

# Iron (II) chloride anhydrous

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  
Date of issue: 2/18/2019 Version: 1.0

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

#### 1.1. Product identifier

Product form	: Substance
Substance name	: Iron (II) chloride anhydrous
Chemical name	: Iron dichloride
IUPAC name	: $\text{lambda}^2\text{-iron(2+)} \text{ dichloride}$
EC-No.	: 231-843-4
CAS-No.	: 7758-94-3
Product code	: 40695860
Formula	: $\text{Cl}_2\text{Fe}$
Synonyms	: FERROUS CHLORIDE

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec	: For professional use only Industrial Laboratory chemicals
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##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Scaffell Organics  
Molekula Ltd  
Lingfield Way  
Darlington - England  
T +44 (0) 1949 823777 / +44 (0) 7590 545705  
[info@molekula.com](mailto:info@molekula.com) / [kbowen@molekula.com](mailto:kbowen@molekula.com) - [www.molekula.com](http://www.molekula.com)

#### 1.4. Emergency telephone number

Emergency number : +44 (0) 7590 545705

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]



Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 1B	H314
Full text of H 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
Hazard statements (CLP)	: H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage.
Precautionary statements (CLP)	: P232 - Protect from moisture. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P330 - IF SWALLOWED: Rinse mouth. 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.

#### 2.3. Other hazards

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

# Iron (II) chloride anhydrous

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name	Product identifier	%
Iron (II) chloride anhydrous	(CAS-No.) 7758-94-3 (EC-No.) 231-843-4	100

Full text of H-statements: see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If possible show this sheet, if not available show packaging or label. Do not leave affected person unattended.
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. If experiencing respiratory symptoms: Get medical advice/attention.
First-aid measures after skin contact	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Do not remove clothing if it sticks to the skin. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention.

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

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Cough. May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: irritation (itching, redness, blistering).
Symptoms/effects after eye contact	: Causes serious eye damage. redness, itching, tears. More severe symptoms are also possible.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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

Get immediate medical advice/attention.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: hydrogen chloride. Iron oxide.
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#### 5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: seal off low-lying areas. Keep container tightly closed and away from heat, sparks and flame.
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. Use extinguishing agent suitable for surrounding fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Warn all persons of toxic hazard.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Isolate from fire, if possible, without unnecessary risk. No flames, no sparks. Eliminate all sources of ignition. Avoid dust formation.
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##### 6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Evacuate unnecessary personnel. Mark out the contaminated area with signs and prevent access to unauthorized personnel. Avoid contact with skin, eyes and clothing. Do not breathe dust. Do not touch or walk on the spilled product.
Measures in case of dust release	: Keep upwind. Ventilate the area thoroughly, especially low lying areas (basements, workpits etc).

##### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection. Use self-contained breathing apparatus and chemically protective clothing.
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# Iron (II) chloride anhydrous

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Emergency procedures : Ventilate area. Stop leak if safe to do so.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimise generation of dust. Store away from other materials.

Other information : Do not flush with water. Do not empty into drains.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Provide local exhaust or general room ventilation. Avoid creating or spreading dust. Handle under inert gas. Protect from moisture.

Hygiene measures : Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Always wash hands after handling the product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Handle and store contents under inert gas. Protect from moisture.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Keep container closed when not in use.

Incompatible products : Potassium. Strong oxidisers. Sodium. Sodium Oxides.

Incompatible materials : Sources of ignition. Direct sunlight. Material is hygroscopic. Moisture. Water, humidity.

Storage area : Store in dry protected location to prevent any moisture contact. Store at ambient temperature.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Iron (II) chloride anhydrous (7758-94-3)		
United Kingdom	WEL TWA (mg/m³)	1 mg/m³
United Kingdom	WEL STEL (mg/m³)	2 mg/m³
Iron (II) chloride anhydrous (7758-94-3)		
DNEL/DMEL (Workers)		
Acute - systemic effects, dermal	160 µg/kg bodyweight/day	
Acute - systemic effects, inhalation	200 µg/m³	
Long-term - systemic effects, dermal	160 µg/kg bodyweight/day	
Long-term - systemic effects, inhalation	200 µg/m³	
DNEL/DMEL (General population)		
Acute - systemic effects, oral	20 mg/kg bodyweight	
Long-term - systemic effects,oral	280 µg/kg bodyweight/day	
Long-term - systemic effects, dermal	1.4 mg/kg bodyweight/day	
PNEC (Water)		
PNEC aqua (freshwater)	114 µg/L	
PNEC aqua (marine water)	57 µg/L	
PNEC aqua (intermittent, freshwater)	400 µg/L	
PNEC (Sediment)		
PNEC sediment (freshwater)	18.07 mg/kg dwt	
PNEC sediment (marine water)	9.03 mg/kg dwt	
PNEC (STP)		
PNEC sewage treatment plant	737 mg/l	

# Iron (II) chloride anhydrous

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 8.2. Exposure controls

#### Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety procedures. Provide local exhaust or general room ventilation.

