S A F E T Y D A T A S H E E T

according to Regulation (EU) No. 453/2010

Electrolyte F20

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product code None.

Synonyms None.

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

Use of the Substance/Preparation Deplating electrolyte - for checking device in electroplating industry

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification

HELMUT FISCHER AG
Moosmattstrasse 1 P.O. Box
CH-6331 Hünenberg
Switzerland

Tel. +41 (0)41 785 08 15 (8-17h)
info@helmutfischer.com / www.helmutfischer.com

1.4. Emergency telephone number STIZ (Tox-Zentrum) CH-Zürich :
145 / +41 44 251 51 51 [24h/7]]

Revision Date 01.08.2011

Version 1

2. Hazards identification

2.1. Classification of the substance or mixture

Acute toxicity, oral, Cat. 4
Acute toxicity, inhal., Dusts and Mists, Cat. 4
Skin corrosion/irritation, Cat. 2
Germ cell mutagenicity, Cat. 2
Carcinogenicity, Cat. 1A
Reproductive toxicity, Cat. 1B
Specific target organ toxicity (repeated exposure, inhalation), Cat. 1
Respiratory Sensitisation, Cat. 1
Skin Sensitisation, Cat. 1
Hazardous to the aquatic environment, acute, Cat. 1
Hazardous to the aquatic environment, chronic, Cat. 1
Dispose of contents/container according to local and national regulations.

2.2. Label elements

Signal Word
DANGER!

Hazard Statements
H302+H332: Harmful if swallowed or if inhaled.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341: Suspected of causing genetic defects.
H350: May cause cancer.
H360: May damage fertility or the unborn child.
H372inh: Causes damage to organs through prolonged or repeated exposure if inhaled.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements
P201: Obtain special instructions before use.
P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P273: Avoid release to the environment.
P285: In case of inadequate ventilation wear respiratory protection.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P314: Get medical advice/ attention if you feel unwell.

Additional advice
Dispose of contents/container according to local and national regulations.

GHS product identifier
Nickel dichloride, CAS-No. 7718-54-9
Boric acid, CAS-No. 10043-35-3

Classification and labelling according to Directive 67/548/EEC:

T - Toxic.
N - Dangerous for the environment.

R-phrase(s)	R38: Irritating to skin. R49: May cause cancer by inhalation. R61: May cause harm to unborn child. R68: Possible risk of irreversible effects. R23/25: Toxic by inhalation and if swallowed. R42/43: May cause sensitisation by inhalation and skin contact. R48/23: Toxic: danger of serious damage to health by prolonged exposure through inhalation. R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s)	S2: Keep out of the reach of children. S23: Do not breathe spray S38: In case of insufficient ventilation, wear suitable respiratory equipment. S53: Avoid exposure - obtain special instructions before use. S36/37: Wear suitable protective clothing and gloves. S29/56: Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
Hazardous components which must be listed on the label	Nickel dichloride, CAS-No. 7718-54-9, EC-No. 231-743-0
2.3. Other hazards	No information available.

3. Composition/information on ingredients

Chemical characterization Aqueous solution of alkali salts.

Components		Health hazards	EC-Symbol(s) R-phrase(s)	CAS	REACH No.
Nickel dichloride	25% - 50%	Carc. 1A H350, Muta. 2 H341, Repr. 1B H360, Acute Tox. 3 H331, Acute Tox. 3 H301, STOT RE 1 H372i, Skin Irrit. 2 H315, Resp. Sens. 1 H334, Skin Sens. 1 H317, Aquatic Acute 1 H400, Aquatic Chronic 1 H410 [STOT RE 1 H372i: C ≥ 1 % ¦ STOT RE 2 H373i: 0,1 % < C < 1 % ¦ Skin Irrit. 2 H315: C ≥ 20 % ¦ Skin Sens. 1 H317: C ≥ 0,01 %]	T,N; R-49-61-23/25-38-42/43-48/23-68-50/53	7718-54-9	
Boric acid	0.1% - 1%	Repr. 1B H360 [Repr. 1B H360: C ≥ 5,5 %]	T; R-60-61	10043-35-3	

For the full text of the phrases mentioned in this Section, see Section 16.

