SIDRA WASSERCHEMIE GmbH
49479 Ibbenbüren

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
Water treatment: drinking water, industrial water, wastewater
Soil remediation
Industrial application: Raw materials for chemical industry and metallurgical processes

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

SIDRA WASSERCHEMIE GmbH
Zeppelinstraße 27
49479 Ibbenbüren / GERMANY
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Fax (+49) 05459-5454
Homepage www.sidra.de
E-mail info@sidra.de

Address enquiries to

Technical information info@sidra.de

Safety Data Sheet sdb@chemiebuero.de (No dispatch of safety data sheets)

Safety data sheets are available from the supplier.

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

The product is required to be labelled in accordance with regulation CLP.

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].
P308+P311 IF exposed or concerned: Call a POISON CENTER / doctor.
P501 Dispose of contents/container in accordance with local/national regulation.

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.
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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.
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 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

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
30 - 40	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: H350i - 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, M-Factor (acute): 1, M-Factor (chronic): 1
	SCL [%]: >= 1: STOT RE 1: H372, 0,1 - <1: STOT RE 2: H373, >= 20: Skin Irrit. 2: H315, >= 0,01: Skin Sens. 1: H317

Comment on component parts 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 Rinse out mouth and give plenty of water to drink.
Do not induce vomiting.
Consult a doctor immediately.

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).

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

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored EU (2004/37/EG)

not relevant

DNEL

Substance
Ferric (III)-chloride, CAS: 7705-08-0
Industrial, dermal, Long-term - systemic effects, 2,8 mg/kg bw/day
general population, dermal, Long-term - systemic effects, 1,4 mg/kg bw/day
general population, oral, Long-term - systemic effects, 0,28 mg/kg bw/day
general population, oral, Acute - local effects, 20 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.
Eye protection	Tightly fitting goggles. (EN 166:2001) safety glasses (EN 166:2001)
Hand protection	0,7 mm; 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	If workplace limit values are exceeded or if there is insufficient ventilation: 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Form	liquid
Color	brown
Odor	characteristic
Odour threshold	No information available.
pH-value	< 1
pH-value [1%]	No information available.
Boiling point or initial boiling point and boiling range [°C]	No information available.
Flash point [°C]	not applicable
Flammability	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/cm³]	1,30 - 1,43 (20 °C / 68,0 °F)
Relative density	No information available.
Bulk density [kg/m³]	not applicable
Solubility in water	miscible
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	not applicable
Kinematic viscosity	No information available.
Relative vapour density	No information available.
Melting point [°C]	No information available.
Auto-ignition temperature [°C]	not applicable
Decomposition temperature [°C]	No information available.
Particle characteristics	not applicable

9.2 Other information

Dynamic viscosity: 20 mPa*s (20°C).

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 alkalies (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

10.6 Hazardous decomposition products

Hydrogen chloride (HCl).

SECTION 11: Toxicological information

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

Acute oral toxicity

Product
ATE-mix, oral, > 500 - < 1500 mg/kg

Substance
Nickel dichloride, CAS: 7718-54-9
LD50, oral, Rat, 186 mg/kg (IUCLID)
LD50, oral, Rat, 175 - 500 mg/kg
Ferric (III)-chloride, CAS: 7705-08-0
LD50, oral, Rat, 301 - 2000 mg/kg bw
LD50, oral, mouse, 440 - 1300 mg/kg bw

Acute dermal toxicity

Product
ATE-mix, dermal, > 2000 mg/kg

Substance
Ferric (III)-chloride, CAS: 7705-08-0
LD50, dermal, Rat, 881 - 2000 mg/kg bw, Absence of toxicity up to 2000 mg/kg (ECHA)

Acute inhalational toxicity

Product
ATE-mix, inhalativ (mist), > 5 mg/l 4h

Serious eye damage/irritation

Risk of serious damage to eyes.
Based on the available information, the classification criteria are fulfilled.
Calculation method

Substance
Nickel dichloride, CAS: 7718-54-9
no adverse effect observed
Ferric (III)-chloride, CAS: 7705-08-0
Rabbit, in vivo, OECD 405, corrosive

Skin corrosion/irritation

Irritant
Based on the available information, the classification criteria are fulfilled.
Calculation method
CAS 7705-08-0: Not classified as skin corrosive due to toxicological investigations.
ECHA: Weight of evidence.

