



# Primary Red Solution.

## According to appendix 4B of the British Pharmacopoeia

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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

### 1.1. Product identifier

Product form : Mixture  
Product name : Primary Red Solution.  
According to appendix 4B of the British Pharmacopoeia  
Product code : BCS003

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

#### 1.2.1. Relevant identified uses

Main use category : Professional use  
Function or use category : Laboratory chemicals

#### 1.2.2. Uses advised against

No additional information available

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

#### Spectracer UK Ltd.

Second Floor,  
27 Gloucester Place,  
London,  
W1U 8HU,  
United Kingdom.

Tel: +44 (0) 207 193 9114

Fax: +44 (0) 203 432 4686

Email: [contact@spectracer.co.uk](mailto:contact@spectracer.co.uk)

Web: [www.spectracer.com](http://www.spectracer.com)

### 1.4. Emergency telephone number

Emergency number : Tel: +44(0)1933 445260 Option 1. Language: English only.  
For Chemical Emergencies Only  
Llewellyn (Safety Advisors) Europe Ltd

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964	
United Kingdom	National Poisons Information Service (NHS Direct)	<a href="http://www.npis.org">http://www.npis.org</a>	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Respiratory sensitisation, Category 1 H334  
Skin sensitisation, Category 1 H317  
Germ cell mutagenicity, Category 2 H341  
Carcinogenicity, Category 1B H350  
Reproductive toxicity, Category 1B H360  
Hazardous to the aquatic environment — Acute Hazard, Category 1 H400  
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

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Full text of hazard classes and H-statements : see section 16

#### Adverse physicochemical, human health and environmental effects

May cause cancer. Suspected of causing genetic defects. May damage fertility or the unborn child. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

cobalt(II) chloride, hexahydrate

Hazard statements (CLP) :

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  
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P202 - Do not handle until all safety precautions have been read and understood  
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P273 - Avoid release to the environment  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P284 - In case of inadequate ventilation wear respiratory protection  
P302+P352 - IF ON SKIN: Wash with plenty of water  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention  
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor  
P362+P364 - Take off contaminated clothing and wash it before reuse  
P391 - Collect spillage  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
cobalt(II) chloride, hexahydrate substance listed as REACH Candidate (Cobalt dichloride)	(CAS-No.) 7791-13-1 (EC-No.) 231-589-4 (EC Index-No.) 027-004-00-5	5 - 15	Acute Tox. 4 (Oral), H302 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350i Repr. 1B, H360F Aquatic Chronic 1, H410
hydrochloric acid	(CAS-No.) 7647-01-0 (EC-No.) 231-595-7 (EC Index-No.) 017-002-01-X (REACH-no) 01-2119484862-27-XXXX	1 - 5	Met. Corr. 1, H290 Skin Corr. 1B, H314 STOT SE 3, H335

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#### Specific concentration limits:

Name	Product identifier	Specific concentration limits
cobalt(II) chloride, hexahydrate	(CAS-No.) 7791-13-1 (EC-No.) 231-589-4 (EC Index-No.) 027-004-00-5	(C >= 0,01) Carc. 1B, H350i
hydrochloric acid	(CAS-No.) 7647-01-0 (EC-No.) 231-595-7 (EC Index-No.) 017-002-01-X (REACH-no) 01-2119484862-27-XXXX	(C >= 10) STOT SE 3, H335 ( 10 =<C < 25) Eye Irrit. 2, H319 ( 10 =<C < 25) Skin Irrit. 2, H315 (C >= 25) Skin Corr. 1B, H314

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
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### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapours/spray.
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#### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

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

For containment	: Collect spillage.
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

