

**Safety data sheet**  
**According to Regulation n. 1907/2006 and Regulation 878/2020**  
**Rh(cypy)Cl<sub>2</sub>**



Revision n. III of 29.11.2022  
Replaces rev n II of 15.09.2022

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

**1.1 Product identifier**

Chemical name	Rh (III) pentamethylcyclopentadienyl dichloride dimer
Product code	162
C.A.S. Registry Number	12354-85-7
EC number	625-704-0
INDEX number	Not available
Molecular weight	618.08 g/mol
Brute formula	C <sub>20</sub> H <sub>30</sub> Cl <sub>4</sub> Rh <sub>2</sub>
Commercial name	Rh(cypy)Cl <sub>2</sub>
REACH registration number	A REACH registration number is not available for this substance as the annual quantity produced or imported is less than one tonne.

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

Intended use: Industrial use  
Uses advised against: check 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
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 substance or mixture**

The product is classified as dangerous pursuant to the provisions of Regulation (EC) 1272/08 (CLP) and subsequent amendments. The product therefore requires a safety data sheet compliant with the provisions of Regulation (EC) 1907/06 and subsequent amendments. Any additional information regarding risks to health and / or the environment are reported in sections 11 and 12 of this sheet

Hazard class	Category codes	Hazards indications
Acute Tox.	4	H302
Acute Tox.	4	H312
Skin Irrit.	2	H315
Eye Irrit.	2	H319
Acute Tox.	4	H332
STOT SE	3	H335

**2.2 Label elements:**

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**Pictograms**



**Signal word**

**WARNING**

**Hazard statement**

H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	It can irritate the respiratory tract

**Precautionary advise**

P264	Wash your hands thoroughly after use
P270	Do not eat, drink or smoke during use
P280	Wear protective gloves / protective clothing / eye protection / face protection
P301+P312	IF SWALLOWED: If you feel unwell, contact a poison control center / doctor
P302+P352	IN CASE OF CONTACT WITH SKIN: wash with plenty of water
P305+P351+P338	IN CASE OF EYE CONTACT: rinse thoroughly for several minutes. Remove any contact lenses if easy to do. Continue rinsing

**2.3 Other hazards**

It does NOT contain PBT / vPvB substances according to Regulation (EC) 1907/2006, annex XIII  
It 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**

**3.1 Substance**

CAS number : 12354-85-7  
EC number : 625-704-0  
Index Number : Not available  
ATE: 500 mg/kg bw  
M factor : Not applicable

**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

Inhalation	Remove from exposure and breathe fresh air. If breathing is difficult, call a doctor right away.
Ingestion	Wash your mouth and give 2 glasses of water to drink. Consult a physician.

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Contact with skin	Remove contaminated clothing and shoes and wash immediately and abundantly with water for at least 15 minutes. Get medical attention if irritation occurs. Wash clothing before reuse. Clean your shoes thoroughly before using them again.
Contact with eyes	Eliminate any contact lenses. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids well. Consult a physician.

Recommendations:

- |  |            |
|--|------------|
| • Need to see a doctor immediately                                       | YES        |
| • Possibility of delayed effects following exposure                      | NO         |
| • 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                                    | Use gloves |
| • For those providing first aid, wear PPE                                | YES        |

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

Irritation after contact with eyes and skin, irritation of mucous membranes.

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

No specific provisions are known.

**5. FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

Suitable extinguishing media      water spray, foam, powder

Unsuitable extinguishing media      No one in particular

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

If involved in a fire it can release toxic vapors of carbon monoxide and chlorine

**5.3 Advice for firefighters**

Avoid raising dust clouds. 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 in case of dust formation

**6.1.2. For emergency responders**

Use respiratory protective equipment (P2 filter mask) and dust-proof gloves.

**6.2 Environmental precautions**

Prevent the cleaning water from the spill from entering water drains, sewers, groundwater.

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

**6.3.1. Advice in order to contain a spill**

Collect the dispersed product and wash the residue with plenty of water. Avoid the formation of dust.

**6.3.2. Advice in order to clean-up a spill**

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Spill cleaning water must not be discharged into sewers. Dispose of contaminated water and residue according to current regulations. To avoid dust formation, spray water before cleaning.

**6.3.3 Other information**

**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 containment measures and prevention of fire and aereosol and powders formation***

Avoid raising dust clouds. Use under a hood.

**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**

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

Store in closed original container. Store in a well-ventilated, cool and dry place. Keep locked up.

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

Store in closed and labeled containers

**7.2.3. *Conditions for keeping substances / mixtures intact***

Keep out of direct sunlight.

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

Keep out of direct sunlight.

**7.3. Specific end use(s)**

Industrial use

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters (related to metallic Silver species)**

No occupational and biological exposure limits have been established for this mixture.

**8.2. Exposure controls**

**8.2.1. *Appropriate engineering controls***

Use under a hood.

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

**Eye/face protection** Eyeglasses

**Skin protection (hands)** Gloves

**Skin protection (body)** Work clothes

**Respiratory protection** None

**Thermal hazards** none

**8.2.3. *Environmental exposure controls***

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Emissions from manufacturing processes, including those from ventilation equipment should be controlled for compliance with environmental protection legislation. Do not let the product enter drains.

