Safety Data Sheet to Substances Chemicals

IRON (III) CHLORIDE HEXAHYDRATE

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product name: IRON(III) CHLORIDE HEXAHYDRATE

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

Identified uses: Laboratory chemicals, Fabrication of substances.

1.3 Name or company name of the person who prepares the HDS:
TECSIQUIM S.A. DE C.V.
Calle 7 Norte No. 102 Fraccionamiento Industrial Toluca 2000, C.P. 50200, Toluca, Estado de México.

1.4 In case of emergency: week days of 08:00 a 17:30 hours, Emergency telephone number 722 2496211 y 722 2496210, SETIQ 800-00-214-00, 24 hours a day.

SECTION 2. HAZARDS IDENTIFICATION

2.1- Classification of the substance or mixture:
Acute toxicity, Oral (Category 4), H302
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Short-term (acute) aquatic hazard (Category 2), H401

2.2 GHS Label elements, including precautionary statements:

Pictogram



Signal Word Danger
Hazard statement(s)
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H401 Toxic to aquatic life.
Precautionary statement(s)
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards not leading to classification
No data available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product name: Iron (III) chloride hexahydrate.	**Commercial name:** Iron (III) chloride hexahydrate.
Chemical family: No data available.	**Synonyms:** Ferric chloride hexahydrate.
Formula: $Cl_3Fe \cdot 6H_2O$	
Concentration: 100%	**CAS No.:** 10025-77-1

SECTION 4. FIRST AID MEASURES

General recommendations

4.1 a) Ingestion: May be harmful if swallowed.	**b) Inhalation:** Causes respiratory tract irritation.	**c) Contact:** **Eyes:** Causes eye irritation. **Skin:** Causes skin irritation.

Emergency and First aid

Precautionary measures if	**a) Ingestion:** After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.	**b) Inhalation:** After inhalation: fresh air.	**c) Contact:** **Eyes:** Wash thoroughly with water for at least 15 minutes and immediately call-in ophthalmologist. Remove contact lenses. **Skin:** Wash with soap and water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed:
The most important known symptoms and effects are described in the labelling.
4.3 Indication of any immediate medical attention and special treatment needed:
No data available.

SECTION 5. FIREFIGHTING MEASURES.

5.1 Extinguishing media:

Water spray X	**Foam:** X	**CO2:** X	**Dry chemical:** X	**Others:** ND

5.2 Special hazards arising from the substance or mixture:
Hydrogen chloride gas Iron oxides Not combustible. Ambient fire may liberate hazardous vapours.

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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7. HANDLING AND STORAGE.

7.1 Precautions for safe handling
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container closed at room temperature and ventilated. Hygroscopic. Storage class Storage class (TRGS 510): 13: Non-Combustible Solids.

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

No. CAS	No. ONU	VLE-PPT	VLE-CT	VLE-P	IPVS (IDLH)	Components and name
10025-77-1	3077	1 mg/m3	ND	ND	ND	Iron (III) chloride hexahydrate 90-100%

8.2 Exposure controls:
Appropriate engineering controls
Handle with proper industrial hygiene precautions and follow safety practice. Wash your hands before breaks and after finish the working day.
Protection personal
Use of mask for organic vapors, safety glasses, rubber gloves. If required, wear a full chemical protection suit. Of antistatic material.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties

a) Appearance (physical state, color, etc..):	Form: solid	**b) Odor:**	ND
c) Odor Threshold	ND	**d) Hydrogen potential, pH:**	ND
e) Melting point/freezing point (°C):	37 °C (99 °F) - lit.	**f) Initial boiling point and boiling range (°C):**	280 - 285 °C 536 - 545 °F - lit.
g) Flash point (°C):	ND	**h) Evaporation rate (acetate butyl=1):**	ND
i) Flammability (solid, gas)	ND	**j) Flammability or explosive limit:**	Upper limit: ND Lower limit: ND
k) Vapor pressure (mmHg 20°C):	ND	**l) Vapor density (air=1):**	ND
m) Relative density (g/cm3):	ND	**n) Solubility:**	soluble
ñ) Partition coefficient: n-octanol/water:	Not applicable for inorganic substances	**o) Autoignition temperature (°C):**	ND
p) Decomposition temperature:	ND	**q) Viscosity:**	ND
r) Molecular weight (g/g mol):	270.30 g/mol	**s) Other data:** ND	

SECTION 10. STABILITY AND REACTIVITY.