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#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

cobalt(II) chloride, hexahydrate (7791-13-1)		
Finland	Local name	Koboltti-(II)-kloridi, heksahydraatti
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	0,02 mg/m <sup>3</sup>
Finland	Huomautus (FI)	Co
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0,1 mg/m <sup>3</sup> Cobalt compounds (as Co); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0,02 mg/m <sup>3</sup> (Cobalt, inorganic compounds, as Co; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
hydrochloric acid (7647-01-0)		
EU	Local name	Hydrogen chloride
EU	IOELV TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	5 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	10 ppm
Austria	Local name	Chlorwasserstoff
Austria	MAK (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Austria	MAK (ppm)	5 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	10 ppm
Belgium	Local name	Hydrogène (chlorure d') # Waterstofchloride
Belgium	Limit value (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	5 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	10 ppm
Bulgaria	Local name	Хлороводород
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Bulgaria	OEL TWA (ppm)	5 ppm
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Bulgaria	OEL STEL (ppm)	10 ppm
Croatia	Local name	Vodikov klorid
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	5 ppm

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hydrochloric acid (7647-01-0)		
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	10 ppm
Croatia	Naznake (HR)	EU* (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2000/39/ EC (prva lista)); T (otrovno); C (nagrizajuće)
Czech Republic	Local name	Chlorovodík
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	5,43 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	10,19 ppm
Denmark	Local name	Hydrogenchlorid (Chlorbrinte)
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	5 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi); L (markerer, at grænseværdien er en loftværdi, som ikke på noget tidspunkt må overskrides)
Estonia	Local name	Vesinikkloriid
Estonia	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Estonia	OEL TWA (ppm)	5 ppm
Estonia	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Estonia	OEL STEL (ppm)	10 ppm
Finland	Local name	Kloorivety, vedetön
Finland	HTP-arvo (15 min)	7,6 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	5 ppm
France	Local name	Chlorure d'hydrogène (Acide chlorhydrique)
France	VLE (mg/m <sup>3</sup> )	7,6 mg/m <sup>3</sup>
France	VLE (ppm)	5 ppm
France	Note (FR)	Valeurs réglementaires contraignantes
Germany	Local name	Hydrogenchlorid
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	2 ppm
Germany	Remark (TRGS 900)	DFG,EU,Y
Greece	OEL TWA (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	5 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	5 ppm
Hungary	Local name	SÓSAV
Hungary	AK-érték	8 mg/m <sup>3</sup>
Hungary	CK-érték	16 mg/m <sup>3</sup>
Hungary	Megjegyzések (HU)	i, m; EU1
Ireland	Local name	Hydrogen chloride
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	5 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	10 ppm

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hydrochloric acid (7647-01-0)		
Ireland	Notes (IE)	IOELV
Italy	Local name	Acido cloridrico
Italy	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	5 ppm
Italy	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Italy	OEL STEL (ppm)	10 ppm
Latvia	Local name	Hlorūdeņradis
Latvia	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	5 ppm
Latvia	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Latvia	OEL STEL (ppm)	10 ppm
Lithuania	Local name	Vandenilio chloridas
Lithuania	IPRV (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	5 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	10 ppm
Luxembourg	Local name	Chlorure d'hydrogène
Luxembourg	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Luxembourg	OEL TWA (ppm)	5 ppm
Luxembourg	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Luxembourg	OEL STEL (ppm)	10 ppm
Malta	Local name	Hydrogenchloride
Malta	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	5 ppm
Malta	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Malta	OEL STEL (ppm)	10 ppm
Netherlands	Local name	Zoutzuur
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 8H (ppm)	5 ppm
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 15MIN (ppm)	10 ppm
Poland	Local name	Chlorowodór
Poland	NDS (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Portugal	Local name	Ácido clorídrico
Portugal	OEL - Ceilings (ppm)	2 ppm
Romania	Local name	Acid clorhidric
Romania	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	5 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	10 ppm
Slovakia	Local name	Chlorovodík
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	5 ppm
Slovakia	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Slovakia	OEL STEL (ppm)	10 ppm

