

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 16.04.2014

Version number 1

Revision: 16.04.2014

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

- **1.1 Product identifier**
- **Trade name:** *Perchlorure de fer liquide, Ref : AR39-AR412-AR41*
Perchloride liquid iron, Ref : AR39-AR412-AR41
- **1.2 Relevant identified uses of the substance or mixture and uses advised against commercial and / or industrial use**
- **Application of the substance / the preparation :** Reagent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
CIF
240 rue Hélène Boucher
78530 BUC
Tél : 01.39.66.96.83 – Fax 01.33.66.97.78
E-mail : cif@cif.fr – Web : www.cif.fr
- **1.4 Emergency telephone number:**
France (ORFILA 24h/24) - Tel : +33 (0)1 45 42 59 59
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)
EU Tel : 112

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008 :**



GHS05

- Met. Corr.1 H290 May be corrosive to metals.*
Skin Corr. 1C H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC :**



C; Corrosive

- R34: Causes burns.*



Xn; Harmful

- R22: Harmful if swallowed.*

- **Information concerning particular hazards for human and environment:**

The product has to be labelled in the latest valid version according to the calculation procedure of the "General Classification guideline for preparations of the EU".

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **2.2 Label elements**

- **Labelling according to EU guidelines:**

The product has been marked in accordance with EU Directives / respective national laws.
2008/58/CE (30eme ATP) ; 2009/2/CE (31eme ATP) ; 2006/8/CE

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· **Code letter and hazard designation of product:**



C Corrosive

· **Hazard-determining components of labelling:**

iron trichloride

· **Risk phrases:**

22 Harmful if swallowed.

34 Causes burns.

· **Safety phrases:**

20 When using do not eat or drink.

23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

60 This material and its container must be disposed of as hazardous waste.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterization: Mixtures**

· **Description:** Mixture: consisting of the following components.

· **Dangerous components:**

CAS: 7705-08-0	iron trichloride	25-50%
EINECS: 231-729-4	☒ Xn R22; ☒ Xi R38-41	
RTECS: LJ 9100000	☒ Met. Corr.1, H290; Eye Dam. 1, H318; ☒ Aquatic Chronic 2, H411; ☒ Acute Tox. 4, H302; Skin Irrit. 2, H315	

· **Additional information:** For the wording of the listed risk phrases, refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After excessive inhalation:**

In case of unconsciousness place patient in a stable laying down side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Call for a doctor immediately.

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- Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed :**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed :**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture :**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures :**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections :**
See Section 7 for information on safe handling.
See Section 8 for information on personal protective equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling :**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:**
Store away from water.
Store away from flammable substances.
Store away from foodstuffs.
Store away from metals.
Do not store together with oxidizing and acidic materials.
- **Further information about storage conditions:** Keep container tightly sealed.

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· 7.3 *Specific end use(s)* : No further relevant information available.

SECTION 8: Exposure controls/personal protection

· *Additional information about design of technical facilities*: No further data; see section 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

7705-08-0 iron trichloride (25-50%)

WEL (Great Britain)	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³ as Fe
MAK (Switzerland)	Long-term value: 1e mg/m ³ als Fe berechnet

· **Additional information:**

As a basis for the production of this document, the most current valid lists were used.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from food, beverages and petfood.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Gloves material :**

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which may vary from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked before use.

· **Eye protection:**



Tightly sealed goggles

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Liquid
· Colour:	Brown
· Odour:	Pungent
· Odour threshold:	Not determined.

· **pH-value at 20 °C:** < 1

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	110 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** Not applicable.

· **Decomposition temperature:** 160 °C

· **Self-igniting:** Product is not self igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapour pressure at 20 °C:** 17 mbar

· **Density at 20 °C:** 1.43 g/cm³ (40%)

· **Relative density :** Not determined.

· **Vapour density :** Not determined.

· **Evaporation rate :** Not determined.

· **Solubility in / Miscibility with water:**

Fully miscible.

· **Segregation coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· **Solvent content:**

· **Organic solvents:** 0.0 %

· **Solids content:** 36.0 %

· **9.2 Other information :** No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity**

· **10.2 Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

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- **10.3 Possibility of hazardous reactions :**
 - Reacts with water and acids.
 - Reacts with strong acids and oxidizing agents.
 - Reacts with various metals.
- **10.4 Conditions to avoid :** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
 - Chlorine
 - Hydrogen
 - Hydrogen chloride (HCl)

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

7705-08-0 iron trichloride

Oral	LD50	1872 mg/kg (rat)
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- **Primary irritant effect:**
- **On the skin:** Caustic effect on skin and mucous membranes.
- **On the eyes:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following hazards according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful
Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability :** No further relevant information available.
- **12.3 Bioaccumulative potential :** No further relevant information available.
- **12.4 Mobility in soil :** No further relevant information available.
- **Additional ecological information:**
- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralized.
Throwing away bigger amounts into drains or aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the diluted product use, the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only slightly polluting for water.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· **12.6 Other adverse effects :** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation :**



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA** UN2582

· **14.2 UN proper shipping name**

· **ADR** 2582 FERRIC CHLORIDE SOLUTION
· **IMDG, IATA** FERRIC CHLORIDE SOLUTION

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 8 (C1) Corrosive substances.
· **Label** 8

· **IMDG, IATA**



· **Class** 8 Corrosive substances.
· **Label** 8

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user**

· **Danger code (Kemler):** Warning: Corrosive substances.
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· **EMS Number:** F-A,S-B

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· Segregation groups	Acids
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	E
· UN "Model Regulation":	UN2582, FERRIC CHLORIDE SOLUTION, 8, III

SECTION 15: Regulatory information

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.

R22 Harmful if swallowed.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent