

**\* 1 Identification****Product identifier****Trade name:** CA80PH Reagent RB**Synonym:** blue method, connect to R1**Article number:** CY80PH-E1\_RB**Application of the substance / the mixture** Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Endress+Hauser Conducta Inc.  
4123 E. La Palma Ave., Suite 200  
Anaheim  
CA 92807-1813  
USA

**Information department:**

Phone: +49 (0)7156 209-117

Fax.: +49 (0)7156 209-222

E-Mail: Service.PCC@endress.com

**Emergency telephone number:** 001 18000 222 1222**\* 2 Hazard(s) identification****Classification of the substance or mixture**

GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

**Label elements****GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms** GHS05**Signal word** Danger**Hazard-determining components of labeling:**

sulphuric acid

**Hazard statements**

Causes severe skin burns and eye damage.

**Precautionary statements**

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 3

Fire = 0

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

HEALTH 3 Health = 3

FIRE 0 Fire = 0

REACTIVITY 0 Reactivity = 0

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**Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

**Results of PBT and vPvB assessment**


**PBT:** Not applicable.

**vPvB:** Not applicable.

**\* 3 Composition/information on ingredients****Chemical characterization: Mixtures**

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

**Dangerous components:**

|           |                |   |        |
|-----------|----------------|---|--------|
| 7664-93-9 | sulphuric acid |  Skin Corr. 1A, H314 | 20-40% |
|-----------|----------------|---|--------|

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

**\* 4 First-aid measures****Description of first aid measures**

**General information:** Immediately remove any clothing soiled by the product.

**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a 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 Fire-fighting measures****Extinguishing media****Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents:** no further information

**Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

**Advice for firefighters**

**Protective equipment:** Mount respiratory protective device.

**\* 6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Wear protective clothing.

**Environmental precautions:**

Dilute with plenty of water.

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).

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*Use neutralizing agent.*

*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.*

**Protective Action Criteria for Chemicals**

|               |                |                        |
|---------------|----------------|------------------------|
| <b>PAC-1:</b> |                |                        |
| 7664-93-9     | sulphuric acid | 0.20 mg/m <sup>3</sup> |
| <b>PAC-2:</b> |                |                        |
| 7664-93-9     | sulphuric acid | 8.7 mg/m <sup>3</sup>  |
| <b>PAC-3:</b> |                |                        |
| 7664-93-9     | sulphuric acid | 160 mg/m <sup>3</sup>  |

**\* 7 Handling and storage**

**Handling:**

**Precautions for safe handling**

*Ensure good ventilation/exhaustion at the workplace.*

*Prevent formation of aerosols.*

**Information about protection against explosions and fires:**

*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:** *Keep receptacle tightly sealed.*

**Storage class:** *8 B*

**Specific end use(s)** *No further relevant information available.*

**\* 8 Exposure controls/personal protection**

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

**Control parameters**

|   |  |
|---|--|
| <b>Components with limit values that require monitoring at the workplace:</b> |  |
| <b>7664-93-9 sulphuric acid</b>   |  |
| PEL   | Long-term value: 1 mg/m <sup>3</sup>                             |
| REL   | Long-term value: 1 mg/m <sup>3</sup>                             |
| TLV   | Long-term value: 0.2* mg/m <sup>3</sup><br>*as thoracic fraction |

**Additional information:** *The lists that were valid during the creation 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.*

*Avoid contact with the eyes.*

*Avoid contact with the eyes and skin.*

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**Breathing equipment:**

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*

**Protection of hands:**



*Protective gloves*

*To avoid skin problems reduce the wearing of gloves to the required minimum.*

*Only use chemical-protective gloves with CE-labeling of category III.*

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

**Material of gloves**

*Nitrile rubber, NBR*

*Chloroprene rubber, CR*

*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:**



*Tightly sealed goggles*

**Body protection:** *Protective work clothing*

## \* 9 Physical and chemical properties

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**

**Form:**

*Fluid*

**Color:**

*According to product specification*

**Odor:**

*Characteristic*

**Odor threshold:**

*Not determined.*

**pH-value at 20 °C (68 °F):**

*<1*

**Change in condition**

**Melting point/Melting range:**

*Undetermined.*

**Boiling point/Boiling range:**

*100 °C (212 °F)*

**Flash point:**

*Not applicable.*

**Flammability (solid, gaseous):**

*Not applicable.*

**Decomposition temperature:**

*Not determined.*

**Auto igniting:**

*Product is not selfigniting.*

**Danger of explosion:**

*Product does not present an explosion hazard.  
Not determined.*

**Explosion limits:**

**Lower:**

*Not determined.*

**Upper:**

*Not determined.*

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|   |  |
|---|--|
| <b>Vapor pressure at 20 °C (68 °F):</b>         | 23 hPa (17.3 mm Hg)                        |
| <b>Density:</b>                                 | Not determined.                            |
| <b>Relative density</b>                         | Not determined.                            |
| <b>Vapor density</b>                            | Not determined.                            |
| <b>Evaporation rate</b>                         | Not determined.                            |
| <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                            |
| <b>Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                 | Not determined.                            |
| <b>Kinematic:</b>                               | Not determined.                            |
| <b>Solvent content:</b>                         |  |
| <b>Water:</b>                                   | 67.3 %                                     |
| <b>Solids content:</b>                          | 0.0 %                                      |
| <b>Other information</b>                        | No further relevant information available. |

