10% ≤ C < 25%  
Eye Irrit. 2; H319: 10 % ≤ C < 25 %  
STOT SE 3; H335: C ≥ 10%  
M-factor: not applicable

4. **FIRST AID MEASURES**

**4.1 Description of first aid measures**

Inhalation	Keep the person affected at rest in a well-ventilated and warm area. In the event of respiratory arrest, administer artificial respiration
Ingestion	Do not induce vomiting. Drink plenty of water and consult a doctor
Skin contact	Immediately wash skin with plenty of water. Seek medical attention
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Do not use eye drops or creams. Seek medical attention.

**Recommendations:**

- **Seek medical attention immediately** YES
- **Possibility of delayed post-exposure effects** YES
- **Move the exposed individual from the place of exposure to fresh air** YES
- **Remove the exposed individual's clothing and shoes** YES
- **Method for handling contaminated clothing** Wear gloves
- **For first responders, wear PPE** YES

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

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

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

Seek medical attention immediately. Emergency showers and eyewash systems must be available at the workplace.

5. **FIRE-FIGHTING 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**

In case of fire, hydrochloric acid may form which is toxic if inhaled. The product reacts with metals forming hydrogen which is highly flammable.

**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 hazardous containers with water.

Equipment Normal fire-fighting clothes and equipment, such as self-contained breathing apparatus (EN 137), firefighting protective clothing (EN469), gloves (EN 659) and boots (HO A29 or A30)

6. **ACCIDENTAL RELEASE MEASURES**

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

**6.1.1. For non-emergency personnel**

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Immediately move away from the contaminated area and stay upwind.

**6.1.2. For emergency responders**

Wear:

Chemical hazard safety gloves conforming to EN420 EN374

Full set of clothing according to UNI EN 13034:2006

Half-face masks with filters ABEK2P3 R conforming to EN14387:2004 + a1:2008

**6.2 Environmental precautions**

Prevent entry into sewers, groundwater and surface water

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

**6.3.1 Recommendations on how to contain a spill**

Contain the spill with appropriate absorbent material (sand, sawdust) and place in an airtight container.

**6.3.2 Recommendations on how to clean up after a spill**

Wash the contaminated zone using plenty of water.

**6.3.3 Any other information**

None.

**6.4 Reference to other sections**

None

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

**7.1.1. Recommendations for safe handling of the substance or mixture, such as fire containment and prevention measures and the formation of aerosols and dust**

Keep in closed and labelled original packaging

**7.1.2. General recommendations on occupational 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 for safe storage, including any incompatibilities**

Store away from bases, strong oxidising agents and metals.

**7.2.1 Management of risks related to explosive atmospheres, corrosive conditions, flammability hazards, incompatible substances and mixtures, evaporation 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 packaging must be tightly closed and labelled.

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

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

**7.3 Specific end use(s)**

Industrial use

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters for hydrochloric acid**

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Limit value 8 hours : 5 ppm – 7.5 mg/m<sup>3</sup> Legislative Decree 81/08  
 Short-term limit value: 10 ppm - 15 mg/m<sup>3</sup> Legislative Decree 81/08

**8.2**

**Exposure controls**

**8.2.1 *Appropriate technical measures***

Ventilation systems. Emergency showers and eyewash system near the work area.  
 Periodically check the flow rate of the suction hood.

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

**Eye/face protection**

Splash safety goggles conforming to Directive 89/686/EEC and EN166:2001

**Skin protection (hands)**

Chemical hazard safety gloves conforming to EN420 EN374

**Skin protection (body)**

Complete clothing according to UNI EN 13034:2006

**Respiratory protection**

Half-face masks with filters ABEK2P3 R conforming to EN14387:2004 + a1:2008  
 Information not available

**Thermal hazards**

**8.2.3 *Environmental exposure controls***

Keep all environments equipped with suction systems using localised collection systems and ambient air exchange systems. Convey the aspirated volumes to an abatement system and then to the atmosphere. Do not use air recirculation 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
Colour	Reddish brown
Odour	Pungent, irritating
Melting point/freezing point	Approx. -50°C
Boiling point or initial boiling point and boiling range	Approx. 107 °C
Flammability	Non-flammable
Lower and upper limits of explosiveness	Non-explosive
Flash point	Non-flammable
Auto-ignition temperature	Non-flammable
Decomposition temperature	Not applicable
pH	Undefined
Kinematic viscosity	1.73 mm <sup>2</sup> /s at 20 °C
Solubility	Completely soluble in water
Partition coefficient n-octanol/water (log value)	Not applicable
Vapour pressure	12 hPa at 25 °C
Density and/or relative density	1.3 g/ml
Relative vapour density	Data not available
Particle characteristics	Not applicable

