acc. to Safe Work Australia - Code of Practice

#### Iron(III) chloride solution 40 %

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Version: (GHS 4)

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

#### **Product identifier** 1.1

Identification of the substance Iron(III) chloride solution 40 %

Article number 7750

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: Do not use for private purposes (household).

Food, drink and animal feedingstuffs.

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

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

**Telephone:**+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 e-mail: sicherheit@carlroth.de Website: www.carlroth.de

sheet:

e-mail (competent person): sicherheit@carlroth.de

#### 1.4 **Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 West- mead, NSW	131126	

### **SECTION 2: Hazards identification**

#### Classification of the substance or mixture 2.1

#### Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
2.16	Substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.45	Skin sensitisation	1	Skin Sens. 1	H317

For full text of abbreviations: see SECTION 16

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Signal word **Danger** 

#### **Pictograms**

GHS05, GHS07



#### **Hazard statements**

H290	May be corrosive to metals
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin re

an allergic skin reaction H318 Causes serious eye damage

#### **Precautionary statements**

#### **Precautionary statements - prevention**

Avoid breathing dust/fume/gas/mist/vapours/spray P261

P280 Wear protective gloves

#### **Precautionary statements - response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing

P390 Absorb spillage to prevent material damage

#### **Precautionary statements - disposal**

P501 Dispose of contents/container to industrial combustion plant

**Hazardous ingredients for labelling:** Iron(III) chloride, Nickel dichloride, Hydrochloric

acid ...%

#### 2.3 Other hazards

### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

#### **Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq$  0,1%.

### **SECTION 3: Composition/information on ingredients**

#### **Substances** 3.1

not relevant (mixture)

#### 3.2 **Mixtures**

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#### 2.2 Label elements

Labelling

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#### **Description of the mixture**

Name of sub- stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Iron(III) chloride	CAS No 7705-08-0 EC No 231-729-4	39 - 41	Met. Corr. 1 / H290 Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Dam. 1 / H318	The state of the s	
Hydrochloric acid%	CAS No 7647-01-0 EC No 231-595-7	≤1	Met. Corr. 1 / H290 Skin Corr. 1 / H314 Eye Dam. 1 / H318 STOT SE 3 / H335	(!)	
Nickel dichloride	CAS No 7718-54-9 EC No 231-743-0	< 0.1	Acute Tox. 3 / H301 Acute Tox. 3 / H331 Skin Irrit. 2 / H315 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Muta. 2 / H341 Carc. 1A / H350i Repr. 1B / H360D STOT RE 1 / H372		

#### **Remarks**

For full text of abbreviations: see SECTION 16

#### SECTION 4: First aid measures

#### 4.1 Description of first aid measures



#### **General notes**

Take off immediately all contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### **Following skin contact**

Rinse skin with water/shower. After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician. In case of skin irritation, consult a physician.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. Rinse mouth with water (only if the person is conscious). Call a physician immediately.

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

Irritation, Allergic reactions, Vomiting, Corrosion, Gastric perforation, Risk of serious damage to eyes, Risk of blindness

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

none

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## **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media



### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings! water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

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

Non-combustible.

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

### **SECTION 6: Accidental release measures**

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



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

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

### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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## **SECTION 7: Handling and storage**

#### Precautions for safe handling

Handle and open container with care.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Keep container tightly closed. Keep only in original container.

#### **Incompatible substances or mixtures**

Observe hints for combined storage.

Consideration of other advice:

### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

#### 7.3 Specific end use(s)

No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 **Control parameters**

#### **National limit values**

#### **Occupational exposure limit values (Workplace Exposure Limits)**

Cou ntr y	Name of agent	CAS No	Identi- fier	TW A [pp m]	TWA [mg/ m³]	STE L [pp m]	STEL [mg/ m³]	Ceil ing- C [pp m]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
AU	hydrogen chloride (hydrochloric acid)	7647-01- 0	WES					5	7.5		WES
AU	nickel dichloride	7718-54- 9	WES		0.1						WES

#### Notation

Ceiling-C STEL

TWA

Ceiling value is a limit value above which exposure should not occur

Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

#### **Relevant DNELs of components**

Name of sub- stance	CAS No	End- point	Threshol d level	Protection goal, route of exposure	Used in	Exposure time
Iron(III) chloride	7705-08-0	DNEL	2.8 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Hydrochloric acid %	7647-01-0	DNEL	8 mg/m³	human, inhalat- ory	worker (industry)	chronic - local ef- fects
Hydrochloric acid %	7647-01-0	DNEL	15 mg/m³	human, inhalat- ory	worker (industry)	acute - local ef- fects

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Relevant DNELs of components											
Name of sub- stance	CAS No	End- point	Threshol d level	Protection goal, route of exposure	Used in	Exposure time					
Nickel dichloride	7718-54-9	DNEL	50 μg/m³	human, inhalat- ory	worker (industry)	chronic - systemic effects					
Nickel dichloride	7718-54-9	DNEL	12.8 mg/ m³	human, inhalat- ory	worker (industry)	acute - systemic effects					
Nickel dichloride	7718-54-9	DNEL	50 μg/m³	human, inhalat- ory	worker (industry)	chronic - local ef- fects					
Nickel dichloride	7718-54-9	DNEL	1.6 mg/m <sup>3</sup>	human, inhalat- ory	worker (industry)	acute - local ef- fects					
Nickel dichloride	7718-54-9	DNEL	0.44 μg/ cm²	human, dermal	worker (industry)	chronic - local ef- fects					

### **Relevant PNECs of components**

Name of sub- stance	CAS No	End- point	Threshol d level	Organism	Environmental compartment	Exposure time
Nickel dichloride	7718-54-9	PNEC	7.1 <sup>µg</sup> / <sub>l</sub>	aquatic organ- isms	freshwater	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	8.6 <sup>µg</sup> / <sub>l</sub>	aquatic organ- isms	marine water	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	0.33 <sup>mg</sup> / <sub>l</sub>	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	109 <sup>mg</sup> / <sub>kg</sub>	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	109 <sup>mg</sup> / <sub>kg</sub>	aquatic organ- isms	marine sediment	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	29.9 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (single instance)

### 8.2 Exposure controls

Individual protection measures (personal protective equipment)

**Eye/face protection** 





Use safety goggle with side protection.

**Skin protection** 





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#### hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### type of material

NBR (Nitrile rubber)

#### material thickness

≥0,3 mm

#### breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### **Respiratory protection**





Respiratory protection necessary at: Aerosol or mist formation. Type: B-P2 (combined filters for acidic gases and particles, colour code: Grey/White).

stinging

#### **Environmental exposure controls**

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

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

Physical state liquid
Colour dark brown

Melting point/freezing point -12 °C

Boiling point or initial boiling point and boiling not determined

range

Odour

Flammability non-combustible
Lower and upper explosion limit not determined
Flash point not determined
Auto-ignition temperature not determined
Decomposition temperature not relevant
pH (value) <1 (20 °C)

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Kinematic viscosity 6.993 mm²/s at 20 °C

Dynamic viscosity 10 mPa s at 20 °C

Solubility(ies)

Water solubility miscible in any proportion

Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure not determined

Density and/or relative density

Density  $1.43 \, {}^{\rm g}/{}_{\rm cm^3}$  at 20  ${}^{\rm o}{\rm C}$ 

Relative vapour density Information on this property is not available.

Particle characteristics not relevant (liquid)

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard

classes:

Corrosive to metals category 1: corrosive to metals

Other safety characteristics:

Miscibility completely miscible with water

## **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

Substance or mixture corrosive to metals.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Violent reaction with: Alkali (lye), Metals

### 10.4 Conditions to avoid

Keep away from heat.

#### 10.5 Incompatible materials

different metals

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#### Release of flammable materials with

Metals, Light metals (due to the release of hydrogen in an acid/alkaline medium)

#### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

### **Classification procedure**

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Classification acc. to GHS

#### **Acute toxicity**

Harmful if swallowed.

### Acute toxicity estimate (ATE) of components

Name of substance	CAS No	Exposure route	ATE
Iron(III) chloride	7705-08-0	oral	500 <sup>mg</sup> / <sub>kg</sub>
Nickel dichloride	7718-54-9	oral	200 <sup>mg</sup> / <sub>kg</sub>
Nickel dichloride	7718-54-9	inhalation: dust/mist	0.593 <sup>mg</sup> / <sub>l</sub> /4h

### **Acute toxicity of components**

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Iron(III) chloride	7705-08-0	oral	LD50	500 <sup>mg</sup> / <sub>kg</sub>	rat
Iron(III) chloride	7705-08-0	dermal	LD50	>2,000 <sup>mg</sup> / <sub>kg</sub>	rat
Nickel dichloride	7718-54-9	oral	LD50	200 <sup>mg</sup> / <sub>kg</sub>	rat
Nickel dichloride	7718-54-9	inhalation: dust/mist	LC50	0.593 <sup>mg</sup> / <sub>l</sub> /4h	rat

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### Respiratory or skin sensitisation

May cause an allergic skin reaction.

### **Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Shall not be classified as carcinogenic.

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#### **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

#### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

#### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

#### If swallowed

vomiting, nausea, Liver and kidney damage

#### • If in eyes

Causes serious eye damage, risk of blindness

#### If inhaled

irritant effects

#### If on skin

causes skin irritation, May produce an allergic reaction, pruritis, localised redness

#### Other information

none

#### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq$  0,1%.

## **SECTION 12: Ecological information**

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute) of components Exposure time Name of sub-**CAS No Endpoint Value Species** stance Nickel dichloride 7718-54-9 LC50 15.3 mg/<sub>I</sub> fish 96 h Nickel dichloride 7718-54-9 EC50 685.8 <sup>µg</sup>/<sub>I</sub> aquatic invertebrates 48 h Nickel dichloride $\leq$ 1,120 $\mu$ g/<sub>I</sub> 72 h 7718-54-9 ErC50 algae

Aquatic toxicity (chronic) of components										
Name of sub- stance	CAS No	Endpoint	Value	Species	Exposure time					
Nickel dichloride	7718-54-9	ErC50	8,363 <sup>µg</sup> / <sub>l</sub>	fish	40 d					
Nickel dichloride	7718-54-9	LC50	204 <sup>µg</sup> / <sub>l</sub>	aquatic invertebrates	21 d					
Nickel dichloride	7718-54-9	EbC50	6.2 <sup>µg</sup> / <sub>l</sub>	aquatic invertebrates	30 d					

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Aquatic toxicity (chronic) of components										
Name of sub- stance	CAS No	Endpoint	Value	Species	Exposure time					
Nickel dichloride	7718-54-9	EC50	≤108 <sup>µg</sup> /ı	aguatic invertebrates	21 d					

### 12.2 Persistence and degradability

Data are not available.

#### 12.3 Bioaccumulative potential

Data are not available.

bioaccumulative potential of components				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Iron(III) chloride	7705-08-0		-4 (24 °C)	
Nickel dichloride	7718-54-9	86		

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq$  0,1%.

#### 12.7 Other adverse effects

Data are not available.

## **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

#### **Relevant provisions relating to waste(Basel Convention)**

### Properties of waste which render it hazardous

**H8** Corrosives

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#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## **SECTION 14: Transport information**

#### 14.1 UN number

UN 2582
IMDG-Code UN 2582
ICAO-TI UN 2582

14.2 UN proper shipping name

UN RTDGFERRIC CHLORIDE SOLUTIONIMDG-CodeFERRIC CHLORIDE SOLUTION

ICAO-TI Ferric chloride solution

14.3 Transport hazard class(es)

UN RTDG 8
IMDG-Code 8
ICAO-TI 8

14.4 Packing group

UN RTDG III
IMDG-Code III
ICAO-TI III

**14.5 Environmental hazards** non-environmentally hazardous acc. to the dan-

gerous goods regulations

#### 14.6 Special precautions for user

There is no additional information.

#### 14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

 $Transport\ information National\ regulations Additional\ information (UN\ RTDG)$ 

UN number 2582
Class 8
Packing group III
Danger label(s) 8



Special provisions (SP) 223

UN RTDG

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Excepted quantities (EQ) E1

**UN RTDG** 

Limited quantities (LQ) 5 L

**UN RTDG** 

Emergency Action Code 2

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name FERRIC CHLORIDE SOLUTION

Particulars in the shipper's declaration UN2582, FERRIC CHLORIDE SOLUTION, 8, III

Marine pollutant Danger label(s) 8



Special provisions (SP) 223
Excepted quantities (EQ) E1
Limited quantities (LQ) 5 L

EmS F-A, S-B

Stowage category A

Segregation group 1 - Acids

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name Ferric chloride solution

Particulars in the shipper's declaration UN2582, Ferric chloride solution, 8, III

Danger label(s) 8



Special provisions (SP)

Excepted quantities (EQ)

Limited quantities (LQ)

1 L

## **SECTION** 15: Regulatory information

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

There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

All ingredients are listed or exempt from listing.

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

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#### **UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances**

Name of substance	CAS No	Listed in	HS code
Hydrochloric acid%	7647-01-0	Table II	2806.10

#### **National inventories**

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)
VN	NCI	all ingredients are listed

Legend

AIIC CICR CSCL-ENCS DSL ECSI IECSC Australian Inventory of Industrial Chemicals Chemical Inventory and Control Regulation List of Existing and New Chemical Substances (CSCL-ENCS)

List of Existing and New Chemical Substances (CSCL-ENCS)
Domestic Substances List (DSL)
EC Substance Inventory (EINECS, ELINCS, NLP)
Inventory of Existing Chemical Substances Produced or Imported in China
National Inventory of Chemical Substances
Inventory of Existing and New Chemical Substances (ISHA-ENCS)
Korea Existing Chemicals Inventory
National Chemical Inventory
New Zealand Inventory of Chemicals
Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH registered substances

INSQ ISHA-ENCS KECI NCI

NZIoC PICCS

REACH Reg. REACH registered substances
TCSI Taiwan Chemical Substance Inventory
TSCA Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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## **SECTION 16: Other information**

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.2	Hazardous ingredients for labelling: Iron(III) chloride, Hydrochloric acid %	Hazardous ingredients for labelling: Iron(III) chloride, Nickel dichloride, Hydrochlor- ic acid%	yes
2.3	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.	yes
2.3	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
15.1		National inventories: change in the listing (table)	yes

### **Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye

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Abbr.	Descriptions of used abbreviations
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HS	Harmonized Commodity Description and Coding System (Harmonized System, drawn up by the World Customs Organisation)
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
Met. Corr.	Substance or mixture corrosive to metals
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Repr.	Reproductive toxicity
Resp. Sens.	Respiratory sensitisation
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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acc. to Safe Work Australia - Code of Practice

#### Iron(III) chloride solution 40 %

article number: 7750



#### **Classification procedure**

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H360D	May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.

#### **Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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