HISTORY

Animal technicians have always faced the problem of supplying animals with water, especially during transport. Years ago, when we still did not have sophisticated computerised systems, electronic identification chips, robotic cage cleaning and refilling systems and so on, the development of a very special product started.

As in all developments, the developers found themselves confronted with unexpected and complex problems. The main concern and problem was sterility. The whole idea behind the product was to eliminate the need of bottles and automatic watering systems for the daily supply in vivaria and to eliminate the use of perishable fruit- or potato parts during transport. The new product should not be as receptive for fungi and bacteria as fruit- and potato parts are, it should be a reliable and durable source of water for a longer period.

After two years of development the product was ready for production and marketing but there was barely a response from the target groups. Only a few organisations became aware of the new product, understood the benefits of it and started using it in large or small volumes. Many clients followed them after repeated positive reports about the use of the product. That was many years ago.

Today we do have sophisticated computerised systems and we do have electronic identification chips, we use the Internet for very fast global communication, in short: the world has changed. Nowadays the above described product, since many years known as Solid Drink®, is generally accepted by the majority of the animal technicians. Breeders utilise one or more of the Solid Drink® products, especially because the product is a reliable source of water that widely prevents the loss of weight of animals during transport.

The, easy to handle disposable gel packs, did indeed eliminate the need for bottle cleaning, the problems with leaky and blocked pipe systems and the use of perishable goods like fruit and potatoes.

Today it is clear that the goal that the developers were aiming for is achieved: to create a sterile source of water for all kinds of purposes that is easy to use for animal technicians and easy accessible for animals for daily use, during transport or after surgery. Additional is the decreased risk of weight loss by animals during transport and it is no longer necessary to accept the risk of contamination of perishable goods, which could harm the animals and prohibit them to eat or drink.

GENERAL INFORMATION

Introduction
Water is essential to life-sustaining biochemical and physiological processes. For long periods animals can survive without food, but after short periods without water, most animals will show substantially changes in metabolism, condition and behaviour (stress) and some of them will die. A popular way of watering animals is by supplying water replacements in a solid formulation.

Fluid balance
The body water contents is regulated tightly by controlling input (i.e. drinking, via impulses from the brain's thirst centre) and output (as an effect of the antidiuretic hormone ADH- on water reabsorption in the kidney). If animals cannot conserve water, losses will occur. If water is not available, the food intake will decrease and thus the body weight will decrease substantially. This process should normalise when water is supplied to the animals. In transportation the animals will arrive at their destination with a certain degree of dehydration.

Water replacement
Solid Drink® is originally designed as a solid water source to be used during shipment of animals and is nowadays used by most of the high standard animal breeders. The product contains only natural raw materials, is sterile and has a water contents of over 97%. By eating Solid Drink® during transport, animals will arrive at their destination with a minimum of weight loss and dehydration. Solid Drink® replaces water-bottles, perishable fruit- or potato parts, which are unreliable and insanitary watersources which only last a short time.

In addition: by using Solid Drink® transportboxes will remain clean.

Recovery after surgery

Solid Drink® is also suitable as a water replacement for animals which have had surgery and are not able to stretch themselves to drink from the water nipples.
Solid Drink®-Energy Bio, Solid Drink®-DeHyPrev Bio - Solid Drink®-DeHyPrev Vit Bio and Solid Drink Diet Bio.
Solid Drink®-Diet Bio in cups or pouches.
Solid Drink®-Barrier Use Bio 75 gm.
Solid Drink®-DeHyPrev Vit Bio in cups or pouches.
Solid Drink®-Energy Bio 75 gm.

Sterility
Solid Drink® is produced from only sterile and biological components. After production Solid Drink® is packed in air tight buckets and than irradiated.

Gamma Irradiation
By Synergy Health / Steris license number I-SZW/CK/VCR/KEW, no. 95/1040S, issued by the Dutch Ministry of social affairs and employment;

The national and international Quality Assurance System Standards: NEN-ISO 9002 and the EN 46002 (including EN 552), ISO 14001 (environment certificate). The irradiation dose applied is controlled by Synergy Health B.V. The calibration of the dosemeters is carried out by the National Physical Laboratory in the United Kingdom. A copy of the certificate of irradiation is available if required.

Irradiation dose is a minimum of 10 KGy guaranteed and certified with each delivery.

Analysis report
Sterility tests are carried out by incubation of the product by an independent laboratory. Analysis reports available.

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Available products:	Packed in:	Contents:	Irradiated:	Shell life:	Number per bucket:
SDSTC-56 BIO STANDARD	Cups	Hydrocolloids >98% water	Yes	12 months	30
SDST-75 BIO STANDARD	Pouches		Yes	12 months	40
SDST-150 BIO STANDARD	Pouches		Yes	12 months	35
SDST-250 BIO STANDARD	Pouches		Yes	12 months	25
SDST-75 BARRIER USE BIO	Pouches		Yes	12 months	40
SDST-150 BARRIER USE BIO	Pouches		Yes	12 months	35
SDDHPC-56 Dehyprev BIO	Cups	Hydrocolloids	Yes	12 months	30
SDSHP-75 Dehyprev BIO	Pouches	Glucose Natriumchloride Tri Natriumcitrate Potassiumchloride >98% water	Yes	12 months	40
SDEC-56 Energy BIO	Cups	Hydrocolloids	Yes	12 months	30
SDEC-75 Energy BIO	Pouches	Glucose >97% water	Yes	12 months	40
SDDHPVC-56 Dehyprev Vit BIO	Cups	Hydrocolloids	Yes	12 months	30
SDSHPV-75 Dehyprev Vit BIO	Pouches	Glucose Natriumchloride Tri Natriumcitrate Potassiumchloride Vitamins Minerals >98% water	Yes	12 months	40
SDDGC-56 Diet BIO	Cups	Hydrocolloids	Yes	12 months	30

