

# Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 27.07.2015

Version number 3

Revision: 27.07.2015

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

### • Product identifier

• **Trade name:** RE 2.5

• **Article number:** 821 999Y

• **Description:** Reagent solution for phosphate analyzer

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

• **Product category:** PC21 Laboratory chemicals

• **Process category:** PROC15 Use as laboratory reagent

• **Application of the substance / the preparation:** Phosphate measurement with analyzer

• **Manufacturer/Supplier:**

YSI

1725 Brannum Lane Yellow

Springs, OH 45387 USA

phone: +1 937-767-7241

• Information department: Email: [MSDSinfo@Xyleminc.com](mailto:MSDSinfo@Xyleminc.com)

• **Emergency telephone number:** Chemtrec: (USA & Canada) 800-424-9300 (International) 001 703-527-3887

## 2 Hazards identification

### • Classification of the substance or mixture

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



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.

### • Label elements:

• **Labelling according to Regulation (EC) No 1272/2008:**

The product is classified and labelled according to the CLP regulation.

• **Hazard pictograms:** GHS05

• **Signal word:** Danger

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

sulphuric acid

• **Hazard statements:**

H314 Causes severe skin burns and eye damage.

• **Precautionary statements:**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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## \* 3 Composition/information on ingredients

- **Chemical characterization:**

- **Description:**

Mixture of substances listed below with nonhazardous additions.

Water, sulphuric acid, ammonium monovanadate

- **Dangerous components:**

CAS: 7664-93-9 EINECS: 231-639-5 Index number: 016-020-00-8	sulphuric acid ⚠ Skin Corr. 1A, H314	20 - <50%
CAS: 7803-55-6 EINECS: 232-261-3	ammonium monovanadate ⚠ Acute Tox. 3, H301; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	0,1-≤1%

- **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 or oxygen; call for doctor.

- **After skin contact:**

Wash with plenty of water.

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

Call a doctor immediately.

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

- **After swallowing:**

Make victim drink water immediately (2 glasses at most).

Do not induce vomiting (risk of perforation)

Call a doctor immediately.

Do not attempt to neutralize.

- **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:** The product is not flammable. Extinguishing agent to suit environment.

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

In case of fire, the following can be released:

Sulphur oxides (SO<sub>x</sub>)

Vanadium oxide compounds

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear chemical protective clothing in the case of heavy toxic load.

- **Additional information** Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear personal protective equipment (see section 8).

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

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- **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 section 13.
- Wash off residuals with water.

## 7 Handling and storage

- **Handling:**

- **Precautions for safe handling** Wear personal protective equipment (see section 8)

- **Information about fire - and explosion protection:** No special measures required.

- **Conditions for safe storage, including any incompatibilities**

- **Requirements to be met by storerooms and receptacles:** Do not use light alloy receptacles.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:**

- Store receptacle in a well ventilated area.

- Store tightly sealed at temperatures between 15 °C and 25 °C.

- **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:**

**7664-93-9 sulphuric acid**

IOELV Long-term value: 0,05 mg/m<sup>3</sup>

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

- Avoid contact with the eyes and skin.

- Do not inhale gases / fumes / aerosols.

- Take off contaminated clothing and wash it before reuse.

- Wash hands before breaks and at the end of work.

- **Respiratory protection:** Use suitable respiratory protective device only when aerosol or mist is formed.

