

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Substance
Trade name : Iron (III) chloride anhydrous Extra Pure
IUPAC name : iron trichloride
EC-No. : 231-729-4
CAS-No. : 7705-08-0
Product code : IRCH-A0T
Formula : Cl₃Fe

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

Main use category : Laboratory use

1.3. Details of the supplier of the safety data sheet

Labbox Labware S.L.
Migjorn, 1
08338 Premia de Dalt, Barcelona
España
T +34 937 07 79 70, F +34 937 909 532
info@labbox.com, www.labbox.com

1.4. Emergency telephone number

Emergency number : +34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number. 24 hours a day, 7 days a week

Country/Area	Organisation	Emergency number
United Kingdom	National Poisons Information Service (Belfast Centre). Royal Victoria Hospital. Grosvenor Road BT12 6BA Belfast.	0344 892 0111 Only for healthcare professionals

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Corrosive to metals, Category 1 H290
Acute toxicity (oral), Category 4 H302
Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 1 H318
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS05

GHS07

Signal word (CLP) :

Danger

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Hazard statements (CLP)	: H290 - May be corrosive to metals. H302 - Harmful if swallowed. H315 - Causes skin irritation. H318 - Causes serious eye damage.
Precautionary statements (CLP)	: P234 - Keep only in original container. P264 - Wash hands, forearms and face thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 - IF ON SKIN: Wash with plenty of soap and 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. P310 - Immediately call a POISON CENTER or doctor/physician. P330 - Rinse mouth. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Other hazards which do not result in classification	: Does not contain PBT and/or vPvB substances $\geq 0.1\%$ evaluated according to Annex XIII of REACH. Endocrine disrupting properties: not known / not applicable according to current criteria.
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SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Mono-constituent
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Name	Product identifier	%
Iron (III) chloride anhydrous	CAS-No.: 7705-08-0 EC-No.: 231-729-4	100

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Gently wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Obtain emergency medical attention.
Self protection of the first-aider	: First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation	: None under normal conditions. Dust of the product, if present, may cause respiratory irritation after excessive inhalation exposure.
Symptoms/effects after skin contact	: Causes skin irritation. Irritation.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. Foam. dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).
Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

- Precautionary measures fire : Stop leak if safe to do so.
Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. Avoid contact with skin and eyes.

For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate area. Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Using a clean shovel, put the material in a dry container and cover without compressing it.
Methods for cleaning up : On land, sweep or shovel into suitable containers.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : May be corrosive to metals.
Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Use personal protective equipment as required.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Keep in a cool, well-ventilated place away from heat.

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Storage conditions	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep container tightly closed.
Incompatible materials	: Metals.
Special rules on packaging	: Keep only in original container. Store in a closed container.
Packaging materials	: Do not store in corrodable metal. Always store product in container of same material as original container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL and PNEC

Iron (III) chloride anhydrous Extra Pure (7705-08-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	2,8 mg/kg bodyweight/day
DNEL/DMEL (General population)	
Acute - systemic effects, oral	20 mg/kg bodyweight/day
Long-term - systemic effects, oral	0,28 mg/kg bodyweight/day
Long-term - systemic effects, dermal	1,4 mg/kg bodyweight/day

8.2. Exposure controls

Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure. ISO 374-1.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Chemical goggles or face shield

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

protective gloves

Respiratory protection

Respiratory protection:

Wear appropriate mask

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Consumer exposure controls:

Avoid contact during pregnancy/while nursing.

Other information:

Do not eat, drink or smoke during use.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: dark green.
Appearance	: Crystals.
Molecular mass	: 162,21 g/mol
Odour	: Not available
Odour threshold	: Not available
Melting point	: 307,6 °C
Freezing point	: Not available
Boiling point	: 316 °C
Flammability	: Not available
Lower explosion limit	: 1,19 vol %
Upper explosion limit	: 11,8 vol %
Flash point	: 30 °C
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 316 °C
pH	: 2 20 °C
pH solution concentration	: 1 %
Viscosity, kinematic	: Not applicable
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 0,055
Vapour pressure	: < 1 hPa 20 °C
Vapour pressure at 50°C	: Not available
Density	: 2,9 g/cm ³
Relative density	: Not available
Relative vapour density at 20°C	: 5,6 (Air = 1.0)
Particle size	: Not available

9.2. Other information

Other safety characteristics

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Metals. May be corrosive to metals.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes skin irritation. pH: 2 20 °C
Serious eye damage/irritation	: Causes serious eye damage. pH: 2 20 °C
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties	: The product does not meet the criteria due to its endocrine-disrupting properties.
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