9.

**PHYSICAL AND CHEMICAL PROPERTIES**

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

Physical state	Solid
Color	Red
Odor	Odorless
Melting point / freezing point	> 300 ° C
Boiling point or initial boiling point and boiling range	Not applicable
Flammability	Not inflammable
Lower and upper explosive limits	Not explosive
Flash point	Not inflammable
Self-ignition temperature	Not applicable
Decomposition temperature	Data not available
pH	Not applicable
Kinematic viscosity	Not applicable
Solubility	Insoluble in water. Soluble in chloroform and acetone
Partition coefficient n-octanol / water (logarithmic value)	Not applicable
Vapor pressure	Not applicable
Density and / or relative density	Data not available
Relative vapor density	Not applicable
Characteristics of the particles	Data not available

**9.2. Other information**

None

10.

**STABILITY AND REACTIVITY**

**10.1 Reactivity**

Catalytic properties

**10.2 Chemical stability**

This product does not exhibit reactivity under the specified conditions of storage, shipping and use.

**10.3 Possibility of hazardous reactions**

None in particular

**10.4 Conditions to avoid**

None in particular

**10.5 Incompatible materials**

None in particular

**10.6 Hazardous decomposition products**

CO and Cl<sub>2</sub>

11.

**TOXICOLOGICAL INFORMATION**

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

**Acute toxicity** - Oral: 300 <LD50 <2000 mg / kg bw

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		- Inhalation: 300 <LD50 <2000 mg / kg bw	
		- Skin: 300 <LD50 <2000 mg / kg bw	
	<b>Skin corrosion / irritation</b>	The product causes skin irritation	
	<b>Serious eye damage/irritation</b>	The product causes serious eye irritation	
	<b>Respiratory or skin sensitization</b>	Data not available	
	<b>Germ cell mutagenicity</b>	Data not available	
	<b>Carcinogenicity</b>	Data not available	
	<b>Reproductive toxicity</b>	Data not available	
	<b>STOT – single exposure</b>	The product is classified as STOT SE 3 but no other data are available	
	<b>STOT – repeated exposure</b>	Data not available	
<b>11.2</b>	<b>Information on other hazards</b>		
	None		
<b>12.</b>	<b>ECOLOGICAL INFORMATION</b>		
<b>12.1</b>	<b>Toxicity</b>	Data not available	
<b>12.2</b>	<b>Persistence and degradability</b>	Data not available	
<b>12.3</b>	<b>Bioaccumulative potential</b>	No information available	
<b>12.4</b>	<b>Mobility in soil</b>	No information available	
<b>12.5</b>	<b>Results of PBT and vPvB assessment</b>	Not applicable	
<b>12.6</b>	<b>Endocrine disrupting properties</b>	No known effects	
<b>12.7</b>	<b>Other adverse effects</b>	None known	
<b>13.</b>	<b>DISPOSAL CONSIDERATIONS</b>		
<b>13.1.</b>	<b>Waste treatment methods</b>		
	Both the mixture and the packaging must be sent to plants authorized for the disposal of industrial waste.		
<b>14.</b>	<b>TRANSPORT INFORMATION</b>		
<b>14.1</b>	<b>UN number or ID number</b>	Not applicable	
<b>14.2</b>	<b>UN proper shipping name</b>	Not applicable	
<b>14.3</b>	<b>Transport hazard class(es)</b>	Not applicable	
<b>14.4</b>	<b>Packing group</b>	Not applicable	
<b>14.5</b>	<b>Environmental hazards</b>	No	
<b>14.6</b>	<b>Special precautions for user</b>	n.a.	
<b>14.7</b>	<b>Maritime transport in bulk according to IMO instruments</b>	n.a.	
<b>15.</b>	<b>REGULATORY INFORMATION</b>		
<b>15.1</b>	<b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>		<b>Applicability</b>
	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

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Reg. (EC) 689/2008 "export and import of dangerous chemicals"	NO
Substance listed in Annex I of Dir. 2012/18 / EU so-called Seveso	YES
Legislative Decree 81/2008 Consolidated Law on health and safety at work	YES
Directive 2014/103 / EU "Adr"	YES
<b>Reg. (CE) 1907/2006/CE Reach art. 59 – Candidate List of Substances of Very High Concern (SVHC)</b>	NO
<b>Reg. (CE) 1907/2006/CE Reach - Annex XIV – Authorisation List</b>	NO
<b>Reg. (CE) 1907/2006/CE Reach - Annex XVII – Restriction List</b>	Limited use
<a href="https://echa.europa.eu/it/substances-restricted-under-reach">https://echa.europa.eu/it/substances-restricted-under-reach</a>	Item 75 (check link)

**15.2 Chemical safety assessment**

A chemical safety assessment has not been carried out

**16. OTHER INFORMATION**

**16.1 Changes compared to the previous edition**

None

**16.2 Acronim and abbreviation legend**

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

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstract Service

**16.3 Main references and data sources**

ECHA's data bank on registered substances and soon to be registered substances:

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

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

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