

Safety Data Sheet

according to Regulation (EC) No 1907/2006 and (EU) No 2020/878

Iron(III)Chloride hexahydrate

Revision date: 01.04.2025

Product code: 18790.xxxxx

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Iron(III)Chloride hexahydrate

Substance name: iron(III) chloride hexahydrate
REACH Registration Number: 01-2119497998-05-xxxx
CAS No: 10025-77-1
EC No: 231-729-4
UFI: Q71P-G13H-4005-6VQA

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

Use of the substance/mixture

Use as laboratory reagent. Intended for scientific research and development.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name: MORPHISTO GmbH
Street: Schumannstr. 142/144
Place: D-63069 Offenbach
Telephone: +49 (0) 69 / 400 3019-60 Telefax: +49 (0) 69 / 400 3019-64
E-mail: info@morphisto.de
Contact person: Morphisto GmbH
E-mail: gefahrstoffmanagement@morphisto.de
Internet: http://www.morphisto.de

1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 4; H302
Skin Irrit. 2; H315
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:



Hazard statements

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing and eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

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P310 present and easy to do. Continue rinsing.
P302+P352 Immediately call a POISON CENTER/doctor.
IF ON SKIN: Wash with plenty of water.

Labelling of packages where the contents do not exceed 125 ml

Signal word:

Danger

Pictograms:



Hazard statements

H318

Precautionary statements

P280-P305+P351+P338-P310

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: $\text{FeCl}_3 \cdot 6 \text{H}_2\text{O}$
Molecular weight: 270,3 g/mol g/mol

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
10025-77-1	iron(III) chloride hexahydrate			100 %
	600-047-2		01-2119497998-05-xxxx	
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1; H302 H315 H318			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
10025-77-1	600-047-2	iron(III) chloride hexahydrate	100 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = 500 mg/kg		

Further Information

This mixture contains no substances of very high concern (SVHC) (> 0,1%) which are included in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

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General information

Take off contaminated clothing.

After inhalation

Provide fresh air.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.

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

Corrosiveness. Irritation. Allergic reactions. Nausea. vomiting. Risk of serious damage to eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**Co-ordinate fire-fighting measures to the fire surroundings.
Water spray Foam. Extinguishing powder. Carbon dioxide (CO₂).**Unsuitable extinguishing media**

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. non-flammable. Hazardous decomposition products: Hydrogen chloride (HCl).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional informationSuppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.
Do not allow entering drains or surface water.**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Clear danger zone. Follow emergency plan. Consult an expert.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. No special environmental measures are necessary.

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

Cover drains. Take up mechanically.

For cleaning up

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Avoid generation of dust.

Other information

Clean contaminated objects and areas thoroughly observing environmental regulations.

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6.4. Reference to other sections

Safe handling: see section 7
 Personal protection equipment: see section 8
 Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do not breathe dust. Avoid exposure. Always close containers tightly after the removal of product.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Wear suitable protective clothing.

Further information on handling

Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Unsuitable container/equipment material: Metal. Store in a dry place. Store in a closed container.

Hints on joint storage

Do not store together with: food and feed. pharmaceuticals. Infectious substances. Radioactive substances. Explosive substances. Oxidizing substances. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Pyrophoric solids. Substances which in contact with water form flammable gases. Ammonium nitrate and preparations containing ammonium nitrate.

Further information on storage conditions

Recommended storage temperature: 15 - 25°C.

7.3. Specific end use(s)

Use as laboratory reagent. Intended for scientific research and development.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Name of agent			
DNEL type		Exposure route	Effect	Value
10025-77-1	iron(III) chloride hexahydrate			
Worker DNEL, long-term		dermal	systemic	2,8 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	2 mg/m³
Worker DNEL, acute		inhalation	systemic	2 mg/m³
Consumer DNEL, long-term		inhalation	systemic	0,5 mg/m³
Consumer DNEL, acute		inhalation	systemic	0,5 mg/m³

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PNEC values

CAS No	Name of agent	
	Environmental compartment	Value
10025-77-1	iron(III) chloride hexahydrate	
	Freshwater sediment	49,5 mg/kg
	Marine sediment	49,5 mg/kg
	Micro-organisms in sewage treatment plants (STP)	500 mg/l
	Soil	55,5 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. Ensure adequate ventilation. Use extractor hood (laboratory). Technical measures and the application of suitable work processes have priority over personal protection equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles. Eye glasses with side protection. EN 166.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Recommended material: NBR (Nitrile rubber). Thickness of material: >0,11mm. Breakthrough time >480 min.

