

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

\*Product identifier

\*Trade name: STANDARD SOLUTION B

\*Article number: EP703

\*Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

\*Application of the substance / the preparation Laboratory chemicals

\*Details of the supplier of the safety data sheet



## 2 Hazards identification

\*Classification of the substance or mixture

\*Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350i May cause cancer by inhalation.

Repr. 1B H360F May damage fertility.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

\*Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R49: May cause cancer by inhalation.



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.



N; Dangerous for the environment

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R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**\*Information concerning particular hazards for human and environment:**

The product has been classified and labelled in accordance with EU Directive 99/45/EC and all other EU Directives referred to therein.

**\*Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

**\*Label elements**

**\*Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directive 99/45/EC and all other EU Directives referred to therein.

**\*Code letter and hazard designation of product:**



T Toxic  
N Dangerous for the environment

**\*Hazard-determining components of labelling:**

cobalt dichloride

**\*Risk phrases:**

49 May cause cancer by inhalation.  
42/43 May cause sensitisation by inhalation and skin contact.  
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**\*Safety phrases:**

53 Avoid exposure - obtain special instructions before use.  
23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).  
24 Avoid contact with skin.  
37/39 Wear suitable gloves and eye/face protection.  
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
57 Use appropriate container to avoid environmental contamination.

**\*Other hazards**

**\*Results of PBT and vPvB assessment**

\*PBT: Not applicable.

\*vPvB: Not applicable.

### 3 Composition/information on ingredients

**\*Chemical characterization: Mixtures**














**\*Description:** Mixture of substances listed below with nonhazardous additions.

**\*Dangerous components:**

EINECS: 231-595-7	hydrochloric acid C R34; Xi R37 Skin Corr. 1B, H314; STOT SE 3, H335	≤ 2.5%
CAS: 7646-79-9 EINECS: 231-589-4	cobalt dichloride T R49; Xn R22; Xn R42/43; N R50/53 Carc. Cat. 2 Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350i; Repr. 1B, H360F; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Sens. 1, H317	≤ 2.5%

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CAS: 7758-98-7 EINECS: 231-847-6	copper sulphate  Xn R22;  Xi R36/38;  N R50/53  Aquatic Acute 1, H400;  Aquatic Chronic 1, H410;  Acute Tox. 4, H302;  Skin Irrit. 2, H315;  Eye Irrit. 2, H319	≤ 2.5%
CAS: 7705-08-0 EINECS: 231-729-4	iron trichloride  Xn R22;  Xi R38-41  Eye Dam. 1, H318;  Acute Tox. 4, H302;  Skin Irrit. 2, H315	≤ 2.5%

**\*SVHC**

7646-79-9 | cobalt dichloride

**\*Additional information:** For the wording of the listed risk phrases refer to section 16.**4 First aid measures****\*Description of first aid measures****\*After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

**\*After skin contact:** Immediately wash with water and soap and rinse thoroughly.**\*After eye contact:** Rinse opened eye for several minutes under running water.**\*After swallowing:** If symptoms persist consult doctor.**\*Information for doctor:****\*Most important symptoms and effects, both acute and delayed** No further relevant information available.**\*Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**5 Firefighting measures****\*Extinguishing media****\*Suitable extinguishing agents:**CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**\*Special hazards arising from the substance or mixture** No further relevant information available.**\*Advice for firefighters****\*Protective equipment:** No special measures required.**6 Accidental release measures****\*Personal precautions, protective equipment and emergency procedures** Not required.**\*Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

**\*Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**\*Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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## 7 Handling and storage

- \***Handling: PPE to be worn. See section 8**
- \***Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- \***Information about fire - and explosion protection:** Keep respiratory protective device available.
- \***Conditions for safe storage, including any incompatibilities**
- \***Storage:**
- \***Requirements to be met by storerooms and receptacles:** No special requirements.
- \***Information about storage in one common storage facility:** Not required.
- \***Further information about storage conditions:** None.
- \***Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

\***Additional information about design of technical facilities:** No further data; see item 7.

\***Control parameters**

\***Ingredients with limit values that require monitoring at the workplace:**

7705-08-0 iron trichloride

OEL (Ireland)	Short-term value: 2 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup> as Fe
REL (USA)	1 mg/m <sup>3</sup> as Fe
TLV (USA)	1 mg/m <sup>3</sup> as Fe

\***Additional information:** The lists valid during the making were used as basis.

\***Exposure controls**

\***Personal protective equipment:**

\***General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.

\***Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

\***Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

\***Material of gloves**

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The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**\*Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**\*Eye protection:** Goggles recommended during refilling

## 9 Physical and chemical properties

**\*Information on basic physical and chemical properties****\*General Information****\*Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	According to product specification
<b>*Odour:</b>	Characteristic
<b>*Odour threshold:</b>	Not determined.

