Safety data sheet
According to Regulation n. 1907/2006 and Regulation 878/2020
DIHYDROGEN HEXAHYDROXYPLATINATE

Revision n. 1 – 01.04.2026

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

1.1 Product identifier

Chemical name	Dihydrogen hexahydroxyplatinate
Product codes	357
C.A.S.	51850-20-5
EC number	257-471-2
Molecular weight	299.14 g/mol
Raw formula	$H_2Pt(OH)_6$

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

Intended uses	Industrial use. Reagent for catalyst production.
Advised against uses	None in particular

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).

1.5 Reach registration number

Exempt under article 6(1)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Hazard classes	Category codes	Hazard statements
Met corr.	1	H290
Acute Tox.	4	H302
Skin Sens.	1	H317
Eye Irrit.	1	H318
Aquatic acute	1	H400
Aquatic Chronic	1	H410

2.2 Label elements

Pictograms

Signal word **WARNING (Dihydrogen hexahydroxyplatinate)**

Hazard statements	H319	Causes serious eye irritation
	H400	Very toxic to aquatic life
	H410	Very toxic to aquatic life with long lasting effects
Precautionary statements	P273	Avoid release to the environment
	P280	Wear protective gloves / clothing. Protect eyes / face.
	P305+P351+P338	IN CASE OF EYE CONTACT: Rinse thoroughly for several minutes. Remove any contact lenses if easy to do. Continue rinsing.

P337+P313	If eye irritation persists: Get medical advice/attention
P391	Collect spillage
P501	Dispose of the product / container in accordance with national regulations

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.

REACH registration number Exempt under article 6(1)

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance : Dihydrogen hexahydroxyplatinate

CAS number	51850-20-5
EC number	257-471-2
INDEX number	Not available
ATE	Not applicable
M factor: acute	1
M factor: chronic	1

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Contact with skin	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Clean shoes thoroughly before reuse.

Contact with eyes	Rinse with plenty of running water for at least 15 minutes while keeping the eyelids open (remove contact lenses if it is easy to do so). Consult an ophthalmologist.

Recommendations:

	YES
• 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	With gloves
• How to handle contaminated clothing	YES

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects
Eye contact: Causes serious eye irritation.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: Irritating to mouth, throat and stomach.
Over-exposure signs/symptoms
Eye contact: Adverse symptoms may include the following: pain or irritation, watering, redness
Inhalation: No specific data.
Skin contact: No specific data.
Ingestion: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

No specific treatment.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None

5.2 Special hazards arising from the substance or mixture

Avoid breathing fumes. If involved in a fire, it may generate metal oxide fumes.

5.3 Advice for firefighters

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

Keep away from contamined area

6.1.2. For emergency responders

Use :
Chemical risk gloves compliant with EN420 EN374 standards
Splash goggles compliant with Directive 89/686 / EEC and standard EN166: 2001
Complete antacid clothing compliant with the UNI EN 13034: 2006 type 6 standard
Semi-face mask with P2 filters

6.2 Environmental precautions

In the event of infiltration into bodies of water or sewers or penetration into the ground, notify the competent authorities.

6.3 Methods and material for containment and cleaning up

6.3.1. ***Advice in order to contain a spill***
Avoid formation of dust

6.3.2. ***Advice in order to clean-up a spill***
Wash the contaminated area with water. Prevent infiltration into the sewer, groundwater and surface 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***
Use under suction. Close the jars immediately after use. Use is permitted only to trained and informed personnel.

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 for 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 an area without drains or access to sewers and protected from humidity

7.2.2. ***Control of weather conditions, ambient pressure, temperature, sunlight, humidity, and vibration***
Keep in closed containers

7.2.3. ***Conditions to maintain the integrity of the substance or mixture***
Store in a cool and dry warehouse

7.2.4. ***Advice regarding the ventilation, specific design for storage rooms or vessels, quantity limits under storage conditions, packaging compatibilities***
Storage containers must be approved according to the ADR regulations and labeled.

