

SIDRA WASSERCHEMIE GmbH

49479 Ibbenbüren

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Version 11. Supersedes version: 10

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

1.1 Product identifier

Ferrous-(II)-chloride, solution

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

1.2.1 Relevant uses

Flocculation- and precipitating agent

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

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1.4 Emergency telephone number

Advisory body +49 (0)89-19240 (24h) (English)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

Acute Tox. 4: H302 Harmful if swallowed.
 Eye Dam. 1: H318 Causes serious eye damage.
 Met. Corr. 1: H290 May be corrosive to metals.
 Skin Sens. 1: H317 May cause an allergic skin reaction.

2.2 Label elements

Hazard pictograms



Signal word

DANGER

Contains:

Ferrous (II)-chloride
 Nickel dichloride

Hazard statements

H302 Harmful if swallowed.
 H318 Causes serious eye damage.
 H290 May be corrosive to metals.
 H317 May cause an allergic skin reaction.

Precautionary statements

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 / soap.
 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 / doctor.
 P501 Dispose of contents/container in accordance with local/national regulation.

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2.3 Other hazards

Physico-chemical hazards	Corrosive to metals.
Human health dangers	Frequent persistent contact with the skin can cause skin irritation.
Environmental 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.
Other hazards	Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients**Product-type:**

3.2 The product is a mixture.

Range [%]	Substance
20 - <= 35	Ferrous (II)-chloride CAS: 7758-94-3, EINECS/ELINCS: 231-843-4, Reg-No.: 01-2119498060-41-XXXX GHS/CLP: Acute Tox. 4: H302 - Eye Dam. 1: H318 - Met. Corr. 1: H290
1 - < 10	Hydrochloric acid CAS: 7647-01-0, EINECS/ELINCS: 231-595-7, EU-INDEX: 017-002-01-X, Reg-No.: 01-2119484862-27-XXXX GHS/CLP: Skin Corr. 1A: H314 - Eye Dam. 1: H318 - STOT SE 3: H335 - Met. Corr. 1: H290
0,01 - < 0,012	Nickel dichloride CAS: 7718-54-9, EINECS/ELINCS: 231-743-0, EU-INDEX: 028-011-00-6 GHS/CLP: Carc. 1A: H350 - Muta. 2: H341 - Repr. 1B: H360D - Acute Tox. 3: H301 H331 - STOT RE 1: H372 - Skin Irrit. 2: H315 - Resp. Sens. 1: H334 - Skin Sens. 1: H317 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%. For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures**4.1 Description of first aid measures**

General information	Take off contaminated clothing and wash before reuse.
Inhalation	Ensure supply of fresh air. In the event of symptoms seek medical treatment.
Skin contact	When in contact with the skin, clean with soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.
Ingestion	Get medical advice. Rinse out mouth and give plenty of water to drink. Induce the patient to vomit of his own accord only if fully conscious.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects
Risk of serious damage to eyes.
Allergic reactions

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures**5.1 Extinguishing media**

Suitable extinguishing media	Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered.
Extinguishing media that must not be used	Full water jet.

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5.2 Special hazards arising from the substance or mixture

In the event of fire the following can be released:

Hydrogen chloride (HCl).

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Use personal protective equipment (protective gloves, safety glasses, protective clothing).

High risk of slipping due to leakage/spillage of product.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Vacuum up spilled product.

Take up with absorbent material (e.g. acid binder).

Dispose of absorbed material in accordance with the regulations.

Rinse away small amounts with water.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Use only in well-ventilated areas.

The normal safety precautions for handling chemicals must be observed.

Avoid contact with eyes and skin. Use personal protective equipment.

The product is not combustible.

Take off contaminated clothing and wash before reuse.

Do not eat, drink, smoke or take drugs at work.

After worktime and before work breaks the affected skin areas must be thoroughly cleaned.

Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Provide acid-resistant floor.

Do not store with alkalis.

Do not store together with metals.

Do not store together with food and animal food/diet.

Keep container in a well-ventilated place.

Keep container tightly closed.

7.3 Specific end use(s)

See product use, SECTION 1.2

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SECTION 8: Exposure controls / personal protection**8.1 Control parameters****Ingredients with occupational exposure limits to be monitored (GB)**

Substance
Hydrochloric acid
CAS: 7647-01-0, EINECS/ELINCS: 231-595-7, EU-INDEX: 017-002-01-X, Reg-No.: 01-2119484862-27-XXXX
Long-term exposure: 1 ppm, 2 mg/m ³ , gas and aerosol mists
Short-term exposure (15-minute): 5 ppm, 8 mg/m ³
Nickel dichloride
CAS: 7718-54-9, EINECS/ELINCS: 231-743-0, EU-INDEX: 028-011-00-6
Long-term exposure: 0,1 mg/m ³ , water-soluble nickel compounds (as Ni), Sk (as Ni) Sk, Carc