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EC50 - Crustacea [1]	117 mg/l
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12.2. Persistence and degradability

Iron (III) chloride anhydrous Extra Pure (7705-08-0)

Persistence and degradability	Readily biodegradable.
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12.3. Bioaccumulative potential

Iron (III) chloride anhydrous Extra Pure (7705-08-0)

Partition coefficient n-octanol/water (Log Pow)	0,055
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

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12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Must follow special treatment according to local regulation.
Ecological waste information : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR) : UN 1773
UN-No. (IMDG) : UN 1773
UN-No. (IATA) : UN 1773
UN-No. (ADN) : UN 1773
UN-No. (RID) : UN 1773

14.2. UN proper shipping name

Proper Shipping Name (ADR) : FERRIC CHLORIDE, ANHYDROUS
Proper Shipping Name (IMDG) : FERRIC CHLORIDE, ANHYDROUS
Proper Shipping Name (IATA) : Ferric chloride, anhydrous
Proper Shipping Name (ADN) : FERRIC CHLORIDE, ANHYDROUS
Proper Shipping Name (RID) : FERRIC CHLORIDE, ANHYDROUS
Transport document description (ADR) (ADR) : UN 1773 FERRIC CHLORIDE, ANHYDROUS, 8, III, (E)
Transport document description (IMDG) : UN 1773 FERRIC CHLORIDE, ANHYDROUS, 8, III
Transport document description (IATA) : UN 1773 Ferric chloride, anhydrous, 8, III
Transport document description (ADN) : UN 1773 FERRIC CHLORIDE, ANHYDROUS, 8, III
Transport document description (RID) : UN 1773 FERRIC CHLORIDE, ANHYDROUS, 8, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8
Danger labels (ADR) : 8



IMDG

Transport hazard class(es) (IMDG) : 8
Danger labels (IMDG) : 8



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IATA

Transport hazard class(es) (IATA) : 8
Danger labels (IATA) : 8



ADN

Transport hazard class(es) (ADN) : 8
Danger labels (ADN) : 8



RID

Transport hazard class(es) (RID) : 8
Danger labels (RID) : 8



14.4. Packing group

Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C2
Special provisions (ADR) : 590
Limited quantities (ADR) : 5kg
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P002, IBC08, LP02, R001
Special packing provisions (ADR) : B3
Mixed packing provisions (ADR) : MP10
Portable tank and bulk container instructions (ADR) : T1
Portable tank and bulk container special provisions (ADR) : TP33
Tank code (ADR) : SGAV
Vehicle for tank carriage : AT
Transport category (ADR) : 3
Special provisions for carriage - Bulk (ADR) : VC1, VC2, AP7
Hazard identification number (Kemler No.) : 80
Orange plates :



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Tunnel restriction code (ADR) : E
EAC code : 2X

Transport by sea

Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1
Tank special provisions (IMDG) : TP33
Stowage category (IMDG) : A
Segregation (IMDG) : SGG1, SG36, SG49
Properties and observations (IMDG) : Brown solid. In the presence of moisture, highly corrosive to most metals. The provisions of this Code should not apply to the solid hydrated form.

Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y845
PCA limited quantity max net quantity (IATA) : 5kg
PCA packing instructions (IATA) : 860
PCA max net quantity (IATA) : 25kg
CAO packing instructions (IATA) : 864
CAO max net quantity (IATA) : 100kg
Special provisions (IATA) : A803
ERG code (IATA) : 8L

Inland waterway transport

Classification code (ADN) : C2
Special provisions (ADN) : 590
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : C2
Special provisions (RID) : 590
Limited quantities (RID) : 5kg
Excepted quantities (RID) : E1
Packing instructions (RID) : P002, IBC08, LP02, R001
Special packing provisions (RID) : B3
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T1
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAV
Transport category (RID) : 3
Special provisions for carriage – Bulk (RID) : VC1, VC2, AP7
Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 80

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Council Regulation (EC) for the control of dual-use items

Not listed on the COUNCIL REGULATION (EC) of dual-use items.

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (EU 2019/1148)

Not listed on the Explosives Precursors list (EU)

Drug Precursors Regulation (EC 273/2004)

Not listed on the Drug Precursors list (EU)

National regulations

Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H290;H302;H315;H318>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 515).

VOC content : 0 %

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen –

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

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Poland

Polish National Regulations

: Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).
Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).
The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).
Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).
Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).
Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).
The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)
Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).
Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).
ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)
Regulation of the Minister of Health of 25 August 2015 on the method of marking places, pipelines, and containers and tanks used for storing or containing hazardous substances or hazardous mixtures (J.o.L. 2015, item 1368 as amended)

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Met. Corr. 1	Corrosive to metals, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.