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MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1 Product identifiers

Product name : Chloroplatinic acid hexahydrate, GR (Pt 37.5% min) Product Code: C 0519 CAS-No. : 18497-13-7

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 Acute toxicity, Oral (Category 3), H301 Skin corrosion (Sub-category 1B), H314 Serious eye damage (Category 1), H318 Respiratory sensitization (Category 1), H334 Skin sensitization (Category 1), H317 For the full text of the H-Statements mentioned in this Section, see Section 16. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Danger Hazard statement(s) H301 Toxic if swallowed. Causes severe skin burns and eve damage. H314 May cause an allergic skin reaction. H317 May cause allergy or asthma symptoms or breathing difficulties H334 if inhaled. Precautionary statement(s) Do not breathe dust. P260 P270 Do not eat, drink or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection/ face P280 protection. IF ON SKIN (or hair): Take off immediately all contaminated P303 + P361 + P353 clothing. Rinse skin with water. P304 + P340 + P310 IF INHÄLED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. IF IN EYES: Rinse cautiously with water for several minutes. P305 + P351 + P338 Remove contact lenses, if present and easy to do. Continue rinsing. Supplemental Hazard none

Supplemental Hazard Statements 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances Synonyms : Hydrogen hexachloroplatinate(IV) hexahydrate Hexachloroplatinic acid hexahydrate Platinic chloride hexahvdrate Formula : H2Cl6Pt · 6H2O Molecular weight : 517,90 g/mol CAS-No.: 18497-13-7 EC-No. : 241-010-7 Component Classification Concentration Chloroplatinic acid hexahydrate Acute Tox. 3: Skin Corr CAS-No. 18497-13-7 <= 100 % 1B; Eye Dam. 1; Resp. Sens. 1; Skin EC-No. 241-010-7 Sens. 1; H301, H314, H318, H334, H317

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For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures General advice First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance If inhaled After inhalation: fresh air. Call in physician. In case of skin contact In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately. In case of eye contact After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses. If swallowed If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Hydrogen chloride gas Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area.

Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling Advice on safe handling Work under hood. Do not inhale substance/mixture. Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Storage conditions Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Light sensitive. strongly hygroscopic Storage class Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated **SECTION 8: Exposure controls/personal protection** 8.1 Control parameters Ingredients with workplace control parameters 8.2 Exposure controls Personal protective equipment Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles Skin protection This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum laver thickness: 0.11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L **Body Protection** protective clothing Respiratory protection required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P3 The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. Control of environmental exposure

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Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state b) Color c) Odor d) Melting point/freezing point e) Initial boiling point and boiling range f) Flammability (solid, gas) g) Úpper/lower flammability or explosive limits h) Flash point i) Autoignition temperature j) Decomposition temperature k) pH I) Viscosity

m) Water solubility n) Partition coefficient: n-octanol/water o) Vapor pressure p) Density Relative density q) Relative vapour density r) Particle characteristics s) Explosive properties t) Oxidizing properties 9.2 Other safety information No data available

SECTION 10: Stability and reactivity

10.1 Reactivity The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed. 10.2 Chemical stability The product is chemically stable under standard ambient conditions (room temperature) . 10.3 Possibility of hazardous reactions Violent reactions possible with: Bases 10.4 Conditions to avoid no information available 10.5 Incompatible materials Aluminum, Mild steel 10.6 Hazardous decomposition products In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L.

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solid No data available No data available No data available

No data available

No data available

No data available

Not applicable No data available

No data available

No data available Viscosity, kinematic: No data available Viscosity, dynamic: No data available No data available No data available

No data available ca.4 g/cm3 at 20 °C No data available No data available

No data available

No data available No data available

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Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity to Animals: Not available. Special Remarks on Chronic Effects on Special Remarks on other Toxic Effects		(eng man).
SECTION 12: Ecological information 12.1 Toxicity No data available 12.2 Persistence and degradability No data available 12.3 Bioaccumulative potential No data available 12.4 Mobility in soil		
No data available 12.5 Results of PBT and vPvB assessn This substance/mixture contains no cor	nent nponents considered to be either persistent,	0.0
bioaccumulative and toxic (PBT), or ver levels of 0.1% or higher. 12.6 Endocrine disrupting properties Product:	y persistent and very bioaccumulative (vPvB) at	1 Art
Assessment : The substance/mixture d considered to have endocrine disrupting according to REACH Article 57(f) or Co Delegated regulation (EU) 2017/2100 or	g properties mmission r Commission	
Regulation (EU) 2018/605 at levels of 0 12.7 Other adverse effects No data available	.1% or higher.	
SECTION 13: Disposal consideration 13.1 Waste treatment methods No data available	s	
SECTION 14: Transport information 14.1 UN number		
ADR/RID: 2507 14.2 UN proper shipping name ADR/RID: CHLOROPLATINIC IMDG: CHLOROPLATINIC IATA: Chloroplatinic acid,	C ACID, SOLID	IATA: 2507
14.3 Transport hazard class(es) ADR/RID: 8	IMDG: 8	IATA: 8
14.4 Packaging group ADR/RID: III 14.5 Environmental hazards	IMDG: III	IATA: III
ADR/RID: no 14.6 Special precautions for user Tunnel restriction code : (E) Further information : No data available	IMDG Marine pollutant: no	IATA: no
1907/2006. National legislation	egulations/legislation specific for the s with the requirements of Regulation (EC) No.	
Seveso III: Directive 2012/18/EU of the Parliament and of the Council on the co major-accident hazards involving dange	ntrol of	

substances.

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: ACUTE TOXIC Other regulations Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work. 15.2 Chemical Safety Assessment For this product a chemical safety assessment was not carried out

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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