## \*10 Stability and reactivity

**Reactivity** No further relevant information available.  
**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 that are relevant for classification:

|      |      |                     |
|------|------|---------------------|
| Oral | LD50 | 5,800 mg/kg (Mouse) |
|------|------|---------------------|

#### Primary irritant effect:

**on the skin:** Strong caustic effect on skin and mucous membranes.

#### on the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

**Sensitization:** No sensitizing effects known.

#### Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

## 12 Ecological information

### Toxicity

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability** No further relevant information available.

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**Behavior in environmental systems:**

**Bioaccumulative potential** *No further relevant information available.*

**Mobility in soil** *No further relevant information available.*

**Additional ecological information:**

**General notes:**

*Water hazard class 1 (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.*

*Must not reach bodies of water or drainage ditch undiluted or unneutralized.*

*Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.*

**Results of PBT and vPvB assessment**

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

**Other adverse effects** *No further relevant information available.*

## 13 Disposal considerations

**Waste treatment methods**

**Recommendation:**

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

**Uncleaned packagings:**

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

**Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

## \*14 Transport information

**UN-Number**

**DOT, ADR, IMDG, IATA**

UN2796

**UN proper shipping name**

**DOT, IMDG**

SULPHURIC ACID

**ADR**

UN2796 SULPHURIC ACID

**IATA**

Sulphuric acid

**Transport hazard class(es)**

**DOT**



**Class**

8 Corrosive substances

**Label**

8

**ADR**



**Class**

8 (C1) Corrosive substances

**Label**

8

**IMDG, IATA**



**Class**

8 Corrosive substances

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**Label** 8  
**Packing group**  
**DOT, ADR, IMDG, IATA** II  
**Environmental hazards:** Not applicable.  
**Special precautions for user** Warning: Corrosive substances  
**Hazard identification number (Kemler code):** 80  
**EMS Number:** F-A,S-B  
**Segregation groups** Strong acids  
**Stowage Category** B  
**Segregation Code** SG36 Stow "separated from" SGG18-alkalis.  
 SG49 Stow "separated from" SGG6-cyanides

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

**Transport/Additional information:**

**DOT**  
**Quantity limitations** On passenger aircraft/rail: 1 L  
 On cargo aircraft only: 30 L

**ADR**  
**Limited quantities (LQ)** 1L  
**Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 500 ml

**IMDG**  
**Limited quantities (LQ)** 1L  
**Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":** UN 2796 SULPHURIC ACID, 8, II

## \*15 Regulatory information

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

**Section 355 (extremely hazardous substances):**

|           |                |
|-----------|----------------|
| 7664-93-9 | sulphuric acid |
|-----------|----------------|

**Section 313 (Specific toxic chemical listings):**

|           |                |
|-----------|----------------|
| 7664-93-9 | sulphuric acid |
|-----------|----------------|

|           |   |
|-----------|---|
| 6535-15-5 | antimony(3+) potassium [R-(R*,R*)]-monotartrate |
|-----------|---|

**TSCA (Toxic Substances Control Act):**

|           |       |        |
|-----------|-------|--------|
| 7732-18-5 | water | ACTIVE |
|-----------|-------|--------|

|           |                |        |
|-----------|----------------|--------|
| 7664-93-9 | sulphuric acid | ACTIVE |
|-----------|----------------|--------|

**Hazardous Air Pollutants**

|           |   |
|-----------|---|
| 6535-15-5 | antimony(3+) potassium [R-(R*,R*)]-monotartrate |
|-----------|---|

**Proposition 65**

**Chemicals known to cause cancer:**

None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

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**Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**Carcinogenicity categories****EPA (Environmental Protection Agency)**

None of the ingredients is listed.

**TLV (Threshold Limit Value established by ACGIH)**

7664-93-9 sulphuric acid

A2

**MAK (German Maximum Workplace Concentration)**

7664-93-9 sulphuric acid

4

6535-15-5 antimony(3+) potassium [R-(R\*,R\*)]-monotartrate

2

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms** GHS05**Signal word** Danger**Hazard-determining components of labeling:**

sulphuric acid

**Hazard statements**

Causes severe skin burns and eye damage.

**Precautionary statements**

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations:****Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.**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.

**Department issuing SDS:** PCC - TWRC**Contact:** MSDS.pcc@endress.com**Date of preparation / last revision** 01/06/2021 / 2**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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

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— USA —



# Safety Data Sheet

acc. to OSHA HCS

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*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

**\* Data compared to the previous version altered.**