10.1 Reactivity: No data available.
10.2 Chemical stability: The product is chemically stable under standard ambient conditions (room temperature).
10.3 Possibility of hazardous reactions: Risk of explosion with: Alkali metals Ethylene oxide.
10.4 Conditions to avoid: Exposure to moisture. no information available.
10.5 Incompatible materials: Mild steel Metals.
10.6 Hazardous decomposition products: In the event of fire: see section 5.

SECTIÓN 11. TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects
Acute toxicity.
No data available.
Skin corrosion/irritation
Skin - Rabbit Result: irritating
Remarks: (IUCLID).
Serious eye damage/eye irritation
Eyes - Rabbit
Result: Severe irritations (OECD Test Guideline 405).
Respiratory or skin sensitization
No data available.
Germ cell mutagenicity
No data available.
Carcinogenicity
It is not considered carcinogenic.

Reproductive toxicity
No data available.
Specific target organ toxicity - single exposure
No data available.
Specific target organ toxicity - repeated exposure
No data available.
Aspiration hazard
No data available.
Additional Information
Repeated dose toxicity - Rat - male - Oral - 98 d - NOAEL (No observed adverse effect level) - 277 mg/kg Remarks: Subchronic toxicity RTECS: NO5425000 Overdose of iron compounds may have a corrosive effect on the gastrointestinal mucosa and be followed by necrosis, perforation, and stricture formation. Several hours may elapse before symptoms that can include epigastric pain, diarrhea, vomiting, nausea, and hematemesis occur. After apparent recovery a person may experience metabolic acidosis, convulsions, and coma hours or days later. Further complications may develop leading to acute liver necrosis that can result in death due to hepatic coma. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOTOXICOLOGICAL INFORMATION.

12.1 Toxicity
Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 9.6 mg/l - 48 h Remarks: (ECHA).
12.2 Persistence and degradability
Not applicable for inorganic substances.
12.3 Bioaccumulative potential
No data available.
12.4 Mobility in soil
No data available.
12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
12.6 Other adverse effects
No data available.

SECTION 13. DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods
Product Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.
Contaminated packaging
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION.

Land Transport of Hazardous Materials and Waste: UN: UN number: 3077 Class: 9 Packing group: III Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Iron trichloride hexahydrate) Reportable Quantity (RQ): 1000 lbs Poison Inhalation Hazard: No
Transport Maritime Code IMDG: UN: Not dangerous goods.
International Air Transport Code IATA: Not dangerous goods.
Special precautions for the user: See section 2 and 7.

SECTION 15. REGULATORY INFORMATION.

15.1 Regulations and legislation on health, safety and specific for the substance or mixture
National legislation.

SECTION 16. OTHER INFORMATION.

16.1 Other Information: The information listed above is believed to be correct, but is not exhaustive and is to be used for guidance only, which is based on current knowledge of the chemical or mixture and is applicable to the appropriate safety precautions for the product.
The data in this MSDS are based on the present state of our knowledge and describe the safety measures in the handling of this product and do not represent a guarantee on its described properties. TECSIQUIM S.A. de C.V. will not be responsible for any damage resulting from handling or contact with the product indicated above.

ABBREVIATIONS AND DEFINITIONS:

No. CAS: Number assigned by the "Chemical Abstract Service" of the United States of America.
No. ONU: Identification number for the transport of dangerous chemicals assigned by United Nations.
VLE-PPT: Time-weighted average exposure limit value.
VLE-CT: Short-term exposure limit value.
VLE-P: Peak exposure limit value.
IPVS (IDLH): (Immediately Dangerous to Life or Health).
NA: Not apply **ND:** Not available
Carcinogen.: chemical, physical or biological agent to act on a living tissue can cause malignancy.
Mutagenicity]: chemical capable of altering the genetic structure in an organism and cause physical or functional changes in subsequent generations.
Teratogen: It is a substance that causes birth defects is not hereditary.
CL50: Lethal Concentration
DL50: Lethal doses
Reference source: NOM-018-STPS-2015; HDS de TECSIQUIM; A Comprehensive Guide to the Hazardous Properties of Chemical Substances (Pradyot Patnaik, Ph.D., 1992, Ed. Van Nostrand Reinhold, New York).