#### Personal protective equipment:

Wear recommended personal protective equipment. Avoid all unnecessary exposure.

#### Materials for protective clothing:

Use chemically protective clothing

#### Hand protection:

The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Nitrile rubber (NBR)	6 (> 480 minutes)	0.11mm		EN 374

#### Eye protection:

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Use eye protection according to EN 166, designed to protect against powders and dusts. Chemical goggles or safety glasses

Type	Use	Characteristics	Standard
Safety glasses, Face shield	Dust	With side shields	EN 166

#### Skin and body protection:

Emergency safety showers should be available in the immediate vicinity of any potential exposure. Keep suitable chemically resistant protective clothing readily available for emergency use

Type	Standard
Total impervious protective suits, gloves, and boots must be worn to prevent any contact with the product	EN ISO 13982

#### Respiratory protection:

Self contained breathing apparatus, in case of emergency. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

Device	Filter type	Condition	Standard
Respiratory protective device with a particle filter	Type P3	Dust protection	EN 143

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Molecular mass	: 126.75 g/mol
Colour	: Colourless.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 677 °C lit
Freezing point	: No data available
Boiling point	: 1023 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 3.16 g/cm <sup>3</sup> at 25 °C
Solubility	: soluble in water. Alcohols. Acetone. Slightly soluble in: Benzene. Insoluble in: Ether. Water: 664 g/l

# Iron (II) chloride anhydrous

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## 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 recommended handling and storage conditions (see section 7).

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from sunlight.

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : hydrogen chloride.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Oral: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

### Iron (II) chloride anhydrous (7758-94-3)

LD50 oral rat	> 500 mg/kg
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

### Iron (II) chloride anhydrous (7758-94-3)

LC50 fish 1	46.6 mg/l 96h - Oryzias latipes
EC50 Daphnia 1	19 mg/l 48h - Daphnia magna (Water flea)
EC50 72h algae (1)	17.7 mg/l 72h - Selenastrum capricornutum (green algae)

# Iron (II) chloride anhydrous

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.2. Persistence and degradability

#### Iron (II) chloride anhydrous (7758-94-3)

Persistence and degradability	Potentially biodegradable. soluble in water.
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### 12.3. Bioaccumulative potential

#### Iron (II) chloride anhydrous (7758-94-3)

Bioaccumulative potential	Not potentially bioaccumulable.
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### 12.4. Mobility in soil

#### Iron (II) chloride anhydrous (7758-94-3)

Ecology - soil	Expected to be highly mobile in soil.
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### 12.5. Results of PBT and vPvB assessment

#### Iron (II) chloride anhydrous (7758-94-3)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations






### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
3260	3260	3260	3260	3260
<b>14.2. UN proper shipping name</b>				
CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	Corrosive solid, acidic, inorganic, n.o.s.	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
<b>Transport document description</b>				
UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Iron (II) chloride anhydrous), 8, III, (E)	UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Iron (II) chloride anhydrous), 8, III	UN 3260 Corrosive solid, acidic, inorganic, n.o.s. (Iron (II) chloride anhydrous), 8, III	UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Iron (II) chloride anhydrous), 8, III	UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Iron (II) chloride anhydrous), 8, III
<b>14.3. Transport hazard class(es)</b>				
8	8	8	8	8
				
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				
<b>14.6. Special precautions for user</b>				

### Overland transport

Classification code (ADR) : C2

Special provisions (ADR) : 274

# Iron (II) chloride anhydrous

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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	:



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

### Transport by sea

Special provisions (IMDG)	: 223, 274
Packing instructions (IMDG)	: P002, LP02
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Causes burns to skin, eyes and mucous membranes.

### 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)	: A3, A803
ERG code (IATA)	: 8L

### Inland waterway transport

Classification code (ADN)	: C2
Special provisions (ADN)	: 274
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)	: 274
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

# Iron (II) chloride anhydrous

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Iron (II) chloride anhydrous is not on the REACH Candidate List

Iron (II) chloride anhydrous is not on the REACH Annex XIV List

Directive 2012/18/EU (SEVESO III)

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

SDS EU (REACH Annex II)

*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*