BIOPAC Systems, Inc.
Registered to ISO 9001:2008

Better solutions...
Better science.

KNOWLEDGE BASE

Electrode Properties - gel and adhesive

SALT CONTENT

SOLID gels are gentler on the skin than WET gels at the same salt concentration. This is due to the higher water content in the WET gels that make them react faster and more aggressively on the skin. If there are two (2) electrodes with 4% salt , one (1) WET gel and one (1) SOLID gel, the WET gel would be more reactive/aggressive.

Disposable Electrode	Chloride %
EL500	10%
EL501	10%
EL502	4% (solid gel)
EL503	7%
EL504	4% (solid gel)
EL506	n/a: strip electrode; Ag laminated on med. grade cloth
EL507	0.5%
EL508	10%
EL509	n/a: dry electrode—use your own choice of gel

SOLID

The salt content in all SOLID gel electrodes from BIOPAC is 4%. This universal gel can be used short and long term, and is suitable for adult and infants.

WET

The salt content in WET gel electrodes from BIOPAC varies:

- 10% is used for short term applications such as *Resting ECG* or *Stress Test*.
- 7% is a more universal gel and can be used for short and—for most subjects, though some react—long term
- 3% is a monitoring gel used for more than 24 hours.
- 1% is a sensitive skin gel, common (infants/elders).
- 0.5% in EDA/GSR electrodes.

DURATION

We do not recommend for applications running more than 24 hours.

IRRITATION FACTORS

Possible skin irritation can result from the gel or the adhesive on the body of the electrode.

- EL503 gel and adhesive are aggressive
- EL502 uses a non-aggressive gel (solid gels are always less aggressive than wet gels with similar salt concentrations) with an aggressive adhesive.

Note—About 2 % of the population will react to any adhesives and gels put on a skin, regardless of

composition or concentration.

Associated Applications: Amplifiers & Interfaces, Biomechanics, Cardiovascular Hemodynamics, Noninvasive Blood Pressure Monitoring, ECG: Cardiology, EEG: Electroencephalography, EGG: Electrogastrogram, ICG: Impedance Cardiography/Cardiac Output, EMG: Electromyography, EOG: Eye Movement, ERS: Evoked Response, Exercise Physiology, In-vitro Pharmacology, Laser Doppler Flow, MER: Micro-electrode Recording, Magnetic Resonance Imaging with BIOPAC Equipment, Plethysmography, Psychophysiology, Pulmonary Function, Remote Monitoring, Sleep Studies

Disciplines: Animal Physiology and Intro Human Physiology, Biology, Science Lab - Biology, Biomedical Engineering, Exercise Physiology and Biomechanics, Human Physiology, Pharmacology and Toxicology, Psychophysiology and Neurophysiology