Skin protection

Use of protective clothing. Lab apron.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. In the case of the formation of dust.

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). P2 Identification color: white. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid	
Colour:	yellow brown	
Odour:	like: Chlorine (Cl ₂).	
Melting point/freezing point:		37 °C
Boiling point or initial boiling point and boiling range:		not determined
Flammability:		not determined

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Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	not applicable
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	2-3 (920g/L)
Viscosity / kinematic:	not applicable
Water solubility: (at 20 °C)	900 g/l
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density (at 20 °C):	1,80 g/cm ³
Bulk density (at 20 °C):	600 - 1200 kg/m ³
Relative vapour density:	not determined
Particle characteristics:	not determined

9.2. Other information**Information with regard to physical hazard classes****Explosive properties**

The product is not: Explosive.

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

SECTION 10: Stability and reactivity**10.1. Reactivity**

Corrosive to metals.

10.2. Chemical stability

This product is hygroscopic.

10.3. Possibility of hazardous reactions

Oxidizing agents, strong.

10.4. Conditions to avoid

Humidity. heat.

10.5. Incompatible materials

Keep away from: Metal. Aluminium.

10.6. Hazardous decomposition products

Resulting from the use of the product: Chlorine. Decomposition products in case of fire: see section 5.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

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Acute toxicity

Harmful if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10025-77-1	iron(III) chloride hexahydrate				
	oral	LD50 500 mg/kg	Rat	suppliers SDS.	
	dermal	LD50 >2000 mg/kg	Rabbit	suppliers SDS.	

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

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.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

This substance is classified as hazardous according to Regulation (EC) No 1272 (2008).

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

12.2. Persistence and degradability

There is no data available.

12.3. Bioaccumulative potential

There is no data available.

12.4. Mobility in soil

There is no data available.

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

There is no data available.

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Further information

Avoid release to the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation. Hazardous waste according to the Waste List Ordinance (AVV). Observe Waste Directive 2008/98/EC. Product residues must be disposed of in accordance with national and regional regulations. Leave chemicals in original containers. Do not mix with other wastes. Uncleaned containers must be treated according to the product. Find out more about take-back systems for chemicals and packaging at www.Retrologistik.de or use the address to contact us if you have any questions.

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

SECTION 14: Transport information**Land transport (ADR/RID)****14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.**14.4. Packing group:** No dangerous good in sense of this transport regulation.**Other applicable information (land transport)**

UN3260, A?TZENDER SAURER ANORGANISCHER FESTER STOFF, N.A.G., (Eisen(III)-chlorid Hexahydrat), 8, III, (E)

Inland waterways transport (ADN)**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.**14.4. Packing group:** No dangerous good in sense of this transport regulation.**Other applicable information (inland waterways transport)**

UN3260, A?TZENDER SAURER ANORGANISCHER FESTER STOFF, N.A.G., (Eisen(III)-chlorid Hexahydrat), 8, III, (E)

Marine transport (IMDG)**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.**14.4. Packing group:** No dangerous good in sense of this transport regulation.**Other applicable information (marine transport)**

UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S., (Iron(III) chloride hexahydrate), 8, III

Air transport (ICAO-TI/IATA-DGR)**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.**14.4. Packing group:** No dangerous good in sense of this transport regulation.**Other applicable information (air transport)**

UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S., (Iron(III) chloride hexahydrate), 8, III

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

After contact with water:

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14.7. Maritime transport in bulk according to IMO instruments

not applicable

Other applicable information

Special provision 590 (3.3.1 ADR). Not subject to transport classification according to ADR

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**Information according to Directive
2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile
work protection guideline' (94/33/EC).

Water hazard class (D):

1 - slightly hazardous to water

15.2. Chemical safety assessmentFor the following substances of this mixture a chemical safety assessment has been carried out:
iron(III) chloride hexahydrate**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2,16.

Rev. 2,0; 01.04.2025; revision of the classification

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Abbreviations and acronyms

Met. Corr: Substance or mixture corrosive to metals
Acute Tox: Acute toxicity
Skin Irrit: Skin irritation
Eye Dam: Eye damage
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>
EC/EEC: European Community/European Economic Community
EU: European Union
M-factor: Multiplying factor
IATA: International Air Transport Association
DGR: Dangerous Goods Regulations
ICAO: International Civil Aviation Organization
TI: Technical Instructions
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety
assessment, chapter R.20 (Table of terms and abbreviations).

Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.

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Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.