

Safety data sheet
according to 1907/2006/EC, Article 31

Printing 03.05.2022

version number 25

Revision: 08.03.2019

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

1.1 Product identifier**Trade name:** REDOX STANDARD 468mV @ 25°C Ag/AgCl***Article number:** RS468***Registration number**

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

No further relevant information available.

Application of the substance / the mixture** Laboratory Chemicals1.3 Details of the supplier of the safety data sheet*****Manufacturer/Supplier:**

Reagecon Diagnostics Ltd.

Shannon Free Zone,

Shannon,

Co. Clare,

Ireland.

Tel +353 61 472622

Fax +353 61 472642

Further information obtainable by contacting:** sds@reagecon.ie1.4 Emergency telephone number:**

National Poisons Information Centre: +353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week)

Healthcare Professionals: +353 (1) 809 2566 (24 hour service)

For Hazardous Materials [or Dangerous Goods] Incident

Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC

For Ireland call +(353)-19014670

For Outside Ireland call +1 703-741-5970 / 1-800-424-9300 CCN849800

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**

corrosion

Eye Dam. 1 H318 Causes serious eye damage.



Skin Irrit. 2 H315 Causes skin irritation.

2.2 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

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

sulphuric acid
iron trichloride

***Hazard statements**

H315 Causes skin irritation.
H318 Causes serious eye damage.

***Precautionary statements**

P280 Wear protective gloves / eye protection / face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P332+P313 If skin irritation occurs: Get medical advice/attention.

2.3 Other hazards**Results of PBT and vPvB assessment**

*PBT: Not applicable.
*vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances**CAS No. Description**

7732-18-5 Purified Water

EC number: 2317912**3.2 Chemical characterisation: Mixtures*****Description:** Mixture of substances listed below with nonhazardous additions.***Dangerous components:**

CAS: 7664-93-9 EINECS: 231-639-5	sulphuric acid Skin Corr. 1A, H314	≥5-<10%
CAS: 7705-08-0 EINECS: 231-729-4	iron trichloride Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Irrit. 2, H315	≥3-<10%
CAS: 7720-78-7 EINECS: 231-753-5	iron sulphate Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	≥2.5-<10%

SECTION 4: First aid measures

4.1 Description of first aid measures**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.***After skin contact:**

Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if any discomfort continues.

***After eye contact:**

Promptly wash eyes with plenty of water for up to 15 minutes. Open eyes wide apart and rinse well to remove any contact lenses. Do not remove contact lenses by hand. Continue to rinse. If symptoms persist, consult a doctor.

***After swallowing:**

Drink plenty of water and provide fresh air. Call for a doctor immediately.
Do not induce vomiting; call for medical help immediately. Rinse mouth thoroughly with water and give large amounts of water to drink. Never give anything by mouth to an unconscious person.

***4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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***4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

***5.1 Extinguishing media**

***Suitable extinguishing agents:**

Indications shall be given whether any extinguishing media are inappropriate for a particular situation involving the substance or mixture

Use fire extinguishing methods suitable to surrounding conditions.

***5.2 Special hazards arising from the substance or mixture** No further relevant information available.

***5.3 Advice for firefighters**

***Protective equipment:**

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers

SECTION 6: Accidental release measures

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

Wear protective equipment as described in Section 8 below. Keep unprotected persons away.

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

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

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

Ensure adequate ventilation.

***6.4 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.

SECTION 7: Handling and storage

***7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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

***7.2 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.

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

SECTION 8: Exposure controls/personal protection

***8.1 Control parameters**

***Engineering Controls:** No further data; see item 7.

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

CAS: 7664-93-9 sulphuric acid

WEL Long-term value: 0.05* mg/m³

*mist: defined as thoracic fraction

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CAS: 7705-08-0 iron trichloride

WEL Short-term value: 2 mg/m³
Long-term value: 1 mg/m³
as Fe

CAS: 7720-78-7 iron sulphate

WEL Short-term value: 2 mg/m³
Long-term value: 1 mg/m³
as Fe

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

8.2 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 and skin.

