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

1.1. Product identifier

Pt/Co standard reference solution color index (Hazen) 500 Hazen color standard according to EN ISO 6

UFI: 7H26-U165-7000-GUN0

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

Use of the substance/mixture

Laboratory chemicals
Industrial uses: Uses of substances as such or in preparations at industrial sites
Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	AnalytiChem GmbH		
Street:	Stempelstraße 6		
Place:	D-47167 Duisburg		
Telephone:	0203/5194-0	Telefax:	0203/5194-290
E-mail:	info@analytichem.de		
Contact person:	Abteilung Produktsicherheit	Telephone:	0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de		
Internet:	www.analytichem.de		
Responsible Department:	Abteilung Produktsicherheit		

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

inapplicable, this product is a mixture REACH registration number see section 3

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Met. Corr. 1; H290
Carc. 1B; H350i

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

Cobalt(II) chloride hexahydrate

Signal word: Danger

Pictograms:

Hazard statements

H290 May be corrosive to metals.

H350i May cause cancer by inhalation.

Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P390 Absorb spillage to prevent material damage.
P405 Store locked up.

Special labelling of certain mixtures

EUH208 Contains dipotassium hexachloroplatinate. May produce an allergic reaction. Restricted to professional users.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
7647-01-0	Hydrochloric acid			1 - < 5 %
	231-595-7	017-002-01-X	01-2119484862-27	
	Skin Corr. 1B, STOT SE 3; H314 H335			
16921-30-5	dipotassium hexachloroplatinate			< 1 %
	240-979-3	078-007-00-3		
	Acute Tox. 3, Eye Dam. 1, Resp. Sens. 1, Skin Sens. 1; H301 H318 H334 H317			
7791-13-1	Cobalt(II) chloride hexahydrate			< 0.1 %
	231-589-4	027-004-00-5	01-2119517584-37	
	Carc. 1B, Muta. 2, Repr. 1B, Acute Tox. 4, Resp. Sens. 1, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H350i H341 H360F H302 H334 H317 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7647-01-0	231-595-7	Hydrochloric acid	1 - < 5 %
	Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100		
16921-30-5	240-979-3	dipotassium hexachloroplatinate	< 1 %
	oral: LD50 = 195 mg/kg		
7791-13-1	231-589-4	Cobalt(II) chloride hexahydrate	< 0.1 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 537 mg/kg Carc. 1B; H350i: >= 0,01 - 100 Aquatic Acute 1; H400: M=10 Aquatic Chronic 1; H410: M=10		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Self-protection of the first aider

After inhalation

Provide fresh air.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

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.
Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

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

Irritant
Allergic reactions

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids
Hazardous combustion products
In case of fire may be liberated:
Hydrochloric gas
Metal oxide smoke, toxic

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Corrosive to metals.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Consult an expert
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used.
Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Provide adequate ventilation.
Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.
Store in a place accessible by authorized persons only.

Hints on joint storage

national regulations

Further information on storage conditions

Unsuitable container/equipment material: Metal

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
7647-01-0	Hydrogen chloride (gas and aerosol mists)	1	2		TWA (8 h)	WEL
		5	8		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
7647-01-0	Hydrochloric acid			
Worker DNEL, long-term		inhalation	local	8 mg/m³
Worker DNEL, acute		inhalation	local	15 mg/m³
Consumer DNEL, long-term		inhalation	local	8 mg/m³
Consumer DNEL, acute		inhalation	local	15 mg/m³
7791-13-1	Cobalt(II) chloride hexahydrate			
Consumer DNEL, long-term		oral	systemic	0,12 mg/kg bw/day

PNEC values

CAS No	Substance
Environmental compartment	Value
16921-30-5	dipotassium hexachloroplatinate
Freshwater	0,00014 mg/l
Freshwater (intermittent releases)	0,000205 mg/l
Marine water	0,000017 mg/l
Freshwater sediment	0,261 mg/kg
Marine sediment	0,026 mg/kg
Micro-organisms in sewage treatment plants (STP)	0,125 mg/l
Soil	0,005 mg/kg
7791-13-1	Cobalt(II) chloride hexahydrate
Freshwater	0,0006 mg/l
Marine water	0,00236 mg/l
Freshwater sediment	9,5 mg/kg
Marine sediment	9,5 mg/kg
Micro-organisms in sewage treatment plants (STP)	0,37 mg/l
Soil	10,9 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection:
Face protection shield
goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact
Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.
Protective clothing acid-resistant

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	odourless	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		not applicable not applicable
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		X
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		acidic
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density (at 20 °C):		1,0198 g/cm³
Bulk density:		No data available
Relative vapour density:		No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties
No data available

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable

Oxidizing properties
No data available

Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

Further Information

Corrosive to metals

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

The product develops hydrogen in an aqueous solution in contact with metals.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Keep away from: Metal.
The product develops hydrogen in an aqueous solution in contact with metals.

