

SECTION 1: Identification of the substance/mixture and of the supplier/undertaking**1.1. GHS product identifier**

Product form	: Mixture
Trade name	: Redox ORP Standard 475mV
Type of product	: Laboratory chemicals
Product code	: 475MV
Product group	: Trade product

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use	: Use as laboratory reagent
Restrictions on use	: Use as laboratory reagent

1.4. Supplier's details**Manufacturer**

SOLULAB
38 Hulbert Road New Centre
P.O. Box 395905, Booyssens, 2016
2001 Johannesburg
T 011 493 2512

1.5. Emergency phone number

Emergency number	: After Hours Emergency No.: +27 67 410 8872
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SECTION 2: Hazard identification**2.1. GHS classification of the substance/mixture and any national or regional information****Classification according to the United Nations GHS**

Skin corrosion/irritation, Category 1	H314
Hazardous to the aquatic environment – Acute Hazard	Not classified
Full text of H-statements: see section 16	
Adverse physicochemical, human health and environmental effects	: Causes severe skin burns and eye damage.

2.2. GHS label elements, including precautionary statements**Labelling according to the United Nations GHS**

Hazard pictograms (GHS ZA)

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Signal word (GHS-ZA)	: Danger
Hazardous ingredients	: Sulphuric acid 98%
Hazard statements (GHS ZA)	: H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS ZA)	: P260 - Do not breathe dusts or mists. P264 - Wash skin thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/self-contained breathing apparatus (appropriate to quantity handled). P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove

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P-statements for label (GHS-ZA)

contact lenses, if present and easy to do. Continue rinsing.

P316 - Get emergency medical help immediately.

P363 - Wash contaminated clothing before reuse.

P405 - Store locked up.

P501 - Dispose of contents, container to comply with local/regional/national regulations.

: P260 - Do not breathe dusts or mists.; P264 - Wash skin thoroughly after handling.; P280 - Wear protective gloves/protective clothing/eye protection/self-contained breathing apparatus (appropriate to quantity handled).; P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.; IF INHALED: Remove person to fresh air and keep comfortable for breathing.; P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.; P316 - Get emergency medical help immediately.; P363 - Wash contaminated clothing before reuse.; P405 - Store locked up.; P501 - Dispose of contents, container to comply with local/regional/national regulations.

2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to the United Nations GHS
Sulphuric acid 98%	CAS-No.: 7664-93-9	8 – 12	Acute Tox. 5 (Oral), H303 Skin Corr. 1, H314 Aquatic Acute 3, H402
Ferric Ammonium Sulfate	CAS-No.: 7783-83-7	3 – 6	Skin Irrit. 2, H315 Eye Irrit. 2A, H319
Ammonium ferrous sulfate hexahydrate	CAS-No.: 7783-85-9	3 – 6	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

SECTION 4: First aid measures

4.1. Description of necessary first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective actions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

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".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	: Take up liquid spill into absorbent material.
Other information	: Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Store locked up.
Packaging materials	: Store always product in container of same material as original container.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Hand protection : Protective gloves
Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment
Personal protective equipment symbol(s)



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid.
Colour	: Colourless
Odour	: Odourless
Odour threshold	: No data available
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=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	: Non flammable.
Vapour pressure	: No data available
Vapour pressure at 50°C	: No data available
Relative vapour density at 20°C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Miscible with water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

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Explosive limits	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Physical state	: Liquid
Appearance	: Clear, colorless liquid.

9.2. Data relevant with regard to physical hazard classes (supplemental)

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.

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 (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Assumed to cause serious eye damage
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

Ammonium ferrous sulfate hexahydrate (7783-85-9)

STOT-single exposure	May cause respiratory irritation.
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STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms.
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Hazardous to the aquatic environment, short-term (acute) : Not classified.
Hazardous to the aquatic environment, long-term (chronic) : Not classified

12.2. Persistence and degradability

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Persistence and degradability	Rapidly degradable
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Ferric Ammonium Sulfate (7783-83-7)

Persistence and degradability	
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Ammonium ferrous sulfate hexahydrate (7783-85-9)

Persistence and degradability	
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Sulphuric acid 98% (7664-93-9)

Persistence and degradability	
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12.3. Bioaccumulative potential

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Bioaccumulative potential	No additional information available
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12.4. Mobility in soil

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Mobility in soil	No additional information available
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12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal Considerations

13.1. Disposal methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
2796	2796	2796
14.2. UN Proper Shipping Name		
SULPHURIC ACID	SULPHURIC ACID	Sulphuric acid
14.3. Transport hazard class(es)		
8	8	8

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SANS	IMDG	IATA
		
14.4. Packing group, if applicable		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

SANS

Limited quantities (SANS)	: 1 L
Limited quantities (SANS)	: 1 L
Packagings, large packagings and IBCs Packing instructions (SANS)	: P001, IBC02
Portable tank and bulk containers instructions (SANS)	: T8
Portable tank and bulk container special provisions (SANS)	: TP2

IMDG

Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
IBC special provisions (IMDG)	: B20
Tank instructions (IMDG)	: T8
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: B
Segregation (IMDG)	: SGG1A, SG36, SG49
Properties and observations (IMDG)	: Colourless liquid, mixture not exceeding 1.405 relative density. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.

IATA

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
ERG code (IATA)	: 8L

14.7. Transport in bulk according to IMO instructions

Not applicable

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SECTION 15: Regulatory information

15.1. National regulations

15.1.1. Occupational health and safety act, 1993

Prohibited Hazardous Chemical Agents

Not regulated

15.2. Safety, health, and environmental national regulations specific for the product

No additional information available

SECTION 16: Other information

Issue date : 23/10/2024

Full text of H-statements:

H303	May be harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H402	Harmful to aquatic life

Safety Data Sheet (SDS), South Africa (HCA)

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.