***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.
Where risk assessment shows air-purifying respirators are appropriate use a respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges as back up to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

***Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Always ensure that gloves are inspected before use.
Selection of protective gloves must include consideration of the penetration times along with rates of diffusion and degradation. The selected glove should comply with the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it.

***Material of gloves**

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.

***Penetration time of glove material**

In the absence of data above, the exact break through time has to be sourced from the manufacturer of the protective gloves and has to be observed.

***Eye protection:**

Tightly sealed goggles: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

SECTION 9: Physical and chemical properties

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

Form: Liquid
Colour: Dark yellow
***Odour:** Characteristic

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*Odour threshold:	Not determined.
*pH-value:	Not determined.
*Change in condition Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
*Flash point:	Not applicable.
*Flammability (solid, gas):	Not applicable.
*Decomposition temperature:	Not determined.
*Auto-ignition temperature:	Product is not selfigniting.
*Explosive properties:	Product does not present an explosion hazard.
*Explosion limits: Lower:	Not determined.
Upper:	Not determined.
*Vapour pressure at 20 °C:	23 hPa
*Density at 20 °C:	1.1342 g/cm ³
*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: Dynamic:	Not determined.
Kinematic:	Not determined.
*9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- *10.1 Reactivity No further relevant information available.
- *10.2 Chemical stability
- *Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- *10.3 Possibility of hazardous reactions No dangerous reactions known.
- *10.4 Conditions to avoid No further relevant information available.
- *10.5 Incompatible materials: No further relevant information available.
- *10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

- *11.1 Information on toxicological effects
- *Acute toxicity Based on available data, the classification criteria are not met.
- *Primary irritant effect:
- *Skin corrosion/irritation
Causes skin irritation.
- *Serious eye damage/irritation
Causes serious eye damage.
- *Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

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Additional toxicological information:**CMR effects (carcinogenity, 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.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:** No further relevant information available.***12.2 Persistence and degradability** No further relevant information available.***12.3 Bioaccumulative potential** No further relevant information available.***12.4 Mobility in soil** No further relevant information available.***Additional ecological information:*****General notes:**

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

12.5 Results of PBT and vPvB assessment**PBT:** Not applicable.***vPvB:** Not applicable.***12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

13.1 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.

SECTION 14: Transport information

14.1 UN-Number**ADR, IMDG, IATA**

UN1760

14.2 UN proper shipping name**ADR**

1760 CORROSIVE LIQUID, N.O.S. (SULPHURIC ACID, FERRIC CHLORIDE)

1760 CORROSIVE LIQUID, N.O.S. (SULPHURIC ACID, FERRIC CHLORIDE)

***IMDG, IATA**

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

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14.3 Transport hazard class(es)**ADR, IMDG, IATA**

***Class** 8 Corrosive substances.
***Label** 8

14.4 Packing group**ADR, IMDG, IATA** II***14.5 Environmental hazards:*****Marine pollutant:** No***14.6 Special precautions for user**

Warning: Corrosive substances.

Hazard identification number (Kemler code):** 80EMS Number:** F-A,S-B***Segregation groups** Acids***Stowage Category** B***Stowage Code** SW2 Clear of living quarters.***14.7 Transport in bulk according to Annex II of****Marpol and the IBC Code** Not applicable.***Transport/Additional information:*****ADR*****Limited quantities (LQ)** 1L***Transport category** 2***Tunnel restriction code** E***UN "Model Regulation":** UN 1760 CORROSIVE LIQUID, N.O.S. (SULPHURIC ACID, FERRIC CHLORIDE), 8, II**SECTION 15: Regulatory information*****15.1 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.***National regulations:*****Waterhazard class:** Water hazard class 3 (Self-assessment):extremely hazardous for water.***15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**SECTION 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.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

***Department issuing SDS:** Health and Safety

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Contact:** *sds@reagecon.ie*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 Organisation**REACH (Registration, Evaluation, Authorisation and restriction of Chemicals)**ADR: Accord relatif au transport international 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 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)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 4: Acute toxicity – Category 4**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2*

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