10.6. Hazardous decomposition products

In case of fire may be liberated:
SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
16921-30-5	dipotassium hexachloroplatinate					
	oral	LD50 mg/kg	195	Rat	Study report (1995)	OECD Guideline 401
7791-13-1	Cobalt(II) chloride hexahydrate					
	oral	LD50 mg/kg	537	Rat	Revista Española de Fisiologia, 39: 291	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rat	Study report (2007)	OECD Guideline 402

Irritation and corrosivity

Based on available data, the classification criteria are not met.
slightly irritant but not relevant for classification.

Sensitising effects

Contains dipotassium hexachloroplatinate. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

May cause cancer by inhalation. (Cobalt(II) chloride hexahydrate)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards

Other information

There are no data available on the mixture itself.

Further information

Irritant

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
7647-01-0	Hydrochloric acid						
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus		
16921-30-5	dipotassium hexachloroplatinate						
	Acute fish toxicity	LC50 mg/l	76,55	96 h	Oncorhynchus mykiss	Study report (2005)	OECD Guideline 203
	Acute algae toxicity	ErC50	1,3 mg/l	72 h	Desmodesmus subspicatus	Study report (2001)	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,0608	48 h	Daphnia magna	Study report (2005)	OECD Guideline 202
	Crustacea toxicity	NOEC mg/l	0,007	21 d	Daphnia magna	J. Fish. Res. Bd. Canada 29: 1691-1700 (	A standard guideline was not followed, b
	Acute bacteria toxicity	(EC50 mg/l)	103	3 h	activated sludge of a predominantly domestic sewag	Study report (2015)	OECD Guideline 209
7791-13-1	Cobalt(II) chloride hexahydrate						
	Acute fish toxicity	LC50 mg/l	54,1	96 h	Pimephales promelas	Study report (2009)	other: ASTM guideline
	Acute algae toxicity	ErC50 mg/l	71,314	96 h	Dunaliella tertiolecta	Study report (2010)	other: American Society for Testing and
	Acute crustacea toxicity	EC50 mg/l	42,7	48 h	Aeolosoma sp.	Study report (2008)	Newman, J.P., Jr. 1975. The effects of h
	Fish toxicity	NOEC mg/l	0,21	34 d	Pimephales promelas	Study report (2009)	other: This study was conducted accordin
	Algae toxicity	NOEC mg/l	0,0018	7 d	Champia parvula	Study report - model refit from original	other: EPA 821-R- 02-014, Method 1009.0
	Crustacea toxicity	NOEC mg/l	0,1697	14 d	Aeolosoma sp.	Study report (2008)	other: Newman, J.P., Jr. 1975. The effec
	Acute bacteria toxicity	(EC50 mg/l)	120	0,5 h	Activated sludge	Study report (2010)	OECD Guideline 209

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

BCF

CAS No	Chemical name	BCF	Species	Source
7791-13-1	Cobalt(II) chloride hexahydrate	23	Asterias rubens	Marine Pollution Bul

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.
There are no data available on the mixture itself.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Discharge into the environment must be avoided.
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.

Further information

Do not empty into drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1789
14.2. UN proper shipping name:	HYDROCHLORIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C1
Special Provisions:	520
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1789
14.2. UN proper shipping name:	HYDROCHLORIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C1
Special Provisions:	520
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1789
14.2. UN proper shipping name:	HYDROCHLORIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	III

Hazard label:	8
Special Provisions:	223
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1789
14.2. UN proper shipping name:	HYDROCHLORIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

SECTION 15: Regulatory information

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

EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):

Cobalt(II) chloride hexahydrate

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D): 2 - obviously hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,9.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
Met. Corr: Corrosive to metals
Acute Tox: Acute toxicity
Skin Corr: Skin corrosion
Eye Dam: Eye damage
Resp. Sens: Respiratory sensitisation
Skin Sens: Skin sensitisation
Muta: Germ cell mutagenicity
Carc: Carcinogenicity
Repr: Reproductive toxicity
STOT SE: Specific target organ toxicity - single exposure
Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Carc. 1B; H350i	Calculation method

Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
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.
H360F	May damage fertility.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH208	Contains dipotassium hexachloroplatinate. May produce an allergic reaction.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)