CHARACTERISTICS: Species characteristics and breeding data of rodents	**MOUSE**	**RAT**	**HAMSTER**	**GUINEA PIG**	**RABBIT**
Body temperature:	37 ^{0}C 99 ^{0}F	37 ^{0}C 99 ^{0}F	37 ^{0}C 99,3 ^{0}F	38 ^{0}C 101 ^{0}F	38,3 ^{0}C 101 ^{0}F
Heart rate:	600 (250-600)	328 (250-600)	450 (250-600)	 (230-320)	205 (123-304)
Weight of adult male:	25-40 g	400 g	80-110 g	500-800 g	4-6 kg
Weight of adult female:	25-40 g	300 g	80-110 g	500-800 g	4-6 kg
Weight of newborn:	1 g	5 g	2 g	80 g	40 g
Daily water consumption:	5 ml	25 ml	12 ml	70 ml	150 ml
Daily food consumption:	5 g	15-20 g	10 g	70 g	130 g
Sexual maturity:	7 weeks	13 weeks	7 weeks	12 weeks	6-9 months
Estrous cycle frequency (in days):	4-5	5	4	16-18	induced
Duration of estrous (in hours):	10	13-15	20	6-11	Continuos
Time in ovulation (in hours):	2-3	8-10	6-12	10	10-11
Gestation period (in days):	19-21	20-22	15-18	60-65	29-35
Average litter size:	6-12	7-11	5-10	2-4	4-10
Begins eating dry food (in days):	12-14	10-12	8	4-6	21
Age at weening (in days):	21	21	21	18-24	28
Breeding life:	8 months	1,5 yr	1 yr	2-4 yr	3 yr
Life span (in years):	2,5	3	2	6	6

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DATA SHEET:		
Nutritional information per 100 gram Solid Drink® **Standard Bio** • Energy: 13,3 kJ • Protein: 0 g • Fat: 0 g • Carbohydrates: 0 g • Dietary fiber: 1,6 g	Nutritional information per 100 gram Solid Drink**® DeHyPrev Bio** • Energy: 21,4 kJ • Protein: 0 g • Fat: 0 g • Glucose: 0,15 g • Natriumchloride: 48 mg • Tri Natriumcitrate: 18 mg • Potassiumchloride: 66 mg • Dietary fiber: 1,6 g	Nutritional information per 100 gram Solid Drink**® DeHyPrev Vit Bio** • Energy: 23,2 kJ • Protein: 0 g • Fat: 0 g • Glucose: 0,15 g • Natriumchloride: 48 mg • Tri Natriumcitrate: 18 mg • Potassiumchloride: 66 mg • Vitamin A: 80 mcg • Vitamin D: 0,5 mcg • Vitamin E: 1 mg • Vitamin K: 3 mcg • Vitamin B1: 0,14 mg • Vitamin B2: 0,16 mg • Niacine (B3): 1,8 mg • Pantothenic acid: 0,6 mg • Vitamin B6: 0,2 mg • Folate (B11): 20 mcg • Vitamin B12: 0,1 mcg • Biotin (B8): 0,015 mg • Calcium: 12 mg • Magnesium: 6 mg • Iron: 0,5 mg • Copper: 0,05 mg • Iodine: 0,007 mg • Zinc: 0,5 mg • Manganese: 0,25 mg • Selenium: 5 mcg • Chrome: 2,5 mcg • Molydenum: 3 mcg • Dietary fiber: 1,6 g

DATA SHEET:		
Nutritional information per 100 gram Solid Drink® **Energy Bio** • Energy: 55,8 kJ • Protein: 0 g • Fat: 0 g • Carbohydrates: 2,5 g • Dietary fiber: 1,6 g	Nutritional information per 100 gram Solid Drink® **Diet Bio** (change every two days) • Energy: 721 kJ **Amino Acids** • Arginine: 349 mg • Cystine: 107 mg • Lysine: 331 mg • Methionine: 121 mg • Tryptophan: 83 mg • Glycine: 262 mg **Fatty Acids** • Palmitic Acid 16:0: 144 mg • Palmitoleic Acid 16:1: 7 mg • Stearic Acid 18:0: 30 mg • Oleic Acid 18:1: 205 mg • Linoleic Acid 18:2: 454 mg • Linoleic Acid 18:3: 46 mg **Vitamins** • Vitamin A: 400 U.I. • Vitamin D3: 35 U.I. • Vitamin B1: 0,48 mg • Vitamin B2: 0,48 mg • Vitamin B6: 0,28 mg • Vitamin B12: 8 mcg • Vitamin E: 1,7 mg • Vitamin K3: 0,09 mg • Niacin: 2,38 mg • Folic acid: 0,07 mg • d-Pantothenic Acid: 0,7 mg • Biotin: 11,25 mcg • Choline: 74 mg	Nutritional information per 100 gram Solid Drink® **Diet Bio** (change every two days) **Minerals** • Phosphorus: 240 mg • Calcium: 264 mg • Sodium: 76 mg • Potassium: 245 mg • Magnesium: 62 mg • Chlorine: 120 mg • Manganese: 2,3 mg • Iron: 15 mg • Copper: 0,66 mg • Zinc: 2,67 mg • Cobalt: 0,025 mg • Iodine: 0,027 mg **Conserving agents** • Sodium Benzoate: 0,05 gm • Ascorbic Acid: 0,1 gm