

SIDRA WASSERCHEMIE GmbH

49479 Ibbenbüren

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

1.1 Product identifier

Ferric (III)-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]

Met. Corr. 1: H290 May be corrosive to metals.
 Eye Dam. 1: H318 Causes serious eye damage.
 Skin Irrit. 2: H315 Causes skin irritation.
 Skin Sens. 1: H317 May cause an allergic skin reaction.
 Acute Tox. 4: H302 Harmful if swallowed.

2.2 Label elements

Hazard pictograms



Signal word

DANGER

Contains:

Ferric (III)-chloride
 Nickel dichloride

Hazard statements

H290 May be corrosive to metals.
 H318 Causes serious eye damage.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H302 Harmful if swallowed.

Precautionary statements

P234 Keep only in original container.
 P280 Wear protective gloves / protective clothing / eye protection / face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P307+P311 IF exposed: Call a POISON CENTER or doctor / physician.
 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	The product temperature can be up to a maximum of 50°C upon delivery.
Environmental hazards	Does not contain any PBT or vPvB substances.
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
30 - 45	Ferric (III)-chloride CAS: 7705-08-0, EINECS/ELINCS: 231-729-4, Reg-No.: 01-2119497998-05-XXXX GHS/CLP: Acute Tox. 4: H302 - Skin Irrit. 2: H315 - Eye Dam. 1: H318 - 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	Seek medical advice immediately. Remove the victim into fresh air and keep him calm.
Skin contact	In case of contact with skin wash off immediately 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	Consult a doctor immediately. Do not induce vomiting. Rinse out mouth and give plenty of water to drink.

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.

5.2 Special hazards arising from the substance or mixture

In the event of fire the following can be released:
Hydrogen chloride (HCl).

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5.3 Advice for firefighters

Use self-contained breathing apparatus.

Wear full protective suit.

Fire residues and contaminated firefighting water must be disposed of in accordance within 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 within 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.

Avoid formation of aerosols.

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

The product temperature can be up to a maximum of 50°C upon delivery.

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

Use barrier skin cream.

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

Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Provide acid-resistant floor.

Prevent penetration into the ground.

Do not store together with metals.

Do not store together with reducing agents.

Do not store with alkalies.

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

Keep container tightly closed.

Keep container in a well-ventilated place.

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
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 , as Ni, Sk (as Ni) Sk

DNEL

Substance
Ferric (III)-chloride, CAS: 7705-08-0
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
Ferric (III)-chloride, CAS: 7705-08-0
There are no PNEC values established for the substance.,

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	In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, combination filter E-P2 (DIN EN 14387)
Thermal hazards	yes See SECTION 7.
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	brown
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]	1,43 (20 °C / 68,0 °F)
Bulk density [kg/m ³]	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]	No information available.

9.2 Other information

none

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).
Corrosive to metals.
Reactions with reducing agents.

10.4 Conditions to avoid

See SECTION 7.2.

10.5 Incompatible materials

Corrosive to metals.
Alkalies

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10.6 Hazardous decomposition products

Hydrogen chloride (HCl).

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, > 500 - < 1500 mg/kg.
Substance
Nickel dichloride, CAS: 7718-54-9
LD50, oral, Rat: 186 mg/kg (IUCLID).
Ferric (III)-chloride, CAS: 7705-08-0
LD50, oral, mouse: 440 - 1300 mg/kg bw.
LD50, oral, Rat: 301 - 2000 mg/kg bw.
LD50, dermal, Rat: 881 - 2000 mg/kg bw.

Serious eye damage/irritation	Risk of serious damage to eyes. Based on the available information, the classification criteria are fulfilled. Toxicological data of complete product are not available. Calculation method
Skin corrosion/irritation	Irritant Based on the available information, the classification criteria are fulfilled. Toxicological data of complete product are not available. Calculation method
Respiratory or skin sensitisation	May cause an allergic skin reaction. Based on the available information, the classification criteria are fulfilled. Toxicological data of complete product are not available. Calculation method
Specific target organ toxicity — single exposure	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
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. Toxicological data of complete product are not available.
Mutagenicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
Reproduction toxicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
Carcinogenicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
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	none

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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).

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
150104

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

Transport by land according to ADR/RID 2582

Inland navigation (ADN) 2582

Marine transport in accordance with IMDG 2582

Air transport in accordance with IATA 2582

14.2 UN proper shipping name

Transport by land according to ADR/RID FERRIC CHLORIDE 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) FERRIC CHLORIDE SOLUTION

- Classification Code C1

- Label 

Marine transport in accordance with IMDG Ferric chloride, solution

- EMS F-A, S-B

- Label 

- IMDG LQ 5 I

Air transport in accordance with IATA Ferric chloride, 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

not determined

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

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**

Met. Corr. 1: H290 May be corrosive to metals. (Expert judgement)
 Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)
 Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
 Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)
 Acute Tox. 4: H302 Harmful if swallowed. (Calculation method)

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Modified position

SECTION 2 been added: Nickel dichloride

SECTION 3 been added: Nickel dichloride

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

SECTION 2 been added: Skin Sens. 1

SECTION 4 been added: Allergic reactions

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: Calculation method

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

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

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

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

SECTION 12 been added: The methods for determining the biological degradability are not applicable to inorganic substances.

SECTION 16 been added: Calculation method

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