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES
Hydrochloric acid
CAS: 7647-01-0, EINECS/ELINCS: 231-595-7, EU-INDEX: 017-002-01-X, Reg-No.: 01-2119484862-27-XXXX
Eight hours: 5 ppm, 8 mg/m ³
Short-term (15-minute): 10 ppm, 15 mg/m ³

DNEL

Substance
Hydrochloric acid, CAS: 7647-01-0
Industrial, inhalative, Long-term - local effects: 8 mg/m ³ .
Industrial, inhalative, Acute - local effects: 15 mg/m ³ .
general population, inhalative, Acute - local effects: 15 mg/m ³ .
general population, inhalative, Long-term - local effects: 8 mg/m ³ .
Ferrous (II)-chloride, CAS: 7758-94-3
Industrial, inhalative, Long-term - systemic effects: 0,2 mg/m ³ .
Industrial, dermal, Long-term - systemic effects: 2,8 mg/kg bw/day.
general population, oral, Acute - local effects: 20 mg/kg bw/day.
general population, oral, Long-term - systemic effects: 0,28 mg/kg bw/day.
general population, dermal, Long-term - systemic effects: 1,4 mg/kg bw/day.

PNEC

Substance
Hydrochloric acid, CAS: 7647-01-0
sewage treatment plants (STP), 0,036 mg/l.
seawater, 0,036 mg/l.
freshwater, 0,036 mg/l.
Ferrous (II)-chloride, CAS: 7758-94-3
sediment (seawater), 9,03 mg/kg.
sediment (freshwater), 18,07 mg/kg.
sewage treatment plants (STP), 737 mg/L.
seawater, 57 µg/L.
freshwater, 114 µg/L.

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8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Tightly fitting goggles. (EN 166:2001) safety glasses (EN 166:2001)
Hand protection	0,7mm Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Acid-resistant protective clothing (EN 340)
Other	Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, combination filter E-P2 (DIN EN 14387)
Thermal hazards	none
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

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

Form	liquid
Color	dark green
Odor	characteristic
Odour threshold	No information available.
pH-value	< 1
pH-value [1%]	No information available.
Boiling point [°C]	No information available.
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	1,3 (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	miscible
Partition coefficient [n-octanol/water]	not applicable
Viscosity	20 mPa*s (20 °C)
Relative vapour density determined in air	not applicable
Evaporation speed	not applicable
Melting point [°C]	No information available.
Autoignition temperature [°C]	not applicable
Decomposition temperature [°C]	not applicable

9.2 Other information

none

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SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Reactions with alkalis (lyes).

Reactions with reducing agents.

Reactions with metals, with evolution of hydrogen.

10.4 Conditions to avoid

See SECTION 7.2.

10.5 Incompatible materials

Corrosive to metals.

10.6 Hazardous decomposition products

Hydrogen chloride (HCl).

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SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Product
ATE-mix, inhalativ (mist), > 5 mg/l 4h.
ATE-mix, dermal, > 2000 mg/kg.
ATE-mix, oral, 1400 - < 2000 mg/kg.
Substance
Nickel dichloride, CAS: 7718-54-9
LD50, oral, Rat: 186 mg/kg (IUCLID).
Hydrochloric acid, CAS: 7647-01-0
LC50, inhalativ (mist), Rat: 8,3 mg/l/30min.
LC50, inhalativ (mist), Rat: 45,6 mg/l/5min.
LC50, inhalativ (gas), Rat: 4701 ppm/30min.
LC50, inhalativ (gas), Rat: 40989 ppm/5min.
LC50, inhalative, Rabbit: 4,2 - 4,7 mg/l 1h.
Ferrous (II)-chloride, CAS: 7758-94-3
LD50, dermal, Rat: > 2000 mg/kg bw.
LD50, oral, Rat (female): 500 mg/kg bw.

Serious eye damage/irritation	Risk of serious damage to eyes. Based on the available information, the classification criteria are fulfilled.
Skin corrosion/irritation	Based on the available information, the classification criteria are not fulfilled. No classification due to substance-specific concentration limits.
Respiratory or skin sensitisation	May cause an allergic skin reaction. Based on the available information, the classification criteria are fulfilled. Classification was carried out based on substance-specific concentration limits.
Specific target organ toxicity — single exposure	Based on the available information, the classification criteria are not fulfilled. No classification due to substance-specific concentration limits.
Specific target organ toxicity — repeated exposure	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled.
Mutagenicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled.
Reproduction toxicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled.
Carcinogenicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled.
General remarks	Toxicological data of complete product are not available.

