

Revision: 2.1

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Section 1. Identification

1.1 Product Identifier 0374

Product Name ACID REAGENT (for METROHM RTI TITANIUM ANALYSER)
CAS Number Mixture
REACH Registration No A registration number is not available as the substance or its uses are exempt, the annual tonnage does not require a registration or the registration is envisaged for a later date.

1.2 Relevant identified uses of the substance or mixture & uses advised against

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier Vickers Laboratories Ltd



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Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008/EC

Skin corrosion/irritation, category 1A H314: Causes severe skin burns and eye damage.
Serious eye damage/irritation, category 1 H318: Causes serious eye damage.

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements Causes severe skin burns and eye damage.

Precautionary Statements Wear protective gloves / protective clothing / eye protection / face protection. Wash thoroughly after handling. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/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 and continue rinsing.

Section 3. Composition

3.2 Mixtures

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
Sulphuric acid	7664-93-9	231-639-5	01-2119458838-20-XXXX	>15%	Skin Corr. 1A
Hydrochloric acid	7647-01-0	231-595-7	01-2119484862-27-XXXX	>3%	Skin Corr. 1A,STOT SE 3 (I)

Section 4. First Aid

4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION URGENTLY.
Skin	Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. OBTAIN MEDICAL ATTENTION URGENTLY.
Inhalation	Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If conscious place in a sitting position. OBTAIN MEDICAL ATTENTION URGENTLY.
Ingestion	If conscious give plenty of water to drink. Do not induce vomiting. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Personal protection for first aiders	Wear protective gloves / eye protection.

4.2 Most important symptoms and effects, both acute & delayed.

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media	Consider what other flammable materials are present and act accordingly.
Unsuitable Media	Do not allow water to come into direct contact with material.

5.2 Special hazards arising from the substance or mixture

Hazards	May evolve toxic fumes if involved in a fire.
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5.3 Advice for firefighters

Advice for firefighters	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.
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Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection	Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so.
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6.2 Environmental precautions

Environmental	Keep material out of sewers, storm drains, surface waters and soil. Keep non-neutralised material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.
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6.3 Methods and material for containment and cleaning up

Major Spillage	Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.
Minor Spillage	Neutralise spill with soda ash, lime, calcium carbonate or sodium bicarbonate. Wash area down with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing. When diluting acid always add, acid to water cautiously with agitation.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage .

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)	Short Term 15min period		
Sulphuric acid	7664-93-9	>15%	-	0.05 mg/m-3	-	-
Hydrochloric acid	7647-01-0	>3%	1.0 ppm	2.0 mg/m-3	5.0 ppm	8.0 mg/m-3

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

8.2 Exposure controls

Respiratory Protection	Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge respirator, or use self contained breathing apparatus.
Hand Protection	Use PVC gauntlets.
Eye Protection	Use chemical full face shield.
Skin Protection	If skin contact or contamination of clothing is likely, protective clothing must be worn. Wear PVC oversuit.
Special Hazards	No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Clear colourless liquid
Odour	Odourless.
pH	<1
Boiling Point	Not available
Melting Point	Not applicable
Flash Point	Not applicable
Upper Flammable Limit	Not applicable
Lower Flammable Limit	Not applicable
Auto Ignition	Not applicable
Explosive Properties	No.
Oxidising Properties	No.
Vapour Pressure	Not applicable
Relative Density	Not available
Water Solubility	Completely miscible in water.

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1	Reactivity	No data available.
10.2	Chemical Stability	Stable under normal conditions
10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to Avoid	No specific conditions.
10.5	Incompatible Materials	Oxidising and reducing agents. Alkalis. Reacts with most metals to produce extremely flammable hydrogen gas. Peroxides, potassium permanganate, sodium, potassium, platinum, potassium tertiary butoxide. Combustible materials. Reacts with sulphide, phosphide, cyanide, carbide and silicides producing very toxic gases. Many organic compounds.
10.6	Hazardous Decomposition Products	Toxic and acidic dense white fumes.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	The liquid and solutions will cause severe burns. Damage can range from severe irritation and corneal scarring to permanent blindness.
Skin	The liquid and solutions will cause severe burns. Severe ulceration and scarring may occur in serious cases. The dilute acid is irritating to the skin.
LD50 Skin	Not available
Ingestion	Ingestion will cause severe mouth burns, and if swallowed extensive damage to the oesophagus. Symptoms may include salivation, thirst, difficulty in swallowing, pain, shock and vomiting.
LD50 Oral	Not available
Inhalation	Exposure to vapour concentrations above the occupational exposure limits will produce severe irritation of the eyes, nose, throat and respiratory tract. High concentrations of vapour will seriously damage the membranes lining the nose, throat and upper respiratory tract.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	A positive association has been shown between the development of upper respiratory tract cancer and exposure to high levels of sulphuric acid mist.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	None identified.
Other Information	The irritant effect provides warning that control of exposure is needed. 0.125-0.5 ppm are mildly annoying, 1.2-2.5 ppm definitely unpleasant and 10-20 ppm unbearable.

Section 12. Ecological

12.1	Toxicity	Dangerous to aquatic organism: causes damage to crops and vegetables. Natural alkalinity reduces damage caused by low pH. Aquatic toxicity LC50 Bluegill sunfish. 24 hr fresh water-24.5 mg/l, 48 hr tap-water-49 mg/l.
	LC50 Algal	Not available
	LC50 Crustacea	Not available
	LC50 Fish	Not available
12.2	Persistence and degradability	No data available.
12.3	Bioaccumulative potential	No data available.
12.4	Mobility in soil	No data available.
12.5	Results of PBT & vPvB assessment	Assessment not required.
12.6	Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Dispose of in a licensed incinerator. Never dispose of into water courses or sewerage systems.
Contaminated Packaging	Very carefully wash out containers with water. Use a licensed waste disposer.

Section 14. Transport Information

14.1 UN Number	2796
14.2 Proper Shipping Name	Sulphuric acid
14.3 Transport classes	
UN classification	8
Subsidiary hazard(s)	None
Transport category	2
ADR Hazard ID	80
Tunnel Restriction Code	E
14.4 Packing Group	II
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Skin corrosion/irritation, category 1A; Serious eye damage/irritation, category 1

Signal word Danger

Hazard Pictograms



Hazard Statements H314+H318
Causes severe skin burns and eye damage.

Precautionary Statements P280, P264, P301+P330+P331, P303+P361+P353, P305+P351+P338
Wear protective gloves / protective clothing / eye protection / face protection. Wash thoroughly after handling. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/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 and continue rinsing.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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