**\*pH-value:** Not determined.

**\*Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100°C

**\*Flash point:** Not applicable.

**\*Flammability (solid, gaseous):** Not applicable.

**\*Ignition temperature:**

**Decomposition temperature:** Not determined.

**\*Self-igniting:** Product is not selfigniting.

**\*Danger of explosion:** Product does not present an explosion hazard.

**\*Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**\*Vapour pressure at 20°C:** 23 hPa

**\*Density at 20°C:** 1.11417 g/cm<sup>3</sup>

**\*Relative density** Not determined.

**\*Vapour density** Not determined.

**\*Evaporation rate** Not determined.

**\*Solubility/ miscibility with water:**

Not miscible or difficult to mix.

**\*Partition coefficient (n-octanol/water):** Not determined.

**\*Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

**\*Solvent content:**

**Organic solvents:** 0.0 %

**\*Other information** No further relevant information available.

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### 10 Stability and reactivity

## \*Reactivity

## \*Chemical stability

\*Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

\*Possibility of hazardous reactions No dangerous reactions known.

\*Conditions to avoid No further relevant information available.

\*Incompatible materials: No further relevant information available.

\*Hazardous decomposition products: No dangerous decomposition products known.

### 11 Toxicological information

## \*Information on toxicological effects

## \*Acute toxicity:

## \*LD/LC50 values relevant for classification:

7646-79-9 cobalt dichloride

Oral LD50 80 mg/kg (rat)

## \*Primary irritant effect:

\*on the skin: No irritant effect.

\*on the eye: No irritating effect.

## \*Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

## \*Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

Carcinogenic if inhaled.

### 12 Ecological information

## \*Toxicity

\*Aquatic toxicity: No further relevant information available.

\*Persistence and degradability No further relevant information available.

## \*Behaviour in environmental systems:

\*Bioaccumulative potential No further relevant information available.

\*Mobility in soil No further relevant information available.

## \*Ecotoxicological effects:

\*Remark: Toxic for fish

## \*Additional ecological information:

## \*General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

## \*Results of PBT and vPvB assessment

\*PBT: Not applicable.

\*vPvB: Not applicable.

\*Other adverse effects No further relevant information available.

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### 13 Disposal considerations

\*Waste treatment methods

\*Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

\*Uncleaned packaging:

\*Recommendation: Disposal must be made according to official regulations.

### 14 Transport information

\*UN-Number

\*ADR, IMDG, IATA

UN1760

\*UN proper shipping name

\*ADR

1760 CORROSIVE LIQUID, N.O.S. (HYDROCHLORIC ACID, FERRIC CHLORIDE), ENVIRONMENTALLY HAZARDOUS CORROSIVE LIQUID, N.O.S. (HYDROCHLORIC ACID, FERRIC CHLORIDE), MARINE POLLUTANT

\*IMDG

\*IATA

CORROSIVE LIQUID, N.O.S. (HYDROCHLORIC ACID, FERRIC CHLORIDE)

\*Transport hazard class(es)

\*ADR, IMDG



\*Class

8 Corrosive substances.

\*Label

8

\*IATA



\*Class

8 Corrosive substances.

\*Label

8

\*Packing group

\*ADR, IMDG, IATA

III

\*Environmental hazards:

Product contains environmentally hazardous substances: cobalt dichloride

\*Marine pollutant:

Yes

Symbol (fish and tree)

\*Special marking (ADR):

Symbol (fish and tree)

\*Special precautions for user

Warning: Corrosive substances.

\*Danger code (Kemler):

80

\*EMS Number:

F-A,S-B

\*Segregation groups

Acids

\*Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code

Not applicable.

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**\*Transport/Additional information:****\*ADR****\*Tunnel restriction code** E**\*UN "Model Regulation":** UN1760, CORROSIVE LIQUID, N.O.S. (HYDROCHLORIC ACID, FERRIC CHLORIDE), ENVIRONMENTALLY HAZARDOUS, 8, III**15 Regulatory information****\*Safety, health and environmental regulations/legislation specific for the substance or mixture****\*National regulations:****\*Technical instructions (air):**

Class	Share in %
Wasser	92.9
II	1.8
III	1.6

**\*Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.**\*Other regulations, limitations and prohibitive regulations****\*Substances of very high concern (SVHC) according to REACH, Article 57**

7646-79-9 | cobalt dichloride

**\*Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**\*Relevant Phrases:**

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.

H319 Causes serious eye irritation.

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.

R22 Harmful if swallowed.

R34 Causes burns.

R36/38 Irritating to eyes and skin.

R37 Irritating to respiratory system.

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

R42/43 May cause sensitisation by inhalation and skin contact.

R49 May cause cancer by inhalation.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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**\*Department issuing MSDS: Health and Safety**

\* : sds

**\*Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**ICAO: International Civil Aviation Organization**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**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent*

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