**9.2**

**Other information**

None

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**STABILITY AND REACTIVITY**



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		Invertebrates: EC50 pH 4.7 normalised to 0.73 mg/l/72h
<b>12.2</b>	<b>Persistence and degradability</b>	It is not biodegradable and dissociates in water. Adsorption/desorption in the soil is impossible.
<b>12.3</b>	<b>Bioaccumulation potential</b>	Insignificant given the high solubility in water
<b>12.4</b>	<b>Mobility in soil</b>	Does not reach sediment / soil and therefore cannot be ingested by birds or mammals
<b>12.5</b>	<b>Results of PBT and vPvB assessment</b>	Not applicable
<b>12.6</b>	<b>Properties of interference with the endocrine system</b>	None known effects
<b>12.7</b>	<b>Other adverse effects</b>	None known effects
<b>13.</b>	<b>DISPOSAL CONSIDERATIONS</b>	
<b>13.1</b>	<b>Waste treatment methods</b>	The substance and its packaging must be disposed of as hazardous waste by authorised companies.
<b>14.</b>	<b>TRANSPORT INFORMATION</b>	
<b>14.1</b>	<b>UN number or ID number</b>	3264
<b>14.2</b>	<b>UN proper shipping name</b>	Inorganic liquid, corrosive, n.o.s. acid (hydrochloric acid)
<b>14.3</b>	<b>Transport hazard class</b>	Class 8
	ADR/RID/IMDG/ICAO-IATA	Label 8
	ADR/RID/IMDG/ICAO-IATA	
	IMDG Contaminante marino	
<b>14.4</b>	<b>Packing group</b>	II
<b>14.5</b>	<b>Environmental hazards</b>	YES
<b>14.6</b>	<b>Special precautions for users</b>	These goods must be transported by vehicles authorised for the carriage of dangerous goods according to the requirements of the current edition of the A.D.R. agreement and applicable national regulations. Products should be transported in their original packaging and in any case in packages that are made from materials resistant to their content and unlikely to cause dangerous reactions with it. Workers loading and unloading dangerous goods must have received adequate training on the risks associated with the preparation and on any procedures to be taken in case of emergencies
<b>14.7</b>	<b>Maritime transport in bulk according to IMO</b>	No bulk transport is foreseen
<b>15.</b>	<b>REGULATORY INFORMATION</b>	

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<b>15.1</b>	<b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	<b>Applicability</b>
	<i>Reg. (EC) 1907/2006/EC Reach</i>	YES
	<i>Reg. (EC) 1272/2008 CLP and subsequent amendments and additions</i>	YES
	<i>Reg. (EC) 2037/2000 "Substances that deplete the ozone layer"</i>	NO
	<i>Reg. (EC) 850/2004 "Persistent organic pollutants"</i>	NO
	<i>Reg. (EC) 689/2008 "export and import of hazardous chemicals"</i>	NO
	<i>Substance listed in Annex I of Dir. 2012/18/EU cd Seveso</i>	NO
	<i>Italian Legislative Decree 81/2008 Consolidated law on health and safety in the workplace</i>	YES
	<i>Directive 2014/103/EU "ADR"</i>	YES
	<b>Reg. (EC) 1907/2006/EC Reach art. 59 – Candidate List of Substances of Very High Concern (SVHC)</b>	NO
	<b>Reg. (EC) 1907/2006/EC reach - Annex XIV - substances subject to authorisation</b>	NO
	<b>Reg. (EC) 1907/2006/EC reach - Annex XVII - Restrictions on certain dangerous substances</b>	Limited Usage
	<a href="https://echa.europa.eu/en/substances-restricted-under-reach">https://echa.europa.eu/en/substances-restricted-under-reach</a>	Item 3 -75 (see link)

**15.2** **Chemical safety assessment**  
A chemical safety assessment has not been carried out

**16.**

**OTHER INFORMATION**

**Changes made since the previous issue**

First issue

**Key of abbreviations and acronyms**

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

GHS: Global Harmonised System of Classification and Labelling of Substances

EINECS: European Inventory of Chemical Substances

CAS: Chemical Abstract Service

**Main bibliographical references and data sources**

ECHA database on registered substances and substances being registered:

<http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>

**Reporting, for mixtures, of which methods of information assessment have been used for classification purposes**

Classification	Classification procedure
Metal Corrosive 1	calculation
Skin corrosive 1 B	calculation
STOT SE 3	calculation
Aquatic chronic 1	calculation
Aquatic acute 1	calculation
Acute Tox 4	calculation
Skin Sensitive 1	calculation
Eye Dam. 1	calculation



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**Appropriate training for workers 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