

**PRODUCT: S1 NEUTRAL ANOLYTE (pH = 7.0±0.5, ORP = >750mV)**

**SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Chemical Name: Electro-chemically Activated Neutral Anolyte  
Common name/Trade Name: Neutral Anolyte, ACTSOL™ Disinfectant  
Product Type: Oxidising disinfectant  
Radical Waters Product code: S1-AN  
Supplier: Radical Waters  
25 Silverstone Crescent, Kyalami Park, Midrand, South Africa  
+27 11 466 0610  
Emergency Contact details: [info@radicalwaters.com](mailto:info@radicalwaters.com)  
+27 11 466 0610  
Recommended use: Disinfectant  
Use biocides safely. Always read the label and product information before use. This safety data sheet contains general information concerning the chemical, but specific instructions and guidelines are indicated on the product label.

**SECTION 2. HAZARDS IDENTIFICATION**

Main Hazards: No hazard expected under normal conditions of use.  
Dangerous components of the product: Identification: - None  
Danger Symbol: None  
Health effects – eyes: None  
Health effects – skin: None  
Health effects – ingestion: None  
Health effects – inhalation: None  
Environmental hazards: None

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Type: Substance  
Composition:

Ingredient:	CAS-No:	EINECS-No:	Weight / Volume %:
Water (H <sub>2</sub> O)	7732-18-5	231-791-2	99.80%
Sodium chloride (NaCl)	7647-15-5	231-598-3	0.2%
<b>After Activation:</b>			<200 ppm Oxidants
Hypochlorous Acid (HOCl)	7790-92-3	232-232-5	<170 ppm
Hypochlorite ion (OCl <sup>-</sup> )	7681-52-9	31-668-3	<25 ppm
Ozone (O <sub>3</sub> )	10028-15-6	233-069-2	<2.5 ppm
Chlorine dioxide (ClO <sub>2</sub> )	10049-04-4	233-233-0	<2.5 ppm

The activated mixed oxidants are in disequilibrium immediately after activation, and gradually revert to the primary ingredients.

**SECTION 4. FIRST-AID MEASURES**

Signs and symptoms of poisoning: None detected – refer to water intoxication  
First-Aid procedures: Non-specific. Use good personal hygiene practices.  
Skin contact: If irritation develops - remove contaminated clothing including shoes immediately and drench affected skin with plenty of water. Seek medical attention if irritation persists. Wash contaminated clothing and shoes before reuse.  
Eye contact: If irritation develops - immediately flush eyes with copious quantities of water for several minutes. Seek medical advice if irritation persists.  
Ingestion: Do not induce vomiting: give plenty of water to drink. Seek medical assistance if ill effects occur.  
Inhalation: If dizziness or nausea develops - remove patient to fresh air – Seek medical assistance if ill effects persist.  
Emergency antidote: None

**SECTION 5. FIRE-FIGHTING MEASURES**

Extinguishing media suitable: The product is not directly flammable. Choose extinguishing agents based on the surrounding fire.  
Unsuitable extinguishing media: Do not use water stream, as it may spread the fire.  
Hazards and methods: The product is not directly flammable. General hazard – evacuate personnel downwind of fire to avoid inhalation of irritating and/or harmful fumes or smoke. Seek fresh air.  
Protection of fire fighters: Standard PPE for firefighters  
Flammability: Neutral Anolyte is not inflammable  
Special fire-fighting procedures: This product is a non-flammable substance.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment, and emergency procedures: None required  
Environmental precautions: None - The activated mixed oxidants are in disequilibrium immediately after activation, and gradually revert to the primary ingredients – salt and water.  
Methods and material for containment and cleaning: Leaks and spills can be removed in accordance with methods employed for ordinary water. Wash to waste with plenty of water.

**SECTION 7. HANDLING AND STORAGE**

Handling concentrated product:	No special precautions necessary. Running water should be available if irritation occurs
Handling or applying diluted product:	No special precautions necessary.
Storage:	Optimal efficacy of the product will be prolonged if Neutral Anolyte is stored away from direct sunlight, in cool, dry area and in sealed, airtight, opaque or tinted glass containers.
Other precautions:	Keep out of reach of uninformed persons, children and animals.

**SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

Control parameters:	None required
Permissible concentration:	N/A
Personal Protective Equipment:	
Respiratory Protection:	Not required at neutral pH, strongly advised at pH <5
Hand Protection:	Not required
Eye Protection:	Not required
Skin and body Protection:	Not required
General:	Use good personal hygiene practices. Neutral Anolyte has been extensively tested in animals and poses no threat to the welfare of the operator or test animal.