- **Recommended filter device for short term use:** Filter E

- **Protection of hands:** Protective gloves

- **Material of gloves** Nitrile rubber, NBR

- **Eye protection:** Safety glasses

- **Body protection:** Acid resistant protective clothing

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- Form: Liquid

- Colour: Light yellow

- **Odour:** Odourless

- **pH-value at 20 °C:** 1

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<ul style="list-style-type: none"> <li>• <b>Change in condition</b>  <i>Melting point/Melting range:</i> Undetermined.  <i>Boiling point/Boiling range:</i> 100 °C</li> </ul>	
• <b>Flash point:</b>	Not applicable.
• <b>Self-igniting:</b>	Product is not selfigniting.
• <b>Danger of explosion:</b>	Product does not present an explosion hazard.
• <b>Vapour pressure at 20 °C:</b>	23 hPa
• <b>Density at 20 °C:</b>	1,51 g/cm <sup>3</sup>
• <b>Solubility in / Miscibility with water:</b>	Fully miscible.
• <b>Viscosity:</b>	
<i>Dynamic:</i>	Not determined.
<i>Kinematic:</i>	Not determined.
• <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.  
 Do not heat.
- **Possibility of hazardous reactions** Formation of hydrogen possible with metals and alloys (risk of explosion).
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
 Alkalis  
 Metals
- **Hazardous decomposition products:** In case of fire, see section 5.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

• <b>LD/LC50 values relevant for classification:</b>		
<b>7664-93-9 sulphuric acid</b>		
Oral	LD50	2140 mg/kg (Rat) (RTECS)
Inhalative	LC50	510 mg/m <sup>3</sup> , 2 h (Rat) (RTECS)
<b>7803-55-6 ammonium monovanadate</b>		
Oral	LD50	169 mg/kg (Rat) (OECD)
Dermal	LD50	>2500 mg/kg (Rat) (OECD)
Inhalative	LC50	2,5 mg/l, 4 h (Rat) (OECD)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
 Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
 Causes serious eye damage.

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- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Acute effects (acute toxicity, irritation and corrosivity):**  
If ingested, severe burns of the mouth and throat, as well as a danger of the perforation of the oesophagus and the stomach.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** 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.

## 12 Ecological information

### • Toxicity

#### • Aquatic toxicity:

<b>7664-93-9 sulphuric acid</b>	
EC50	29 mg/l, 24 h (Daphnia magna)
LC50	16-29 mg/l, 96 h (Lepomis macrochirus)
<b>7803-55-6 ammonium monovanadate</b>	
LC50	2,6 mg/l, 96 h (Ictalurus catus) (ECOTOX)

- **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.
- **Additional ecological information:**
- **General notes:**  
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.  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Disposal must comply with the relevant local regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose the special waste.
- **Uncleaned packaging:**
- **Recommendation:**  
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.  
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

<ul style="list-style-type: none"> <li>• <b>UN-Number</b></li> <li>• <b>ADR, IMDG, IATA</b></li> </ul>	UN2796
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<ul style="list-style-type: none"> <li>• <b>UN proper shipping name</b></li> <li>• <b>ADR</b></li> <li>• <b>IMDG, IATA</b></li> </ul>	<p>2796 SULPHURIC ACID SULPHURIC ACID</p>
<ul style="list-style-type: none"> <li>• <b>Transport hazard class(es)</b></li> <li>• <b>ADR, IMDG, IATA</b></li> </ul> 	<p>8 Corrosive substances. 8</p>
<ul style="list-style-type: none"> <li>• <b>Packing group</b></li> <li>• <b>ADR, IMDG, IATA</b></li> </ul>	<p>II</p>
<ul style="list-style-type: none"> <li>• <b>Environmental hazards:</b></li> <li>• <b>Marine pollutant:</b></li> <li>• <b>EMS Number:</b></li> <li>• <b>Segregation groups</b></li> </ul>	<p>No F-A,S-B Acids</p>
<ul style="list-style-type: none"> <li>• <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b></li> </ul>	<p>Not applicable.</p>
<ul style="list-style-type: none"> <li>• <b>Transport/Additional information:</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>ADR</b></li> <li>• <b>Transport category</b></li> <li>• <b>Tunnel restriction code</b></li> </ul>	<p>2 E</p>
<ul style="list-style-type: none"> <li>• <b>UN "Model Regulation":</b></li> </ul>	<p>UN 2796 SULPHURIC ACID, 8, II</p>

## \* 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

- **Relevant phrases**  
H301 Toxic if swallowed.  
H314 Causes severe skin burns and eye damage.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.
- **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

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IATA: International Air Transport Association  
GHS: Globally Harmonised 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 (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
Acute Tox. 3: Acute toxicity, Hazard Category 3  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A  
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2  
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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

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