

ceralyte®

Rice-based Oral Electrolyte Rehydration Product Line



Oral Rehydration Therapy (ORT) is a simple, low cost and effective replacement therapy for dehydration from diarrhea and vomiting. ORT is scientifically developed yet a simple solution of salts and carbohydrate that is taken by mouth. ORT has become an established safe hospital and home-based therapy for over 50 years. Dehydration must be corrected, by replacing the water and electrolytes lost, either orally or by intravenous therapy (IV), in a similar composition and quantity to what the individual has lost, or an individual can have seizures, require hospitalization or even die.

How is CeraLyte oral electrolyte rehydration different from other ORT products?

CeraLyte has far more substrate (carbohydrate) for the delivery of the electrolytes than other ORT products, yet it has very low osmolality, providing both fast and sustained hydration. This is something that simple sugars cannot provide; they provide only fast and not sustained hydration. CeraLyte meets the World Health Organization's standards for ORT.

CeraLyte is scientifically formulated for fast and sustained rehydration, to restore cell balance and fluid volume for multiple conditions. The patented rice carbohydrate in CeraLyte contains short, medium, long and extra long chain carbohydrates. The body breaks down these carbohydrates into glucose over time, delivering the electrolytes and water in a "timed-released" or steady delivery system. The length of time for the body to break down the carbohydrate into glucose depends on the length of the carbohydrate chain: the short chains break down first, then the medium chains, then the long chains, and so forth. The body needs the simultaneous presence of the glucose and the salts in order for the absorption to work efficiently and CeraLyte does this very effectively.

In 1993, Cera Products, along with physicians at Johns Hopkins University School of Medicine, developed rice-based CeraLyte ORT. Numerous clinical research studies have shown that the rice-based ORT **always** works as well as simple glucose ORT and in high output fluid losses, the rice-based ORT **performs better** by reducing stool output, providing enhanced absorption and often preventing the need for an IV. Cera Products holds two patents for its oral delivery system based on special features of the products and its manufacturing, which provides the mixed-chain delivery system to deliver the optimal, timed release hydration.

Three strengths of **CeraLyte** have been developed to help prevent and correct dehydration:

CeraLyte 50 is for mild dehydration or for maintaining fluid balance and volume.

CeraLyte 70 is to prevent and correct mild to moderate dehydration. Ideal for travelers' diarrhea, short gut and Crohn's disease.

CeraLyte 90 is for severe diarrhea and dehydration, where fluid losses are high, such as in cholera or short bowel or ileostomy.

CeraLyte Benefits

- ▶ **Dual Action:** replaces and reduces fluid losses (reduction 18 to 30%)
- ▶ Prevents and corrects dehydration without painful IV
- ▶ Enhanced absorption from lower osmolality
- ▶ Safe and effective for children or adults
- ▶ Gluten free; no added sugar
- ▶ Cost effective, traveler friendly
- ▶ Provides calories from complex carbohydrates
- ▶ More effective in severe cases of dehydration
- ▶ Available in powder ready to mix with water, or ready to drink formula with a variety of flavors
- ▶ All natural ingredients

Summary: Fast yet sustained hydration

CeraLyte promotes early recovery in infectious diarrhea or for other medical purposes, such as diarrhea from chemotherapy. It helps provide a better quality of life for people with conditions such as Crohn's or ulcerative colitis, short-gut syndrome, or HIV/AIDS.

- ▶ **CeraLyte** promotes early recovery in infectious diarrhea or for other medical purposes, such as diarrhea from chemotherapy, Crohn's disease or short-gut syndrome.
- ▶ **CeraLyte** is used in over 400 travel clinics nationwide, major medical centers, hospitals, nursing homes and clinics.
- ▶ **CeraLyte** is approved by the US Government's Joint Deployment Formulary for overseas field hospitals, and is in all USAF Buddy Self Care medical kits.
- ▶ **CeraLyte** is also available in Canada, Central America, South Africa, and a growing number of distributors in the USA and other countries, including Australia and United Kingdom.

Oral Rehydration Solution (ORS) Products

The table below compares World Health Organization/UNICEF and other ORS preparations available in the US. Note the carbohydrate, sodium, and osmolarity differences:

- ▶ CeraLyte 50 and 70 have the lowest osmolarity of all the ORS products, even though they have more substrate and similar sodium content. CeraLyte-90 also has more carbohydrate substrate and more sodium, so is suitable for very high output fluid losses.



		Comparison of ORS Product Composition					
		Carbohydrate grams/L	Sodium mEq/L	Potassium mEq/L	Chloride mEq/L	Citrate mEq/L	Osmolarity mOsm/L
CeraLyte® 50	(rice starch)	40	50	20	40	10	<200
CeraLyte® 70	(rice starch)	40	70	20	60	10	<220
CeraLyte® 90	(rice starch)	40	90	20	80	10	<260
WHO/Unicef ORS “Standard Formula”	(glucose)	20	90	20	80	10	310
WHO/Unicef ORS “Reduced-Osmolarity Formula”	(glucose)	13.5	75	20	65	10	245
PediaLyte®	(glucose, fructose)	25	45	20	35	10	250
Gatorade® and Other Sports Drinks	(sucrose, glucose fructose)	58	20	3	20	3	>365
CeraSport®	(rice starch)	40	20	5	19	2	<135
CeraSport EX1®	(rice starch)	20	35	10	30	5	<135

Clinical Research has shown that rice-based ORT performs better than glucose-based ORT by reducing stool volume, providing enhanced absorption and often preventing the need for an IV.

In a meta-analysis of 16 trials involving 1545 children in 11 countries, those treated with oral rehydration had significantly fewer major adverse events or death (relative risk 0.36) and a significant reduction in length of hospital stay (mean 21 hours).

Note: For dehydration from exercise, CeraLyte can also often be used rather than an IV.

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