7.3. Specific end use(s)

Industrial use. Reagent for catalyst production.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

DNEL

Workers

Systemic effects for long-term exposure – inhalation: 0.31 mg/m3
Systemic effects for short-term exposure – inhalation: no hazard identified
Local effects for long-term exposure – inhalation: no hazard identified
Local effects for short-term exposure – inhalation: no hazard identified
Systemic effects for long-term exposure – dermal: 0.43 mg/kg body weight per day
Systemic effects for short-term exposure – dermal: no hazard identified
Local effects for long-term exposure – dermal: no hazard identified
Local effects for short-term exposure – dermal: no hazard identified
Eye hazards: low hazard (no threshold derived)

General population

hazard unknown but no further hazard information necessary as no exposure expected

PNEC
Freshwater: 0.14 µg/L
Marine water: 0.014 µg/L
Sewer treatment plant: 235 µg/L
Sediment (freshwater): 0.261 mg/kg sediment dry weight
Sediment (marine water): 0.026 mg/kg sediment dry weight
Soil: 0.005 mg/kg soil dry weight

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Periodically check the range of the extractor hood

8.2.2. Individual protection measures, such as personal protective equipment

Eye/face protection	Protective goggles for eyes compliant with Directive 89/686 / EEC and with standard EN166: 2001
Skin protection (hands)	Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact Protective index 6, corresponding to >480 minutes of permeation time according to EN 374 recommended; e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm)
Skin protection (body)	Complete antacid clothing compliant with the UNI EN 13034: 2006 type 6 standard
Respiratory protection	Semi-face mask with P2 filters
Thermal hazards	The substance does not present thermal hazards

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 spill into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Solid
Colour	Yellow
Odour	Odorless
Melting point/freezing point	Decomposes before it melts
Boiling point or initial boiling point and boiling range	Data not available
Flammability	Not inflammable
Lower and upper explosion limit	Not explosive
Flash point	Not inflammable
Auto-ignition temperature	Not inflammable
Decomposition temperature	145 °C
pH	2.9
Kinematic viscosity	Not applicable
Solubility	< 10 mg/L
Partition coefficient n-octanol/water (log value)	Not applicable
Vapour pressure	Not applicable
Density and/or relative density	About 4.1 g/cm^3 at 25 ° C
Relative vapour density	Not applicable

	Particle characteristics	In an OECD 110 Granulometry (Screening Test) the proportion of Dihydrogen hexahydroxyplatinate <100 µm was 62.1 %

9.2. Other information

None

10. STABILITY AND REACTIVITY

10.1 Reactivity

No specific test data related to reactivity available for this product

10.2 Chemical stability

The catalytic properties of this material may give it a low ignition temperature (except when supplied as a paste). The catalytic properties will also promote the oxidation and possible ignition of flammable liquids and vapours. A used, filtered catalyst should, therefore, be kept wet and out of contact with combustible vapours and liquids. The material is supplied in a stable condition and other than the previously mentioned catalytic hazards of this material, no specific reactive hazards are known.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

No specific data

10.5 Incompatible materials

No specific data

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity	Oral LD50: > 2150 mg / kg bw (rat)
Skin corrosion / irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Serious eye damage
Respiratory or skin sensitization	It can cause an allergic reaction on the skin.
Germ cell mutagenicit	Based on available data, the classification criteria are not met
Carcinogenicity	No data available due to lack of scientific studies
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

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.

12. ECOLOGICAL INFORMATION

12.1	**Toxicity**	LC50 (fish)(96h) 76.55 mg/L EC50 (invertebrates) (48 h) 0.13 mg/L NOEC (invertebrates)(21 days) 7 µg Pt/L EC50 (algae) (72 h) 3.45 mg/L NOEC (algae) (72 h) 0.946 m/L
12.2	**Persistence and degradability**	Log Kd (water): 3.27 Log Kd (soil): 1.57
12.3	**Bioaccumulative potential**	Data not available
12.4	**Mobility in soil**	Partition coefficient (Kp) solids-water in suspended material: 3.27
12.5	**Results of PBT and vPvB assessment**	Not applicable
12.6	**Endocrine disrupting properties**	No known effect
12.7	**Other adverse effects**	No known effect

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

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

14. TRANSPORT INFORMATION

14.1	**UN number or ID number**	3077
14.2	**Official UN shipping name**	
	ADR/RID/ADN/IMDG/ICAO-IATA:	UN3077 Environmentally hazardous substance, solid, n.o.s. (dihydrogen hexahydroxyplatinate), 9, III(-)
14.3	**Transport hazard class**	
	ADR/RID/ADN/IMDG/ICAO-IATA: Class	9
	ADR/RID/ADN/IMDG/ICAO-IATA: Label	9
	ADR: Tunnel restriction code	-
	IMDG - EmS:	F-A, S-F
14.4	**Packing group**	III
14.5	**Dangers for the environment**	
	ADR/RID/ADN/ICAO-IATA:	Product dangerous for enviroment
	IMDG: Marine Contaminant:	Yes

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 instruments

Bulk transport is not 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	YES
	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 75 (check link)

15.2 **Chemical safety assessment**

A chemical safety assessment was not carried out

16. OTHER INFORMATION

16.1 **Changes compared to the previous edition**

First edition

16.2 **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 Waterway
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

16.3 **Main references and data sources**

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

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