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hydrochloric acid (7647-01-0)		
Slovenia	Local name	vodikov klorid, brezvodni (klorovodik, brezvodni)
Slovenia	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Slovenia	OEL TWA (ppm)	5 ppm
Slovenia	OEL STEL (mg/m <sup>3</sup> )	16 mg/m <sup>3</sup>
Slovenia	OEL STEL (ppm)	10 ppm
Spain	Local name	Cloruro de hidrógeno
Spain	VLA-ED (mg/m <sup>3</sup> )	7,6 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	5 ppm
Spain	VLA-EC (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	10 ppm
Spain	Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	Saltsyra
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> 3 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	2 ppm 2 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup> 6 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	4 ppm 4 ppm
United Kingdom	Local name	Hydrogen chloride
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> gas and aerosol mists
United Kingdom	WEL TWA (ppm)	1 ppm gas and aerosol mists
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup> gas and aerosol mists
United Kingdom	WEL STEL (ppm)	5 ppm gas and aerosol mists
Iceland	Local name	Vetnisklórið (klórvetni)
Iceland	OEL (15 min ref) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Iceland	OEL (15 min ref) (ppm)	5 ppm
Norway	Local name	Hydrogenklorid (Saltsyre)
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	5 ppm
Norway	Merknader (NO)	T (Takverdi er en øyeblikksverdi som angir maksimalkonsentrasjon av et kjemikalie i pustesonen som ikke skal overskrides); E (EU har en veiledende grenseverdi for stoffet)
Switzerland	Local name	Chlorwasserstoff
Switzerland	MAK (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> 3 mg/m <sup>3</sup>
Switzerland	MAK (ppm)	2 ppm 2 ppm
Switzerland	KZGW (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup> 6 mg/m <sup>3</sup>
Switzerland	KZGW (ppm)	4 ppm 4 ppm
Switzerland	Remark (CH)	SSc - OAW <sup>KT AN</sup> - DFG, NIOSH, OSHA



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hydrochloric acid (7647-01-0)		
Australia	Local name	Hydrogen chloride
USA - ACGIH	Local name	Hydrogen chloride
USA - ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA - ACGIH	Remark (ACGIH)	URT irr
USA - OSHA	Local name	Hydrogen chloride
USA - OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm

## 8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Hand protection	: Protective gloves
Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear respiratory protection
Environmental exposure controls	: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: < 2
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.



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#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified  
 Additional information : Based on available data, the classification criteria are not met

<b>cobalt(II) chloride, hexahydrate (7791-13-1)</b>	
LD50 oral rat	766 mg/kg (Rat)
LD50 dermal rat	> 2000 mg/kg (Rat)
Skin corrosion/irritation	: Not classified pH: < 2
Serious eye damage/irritation	: Not classified pH: < 2
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: May cause cancer.
Reproductive toxicity	: May damage fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

<b>cobalt(II) chloride, hexahydrate (7791-13-1)</b>	
LC50 fish 1	22 - 48 ppm (LC50; 96 h)
EC50 Daphnia 1	1,1 - 3,2 mg/l (EC50; 48 h)
Threshold limit algae 1	0,05 mg/l (EC50; 72 h)
<b>hydrochloric acid (7647-01-0)</b>	
LC50 other aquatic organisms 2	250 (240 - 260) mg/l (48h) Crustaceans; Portmann, J.E., and K.W. Wilson 1971. The Toxicity of 140 Substances to the Brown Shrimp and Other Marine Animals. Shellfish Information Leaflet No.22 (2nd Ed.), Ministry of Agric.Fish.Food, Fish.Lab.Burnham-on-Crouch, Essex, and Fish Exp.Station Conway, North Wales :12 p.

### 12.2. Persistence and degradability

<b>cobalt(II) chloride, hexahydrate (7791-13-1)</b>	
Persistence and degradability	Biodegradability: Not applicable. Biodegradability in soil: Not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable

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<b>cobalt(II) chloride, hexahydrate (7791-13-1)</b>	
ThOD	Not applicable

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

<b>cobalt(II) chloride, hexahydrate (7791-13-1)</b>	
Ecology - soil	Toxic to flora.