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SECTION 12: Ecological information**12.1 Toxicity**

Substance
Nickel dichloride, CAS: 7718-54-9
LC50, (96h), Brachidanio rerio: > 100 mg/l (IUCLID).
EC50, (48h), Daphnia magna: 6,68 mg/l (IUCLID).
EC50, (72h), Selenastrum capricornutum: 0,66 mg/l (IUCLID).
NOEC, (96h), Brachidanio rerio: 32 mg/l (IUCLID).
NOEC, (72h), Selenastrum capricornutum: 0,1 mg/l (IUCLID).
NOEC, (48h), Daphnia magna: 1,8 mg/l (IUCLID).
Hydrochloric acid, CAS: 7647-01-0
LC50, fish: 20,5 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments	No information available.
Behaviour in sewage plant	The product is used as precipitant and flocculant.
Biological degradability	The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

not applicable

12.4 Mobility in soil

Spillages may penetrate the soil causing ground water contamination.

12.5 Results of PBT and vPvB assessment

not applicable

12.6 Other adverse effects

None known.

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

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
For recycling, consult manufacturer.

Waste no. (recommended)

160507*

Contaminated packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended)

150102
150110*

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SECTION 14: Transport information**14.1 UN number**

Transport by land according to ADR/RID 3264

Inland navigation (ADN) 3264

Marine transport in accordance with IMDG 3264

Air transport in accordance with IATA 3264

14.2 UN proper shipping name

Transport by land according to ADR/RID Corrosive liquid, acidic, inorganic, n.o.s. (Ferric (II) chloride, Hydrochloric acid, solution)

- Classification Code C1


- Label 

- ADR LQ 5 I

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 3 (E)

Inland navigation (ADN) Corrosive liquid, acidic, inorganic, n.o.s. (Ferric (II) chloride, Hydrochloric acid, solution)

- Classification Code C1

- Label 

Marine transport in accordance with IMDG Corrosive liquid, acidic, inorganic, n.o.s. (Ferric (II) chloride, Hydrochloric acid, solution)

- EMS F-A, S-B

- Label 

- IMDG LQ 5 I

Air transport in accordance with IATA Corrosive liquid, acidic, inorganic, n.o.s. (Ferric (II) chloride, Hydrochloric acid, solution)

- Label **14.3 Transport hazard class(es)**

Transport by land according to ADR/RID 8

Inland navigation (ADN) 8

Marine transport in accordance with IMDG 8

Air transport in accordance with IATA 8

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14.4 Packing group

Transport by land according to ADR/RID III

Inland navigation (ADN) III

Marine transport in accordance with IMDG III

Air transport in accordance with IATA III

14.5 Environmental hazards

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EEC-REGULATIONS 2008/98/EC 2000/532/EC; 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

TRANSPORT-REGULATIONS ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2020)

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011).

- Observe employment restrictions for people Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.

- VOC (2010/75/CE) 0 %

15.2 Chemical safety assessment

not applicable

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SECTION 16: Other information**16.1 Hazard statements
(SECTION 03)**

H410 Very toxic to aquatic life with long lasting effects.
 H400 Very toxic to aquatic life.
 H317 May cause an allergic skin reaction.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H315 Causes skin irritation.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H301+H331 Toxic if swallowed or if inhaled.
 H360D May damage the unborn child.
 H341 Suspected of causing genetic defects.
 H350 May cause cancer.
 H302 Harmful if swallowed.
 H290 May be corrosive to metals.
 H335 May cause respiratory irritation.
 H318 Causes serious eye damage.
 H314 Causes severe skin burns and eye damage.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ATE = acute toxicity estimate
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 EL50 = Median effective loading
 ELINCS = European List of Notified Chemical Substances
 EmS = Emergency Schedules
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 LL50 = Median lethal loading
 LQ = Limited Quantities
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 TLV@TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.3 Other information**Classification procedure**

Acute Tox. 4: H302 Harmful if swallowed. (Calculation method)
 Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)
 Met. Corr. 1: H290 May be corrosive to metals. (Expert judgement)
 Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)

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Modified position

SECTION 2 been added: Nickel dichloride

SECTION 3 been added: Nickel dichloride

SECTION 2 been added: P280 Wear protective gloves / eye protection / face protection.

SECTION 2 deleted: P280 Wear eye protection / face protection.

SECTION 2 been added: P302+P352 IF ON SKIN: Wash with plenty of water / soap.

SECTION 2 been added: Skin Sens. 1

SECTION 2 been added: H317 May cause an allergic skin reaction.

SECTION 4 been added: Allergic reactions

SECTION 4 deleted: Consult a doctor if skin irritation persists.

SECTION 4 been added: If skin irritation or rash occurs: Get medical advice/attention.

SECTION 7 been added: Avoid contact with eyes and skin. Use personal protective equipment.

SECTION 11 been added: May cause an allergic skin reaction.

SECTION 11 deleted: Based on the available information, the classification criteria are not fulfilled.

SECTION 11 been added: Based on the available information, the classification criteria are fulfilled.

SECTION 11 been added: Classification was carried out based on substance-specific concentration limits.

SECTION 11 deleted: Does not contain a relevant substance that meets the classification criteria.

SECTION 16 been added: Calculation method

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