Hazardous impurities None known.

4. First aid measures

4.1. Description of first aid measures

Inhalation	Move to fresh air. In the case of inhalation of aerosol/mist consult a physician if necessary.
Skin contact	Wash with water and soap as a precaution.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
4.2. Most important symptoms and effects, both acute and delayed	None known.
4.3. Indication of any immediate medical attention and special treatment needed	None known.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray mist or foam.
Extinguishing media which must not be used for safety reasons	No extinguishing agent constraints
5.2. Special hazards arising from the substance or mixture	The product is not flammable.

5.3. Advice for firefighters

Special protective equipment for firefighters	Standard procedure for chemical fires.
Specific methods	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not use a solid water stream as it may scatter and spread fire. Water mist may be used to cool closed containers.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel	Use personal protective equipment.
Advice for emergency	Handle in accordance with good industrial hygiene and safety

responders	practice.
6.2. Environmental precautions	Prevent product from entering drains.
6.3. Methods and material for containment and cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable and closed containers for disposal.
6.4. Reference to other sections	See chapter 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling	Ingestion, exposure to skin and eyes and inhalation of any generated vapours should be avoided.
7.2. Conditions for safe storage, including any incompatibilities	Store at room temperature in the original container. Keep out of reach of children.
7.3. Specific end use(s)	No information available.

8. Exposure controls/personal protection

8.1. Control parameters

EU	None.
Exposure limit(s)	No data is available on the product itself.

8.2. Exposure controls

Occupational exposure controls	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Keep away from food and drink.

Personal protection equipment

Respiratory protection	No personal respiratory protective equipment normally required. In the case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. Suitable mask with particle filter P3 (European Norm 143)
Hand protection	Gloves made of Nitril. Protective gloves complying with EN 374. Break through time: > 1 h.
Eye protection	Avoid contact with eyes. Safety glasses with side-shields conforming to EN 166. Eye wash bottle with pure water.
Skin and body protection	Long sleeved clothing.
Thermal hazards	Do not heat the product.

Environmental exposure controls	Prevent leaks and prevent soil / water pollution caused by leaks.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Aqueous solution.
Colour	Colourless.
Odour	None.
Odour Threshold	No information available.
pH:	2.9 (20 °C)
Melting point/range:	No information available.
Boiling point/range:	No information available.
Flash point:	does not flash
Evaporation Rate:	No information available.
Flammability:	No information available.
Explosion limits:	No information available.
Vapour pressure:	No information available.
Vapor density:	No information available.
Relative density:	1.18 g/ml
Water solubility:	completely miscible
Partition coefficient (n-octanol/water):	No information available.
Autoignition temperature:	No information available.
Decomposition temperature:	No information available.
Viscosity:	No information available.
Combustion/explosion hazards:	not hazardous
Oxidizing properties:	None

9.2. Other information

10. Stability and reactivity

10.1. Reactivity	No hazards to be specially mentioned.
10.2. Chemical stability	Stable at normal conditions. No decomposition if used as directed.
10.3. Possibility of hazardous reactions	No hazards to be specially mentioned.
10.4. Conditions to avoid	Direct sources of heat.
10.5. Incompatible materials	Incompatible with oxidizing agents.
10.6. Hazardous decomposition products	None under normal use.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity	No data is available on the product itself. **Boric acid (CAS 10043-35-3)** LD50/dermal/rat = > 2000 mg/kg. LD50/oral/rat = 2660 mg/kg. **Nickel dichloride (CAS 7718-54-9)** LD50/oral/rat = 105 mg/kg.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	May cause eye irritation with susceptible persons.
Respiratory / Skin Sensitisation	May cause sensitisation by inhalation and skin contact.
Carcinogenicity	Human carcinogen.
Germ cell mutagenicity	Mutagenic effects.
Reproductive toxicity	This product may cause adverse reproductive effects.
Specific target organ toxicity (single exposure)	No data available.
Specific target organ toxicity (repeated exposure)	Causes damage to organs (Lungs.) through prolonged or repeated exposure if inhaled.
Aspiration hazard	No aspiration toxicity classification.
Human experience	No data available.