**SECTION 9. PHYSICAL & CHEMICAL PROPERTIES**

Physical state:	Liquid.	Chemical	pH = 7.0 ± 0.5
Appearance:	Homogeneous clear, liquid	Oxidation Reduction Potential	ORP = >750mV
Colour:	Colourless	Solubility	Complete in water
Odour:	Mild chlorine/ozone odour	Boiling point:	100°C
Flash Point:	N/A	Freezing point:	0°C
Vapour Pressure:	2.33 Pa	Relative Density:	1 kg/m <sup>3</sup>

**SECTION 10. STABILITY AND REACTIVITY**

Stability:	The product is stable under normal ambient conditions of temperature and pressure. The activated mixed oxidants are in disequilibrium immediately after activation, and gradually revert to the primary ingredients. ORP reverts gradually to the ORP of tap water.
Reactivity:	Stable under the correct storage conditions in section 7 for up to 6 months. Neutral Anolyte oxidises various compounds and substances such as flavourings and colourants and these can not be added to the Anolyte. These substances also compromise the efficacy of the Anolyte.
Incompatibility (material to avoid):	As a dilute aqueous solution Neutral Anolyte is reactive with concentrated acid and alkaline solutions as per standard chemical practices.
Hazardous decomposition or bi-products:	Neutral Anolyte degrades to the quality of source water. May produce Oxides of Chlorine vapours.
Hazardous polymerisation:	No hazardous polymerisation products have been detected.
Corrosion Potential:	Stainless Steel grades – 304=<10 <sup>-3</sup> mm/annum, 316=<10 <sup>-3</sup> mm/annum, 3CR12=<10 <sup>-1</sup> mm/annum, mild steel =0.35mm/annum, Galvanised steel=0.24mm/annum.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity:	LD <sub>50</sub> (oral: Rat)> 20,000mg/kg
Skin irritation:	Negative
Eye irritation:	Negative
Skin Sensitisation – Guinea Pig:	Negative
Reproductive cell Mutagenicity (Ames test):	Negative for In-vitro <i>Salmonella typhimurium</i> mutagenic studies
Cytogenicity:	At 500ppm available chlorine, no Cytogenetic activity on mice bone marrow chromosomes was induced.
Carcinogenicity:	No conclusion on the carcinogenicity of chlorine can be made from the limited information available from human and animal studies.
Inhalation/Respiratory sensitization:	Not available
Occupational exposure limits:	None
Health hazards:	There are no known health hazards.

**SECTION 12. ECOLOGICAL INFORMATION**

Environmental impact/ecotoxicity:	Presents no hazard to the environment
Degradability:	Neutral Anolyte degrades to source water quality with a low sodium chloride mineralisation allied to the input concentration of the salt.
Bioaccumulative potential:	None
Mobility in Soil:	Behaviour is the same as water.
Hazards:	Neutral Anolyte generated at pH=7, is non-hazardous to human and animal tissue.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste disposal:	Where permitted, Neutral Anolyte can be disposed of in municipal drains without adverse effects. However, where required, local environmental regulatory requirements should be followed. The oxidant activity of Anolyte can be neutralised with surplus organic matter/soiling - Dilute to waste with plenty of water.
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**SECTION 14. TRANSPORT INFORMATION**

Packaging in black plastic containers, and no specific transport requirements are necessary. The product is not covered by the rules for transport of dangerous goods.	
UN number:	N/A
UN proper shipping name:	N/A

**MATERIAL SAFETY DATA SHEET - ACTSOL**

**RADICAL WATERS PTY LIMITED (Registration number 1996/013583/07)**

UN Classification (transport hazard class(es)): N/A  
Packing group (if applicable): N/A  
Marine pollutant: No  
Transport in bulk according to MARPOL 73/78,  
Annex II, and the IBC Code: N/A

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**SECTION 15. REGULATORY INFORMATION**

Regulations specific to the product. Refer to sections 1, 2, 3 & 4.

Local regulations apply depending on the use and claims of the product.

In South Africa the product might be required to be registered with the NRCS under VC8054, or Act no 36 of 1947 or Act 110 of 1965 depending on the efficacy claims made and/or the purpose of the applications

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**SECTION 16. OTHER INFORMATION**

**FOR FURTHER INFORMATION REFER TO RADICAL WATERS.**

DISCLAIMER: This information is based on our current knowledge and is intended to describe the product for the purposes of health and safety requirements only. It should not, therefore, in itself be construed as a guarantee of any specific quality relating to the product, which will depend on the terms of the contract of trial or sale. The user must satisfy himself/herself that the product is suitable for his/her purpose.

Training: A thorough knowledge of this safety data sheet is recommended.

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**DATE PREPARED:** April 2005  
**DATE REVISED:** February 2007 – revision 1  
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**DATE REVISED:** April 2012 – revision 3  
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