# OTTO CHEMIE PVT LTD

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----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

**SECTION 1 Product identifiers**
Product name : Ferric chloride, hexahydrate, 99%
Product Code : F 1305
CAS-No. : 10025-77-1

**SECTION 2: Hazards identification**
2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 4), H302
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
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) | |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| Precautionary statement(s) | |
| P264 | Wash skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective gloves/ eye protection/ face protection. |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| Supplemental Hazard Statements | none |

Reduced Labeling (<= 125 ml)
Pictogram

| | |
|---|---|
| Signal Word | Danger |
| Hazard statement(s) | |
| H318 | Causes serious eye damage. |
| Precautionary statement(s) | |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| Supplemental Hazard Statements | none |

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 : Iron trichloride hexahydrate
Formula : Cl3Fe · 6H2O
Molecular weight : 270,30 g/mol
CAS-No. : 10025-77-1
EC-No. : 231-729-4

| Component | Classification | Concentration |
|---|---|---|
| Ferric chloride hexahydrate | | |
| CAS-No. 10025-77-1<br>EC-No. 231-729-4 | Acute Tox. 4; Skin Irrit. 2;<br>Eye Dam. 1; H302, H315, | **<= 100 %** |

| | | |
|---|---|---|
| | H318<br>Concentration limits:<br>>= 1 %: Met. Corr. 1,<br>H290; | |

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
Show this material safety data sheet to the doctor in attendance.
If inhaled
After inhalation: fresh air.
In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed
After swallowing: immediately make victim drink water (two glasses at most). 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 (see section 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
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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
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
Storage conditions
Store under inert gas.
Tightly closed. Dry.
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
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 layer 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
Recommended Filter type: Filter B-(P2)
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
Do not let product enter drains.

**SECTION 9: Physical and chemical properties**
9.1 Information on basic physical and chemical properties

| | |
|---|---|
| a) Physical state | solid |
| b) Color | No data available |
| c) Odor | No data available |
| d) Melting point/freezing point | Melting point/range: 37 °C - lit. |
| e) Initial boiling point and boiling range | 280 - 285 °C - lit. |
| f) Flammability (solid, gas) | does not ignite - A.10. (Regulation (EC) No 440/2008, Annex |
| A)The product is | not flammable. |
| g) Upper/lower flammability or explosive limits | No data available |
| h) Flash point | Not applicable |
| i) Autoignition temperature | No data available |
| j) Decomposition temperature | No data available |
| k) pH | No data available |
| l) Viscosity | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| m) Water solubility | soluble |
| n) Partition coefficient: | Not applicable for inorganic substances |

| | |
|---|---|
| n-octanol/water | |
| o) Vapor pressure | No data available |
| p) Density | No data available |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle characteristics | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | none |

9.2 Other safety information
No data available

**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 steelMetals
10.6 Hazardous decomposition products
In the event of fire: see section 5

**SECTION 11: Toxicological information**
11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - 316 mg/kg
Remarks: (RTECS)
Inhalation: No data available
LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: iron dichloride
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
Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative
Test Type: Mutagenicity (mammal cell test): micronucleus.
Method: OECD Test Guideline 487
Result: negative
Test Type: In vivo micronucleus test
Species: Mouse
Result: negative
Remarks: (External MSDS)
Carcinogenicity
No data available
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
11.2 Additional Information
Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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: Ecological 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
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.
12.6 Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
12.7 Other adverse effects
Product reacts with water.
The following may develop after reaction of the product with water:
hydrochloric acid
Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations**
13.1 Waste treatment methods
No data available

**SECTION 14: Transport information**
14.1 UN number
ADR/RID: - IMDG: - IATA: -
14.2 UN proper shipping name
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods
14.3 Transport hazard class(es)
ADR/RID: - IMDG: - IATA: -
14.4 Packaging group
ADR/RID: - IMDG: - IATA: -
14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user
Further information
Not classified as dangerous in the meaning of transport regulations.

**SECTION 15: Regulatory information**
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
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.