12. Ecological information

12.1. Toxicity	No data is available on the product itself.
12.2. Persistence and degradability	No data is available on the product itself.
12.3. Bioaccumulative potential	No data is available on the product itself.
12.4. Mobility in soil	No data is available on the product itself.
12.5. Results of PBT and vPvB assessment	This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
12.6. Other adverse effects	highly water contaminating (self estimation).

13. Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Do not empty into drains. Do not put residues of product into household waste. It should be given in the original package to the official waste disposal authorities. EWC waste disposal No: 16 10 01.
Contaminated packaging	Rinse empty containers with water and use the rinse water to prepare the working solution. Completely emptied packaging disposed of with household waste. Partially empty containers back to the point of sale or transfer of a collection site for hazardous waste.

14. Transport information

ADR/RID	Proper shipping name TOXIC LIQUID, INORGANIC, N.O.S. (Nickel dichloride) UN No 3287. Class 6.1. Packing group III. ADR/RID-Labels 6.1+ENV. Classification code T4. Risk No. 60. Limited quantity 5 L. Tunnel code E
IMO	Proper shipping name Toxic liquid, inorganic, n.o.s. (Nickel dichloride) UN No 3287. Class 6.1. Packing group III. ADR/RID-Labels 6.1+ENV. Limited quantity 5 L. EmS F-A, S-A. Marine Pollutant no
ICAO	Proper shipping name Toxic liquid, inorganic, n.o.s. (Nickel dichloride) UN No 3287. Class 6.1. Packing group III. Packing instruction (passenger aircraft): 655 (60 L). Packing instruction (LQ): Y642 (2 L). Packing instruction (cargo aircraft): 663 (220 L).
Inland navigation ADN	Proper shipping name TOXIC LIQUID, INORGANIC, N.O.S. (Nickel dichloride) UN No 3287. Class 6.1. Packing group III. ADN danger 6.1+(N1, N2, N3, CMR, F oder S).

Further Information	None.

15. Regulatory information

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

Regulatory Information	The product is classified according to Regulation (EC) No. 1272/2008 (CLP).
15.2. Chemical safety assessment	Not required.

16. Other information

Revision Note	None.
Key or legend to abbreviations and acronyms	CLP: Classification according to Regulation (EC) No. 1272/2008 (GHS/CLP) VOC: Volatile organic compounds (VOC) content
Key literature references and sources for data	Information taken from reference works and the literature.
Classification procedure	Calculation method.
Text of H phrases mentioned in Section 3	H301: Toxic if swallowed. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H331: Toxic if inhaled. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H341: Suspected of causing genetic defects. H350: May cause cancer. H360: May damage fertility or the unborn child. H372inh: Causes damage to organs through prolonged or repeated exposure if inhaled. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects.
Text of R phrases mentioned in Section 3	R38: Irritating to skin. R49: May cause cancer by inhalation. R61: May cause harm to unborn child. R68: Possible risk of irreversible effects. R23/25: Toxic by inhalation and if swallowed. R42/43: May cause sensitisation by inhalation and skin contact. R48/23: Toxic: danger of serious damage to health by prolonged exposure through inhalation. R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Training advice	For further information, refer to the product technical data sheet.
Further information	Take notice of the directions of use. SZID 326112 [CH]

Instructions for use	For industrial application only. Keep away from children.
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release. It is not to be considered a warranty or quality specification.