Substance
Nickel dichloride, CAS: 7718-54-9
adverse effect observed
Ferric (III)-chloride, CAS: 7705-08-0
Rabbit, in vivo, OECD 404, irritant

Respiratory or skin sensitisation

May cause an allergic skin reaction.
Based on the available information, the classification criteria are fulfilled.
Calculation method

Substance
Nickel dichloride, CAS: 7718-54-9
inhalative, adverse effect observed
dermal, adverse effect observed
Ferric (III)-chloride, CAS: 7705-08-0
mouse, in vivo (LLNA), OECD 429, non-sensitizing

Specific target organ toxicity — single exposure Based on the available information, the classification criteria are not fulfilled.

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.

Substance
Nickel dichloride, CAS: 7718-54-9
NOAEL, oral, 10 mg Ni sulphate hexahydrate/kg bw/day
NOAEC, inhalative, 0,12 mg Ni sulphate hexahydrate/m³ air
LOAEC, inhalative, 0,25 mg Ni sulphate hexahydrate/m3
Ferric (III)-chloride, CAS: 7705-08-0
NOAEL, oral, Rat, 125 mg/kg bw/day, In vivo study, no adverse effect observed
LOAEC, inhalative, Rabbit, 1,4 mg/m³, In vivo study, adverse effect observed

Mutagenicity Based on the available information, the classification criteria are not fulfilled.

Substance
Nickel dichloride, CAS: 7718-54-9
Chinese hamster, in vitro cytogenicity / chromosome aberration stud, adverse effect observed
Ferric (III)-chloride, CAS: 7705-08-0
in vitro gene mutation study in bacteria, OECD 471, negativ

Reproduction toxicity Based on the available information, the classification criteria are not fulfilled.

- Fertility

Substance
Ferric (III)-chloride, CAS: 7705-08-0
NOAEL, oral, Rat, 200 mg/kg bw/D (Effect on fertility), no adverse effect observed

- Development

Substance
Ferric (III)-chloride, CAS: 7705-08-0
NOAEL, Intravenous, Rat, 200 mg/kg bw/d (Effect on developmental toxicity), no adverse effect observed

Carcinogenicity Based on the available information, the classification criteria are not fulfilled.

Substance
Nickel dichloride, CAS: 7718-54-9
NOAEC, inhalative, 0,1 mg Ni/m³
NOAEC, oral, 11 mg Ni/kg/d

Aspiration hazard Based on the available information, the classification criteria are not fulfilled.

General remarks

Toxicological data of complete product are not available.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2 Other information none

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, (72h), Selenastrum capricornutum, 0,1 mg/l (IUCLID)
NOEC, (48h), Daphnia magna, 1,8 mg/l (IUCLID)
NOEC, (96h), Brachidanio rerio, 32 mg/l (IUCLID)
Ferric (III)-chloride, CAS: 7705-08-0
LC50, (96h), Lepomis macrochirus, 20,3 mg Fe/L
EC50, (48h), Daphnia magna, 9,6 mg Fe/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

Substance
Nickel dichloride, CAS: 7718-54-9
The methods for determining the boilogical degradability are not applicable to inorganic substances.
Ferric (III)-chloride, CAS: 7705-08-0
The methods for determining the boilogical 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

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 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) 060313*

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
150110* packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID 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 l
- 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 l
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

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 Maritime transport in bulk according to IMO instruments

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/EG (2000/532/EC); 2010/75/EU; 2004/42/EG; (EG) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EWG ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014; (EU) 2019/1148; (EU) 2019/1021, (EU) 2023/707
- Comment on component parts	Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
- Annex XIV (REACH)	According to Annex XIV of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances ≥ 0.1% that are subject to authorisation.
- Annex XVII (REACH)	According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product contains ≥ 0.1% of substances with the following restrictions. 75
	According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is subject to the following restrictions. 3
TRANSPORT-REGULATIONS	ADR (2025); IMDG-Code (2025, 42. Amdt.); IATA-DGR (2025)
NATIONAL REGULATIONS (EU):	
- 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

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

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.
H350i May cause cancer by inhalation.
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
IVIS = In vitro irritation score
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

This document does not comply with Regulation (EC) No 1907/2006, article 31 (5) and may be used for internal purposes only.

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)

Modified position

11.1