#### 12.5. Results of PBT and vPvB assessment

<b>Component</b>	
cobalt(II) chloride, hexahydrate (7791-13-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

#### 12.6. Other adverse effects

No additional information available



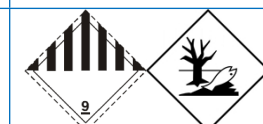
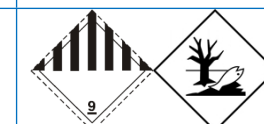

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
European List of Waste (LoW) code : 16 05 06\* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
3082	3082	3082	3082	3082
<b>14.2. UN proper shipping name</b>				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt(II) chloride, hexahydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt(II) chloride, hexahydrate)	Environmentally hazardous substance, liquid, n.o.s. (cobalt(II) chloride, hexahydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt(II) chloride, hexahydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt(II) chloride, hexahydrate)
<b>Transport document description</b>				
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt(II) chloride, hexahydrate), 9, III, (E)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt(II) chloride, hexahydrate), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (cobalt(II) chloride, hexahydrate), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt(II) chloride, hexahydrate), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt(II) chloride, hexahydrate), 9, III
<b>14.3. Transport hazard class(es)</b>				
9	9	9	9	9
				
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

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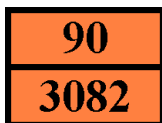
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#### 14.6. Special precautions for user

##### - Overland transport

Classification code (ADR)	: M6
Special provisions (ADR)	: 274, 335, 601, 375
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP29
Tank code (ADR)	: LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90
Orange plates	:



Tunnel restriction code (ADR) : E

##### - Transport by sea

Special provisions (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP2, TP29
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-F
Stowage category (IMDG)	: A

##### - Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y964
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L
Special provisions (IATA)	: A97, A158, A197
ERG code (IATA)	: 9L

##### - Inland waterway transport

Classification code (ADN)	: M6
Special provisions (ADN)	: 274, 335, 375, 601
Limited quantities (ADN)	: 5 L

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Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0

#### - Rail transport

Classification code (RID)	: M6
Special provisions (RID)	: 274, 335, 375, 601
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Special packing provisions (RID)	: PP1
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1, TP29
Tank codes for RID tanks (RID)	: LGBV
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW31
Colis express (express parcels) (RID)	: CE8
Hazard identification number (RID)	: 90

#### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	Primary Red Solution. According to appendix 4B of the British Pharmacopoeia - hydrochloric acid
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	Primary Red Solution. According to appendix 4B of the British Pharmacopoeia - hydrochloric acid
3(c) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1	Primary Red Solution. According to appendix 4B of the British Pharmacopoeia

Contains a substance on the REACH candidate list in concentration  $\geq 0.1\%$  or with a lower specific limit: Cobalt dichloride (EC 231-589-4, CAS 7791-13-1)

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

##### Germany

VwVwS Annex reference	: Water hazard class (WGK) 2, hazard to waters (Classification according to VwVwS, Annex 4)
Storage class (LGK)	: LGK 6.1D - Non-combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

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#### Netherlands

SZW-lijst van kankerverwekkende stoffen	: None of the components are listed
SZW-lijst van mutagene stoffen	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	: None of the components are listed

#### Denmark

Recommendations Danish Regulation	: Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal
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#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Carc. 1B	Carcinogenicity, Category 1B
Carc. 1B	Carcinogenicity (inhalation) Category 1B
Met. Corr. 1	Corrosive to metals, Category 1
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 1B	Reproductive toxicity, Category 1B
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H350	May cause cancer
H350i	May cause cancer by inhalation
H360	May damage fertility or the unborn child
H360F	May damage fertility
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

SDS EU Mod H F (REACH ANNEX II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*



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**Pharmacopoeia**  
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