

PMI® Alcohol Rodent Liquid Diet

LD 102A*

Technical Data

DESCRIPTION

Diet LD 102A is a dry powder used to prepare a liquid diet for rodents in alcohol studies. The powder is designed to be mixed with alcohol and carbohydrates (maltodextrin) prior to feeding. When mixed according to instructions, it provides a similar level of nutrition as LD 102.

Features and Benefits

- Nutritionally-balanced
- Volatile ingredients can be included
- Easily prepared
- Provides stable nutrients
- Shipped in dry form to simplify storage, shipping and stability
- Minimal foaming
- Fully suspended
- Stabilized against microbial growth

Product Forms Available

- Dry Powder

Catalog #
7554 (57UP)

GUARANTEED ANALYSIS

Crude protein not less than	26.0%
Crude fat not less than	24.5%
Crude fiber not more than	16.5%
Ash not more than	8.2%

*** Diet Preparation Instructions:** To the appropriate grams of water indicated in the chart, add 140 gms. Micro-Stabilized Alcohol Rodent Liquid Diet mix (LD 102A) and Maltodextrin. Blend vigorously for 15-30 seconds with a mechanical blender until completely suspended. For best results add water to blender before dry mix.

Additional Considerations:

- For best results a mechanical blender should be used for diet preparation; hand blending does not suspend the diet adequately to avoid some settling out of undissolved ingredients.
- Do not over-blend; excessive mechanical blending creates foaming.

INGREDIENTS

Vitamin-free casein, olive oil, maltodextrin, dried corn syrup, soy fiber, corn oil, suspension colloid, safflower oil, L-cystine, DL-methionine, vitamin A acetate, cholecalciferol, dl-alpha tocopheryl acetate, menadione dimethylpyrimidinol bisulfite (source of vitamin K), ascorbic acid, cyanocobalamin, thiamin mononitrate, riboflavin, calcium pantothenate, nicotinic acid, choline chloride, pyridoxine hydrochloride, folic acid, inositol, p-aminobenzoic acid, biotin, calcium acetate, calcium phosphate, potassium phosphate, sodium phosphate, magnesium sulfate, sodium chloride, manganese sulfate, ferrous fumarate, zinc chloride, cupric sulfate, chromium chloride, sodium fluoride, ammonium molybdate, calcium iodate, sodium selenite.

FEEDING DIRECTIONS

Diet consumption will vary according to animal size and sex. An average rat should consume about 74-109 grams of liquid diet (17-25 grams dry diet) daily. The growth rate of rats maintained on this diet should be similar to that attained by young rats (55-100 grams) maintained on a good quality, nonpurified rodent diet. Mice should consume at least 20 grams of liquid diet per day. Allow new animals an adequate period of time to adjust to their surroundings. After they have adjusted, introduce the liquid diet gradually by offering some of the liquid diet while the regular diet is still present. Gradually decrease the amount of regular diet offered while increasing the amount of liquid diet over a 3-5 day period. Additional time for adjustment may be necessary for the ethanol diets. Prepare the diet as frequently as needed and always **refrigerate** to minimize loss of nutrients. Fresh diet should be prepared at least every **48 hours**. Although the diet may be bacteriologically sound for a longer period of time, diet more than **48 hours** old may have deteriorated nutritionally. Before using diet which has been prepared on a previous day, check to ensure all of the ingredients are in suspension. Remix if necessary. Additional water may be provided in separate drinking tubes, but may not be consumed.

CHEMICAL COMPOSITION¹

Nutrients ²	Reconstituted ³	Dry Powder	Pantothenic Acid, ppm	3.9	28
Protein, %	4.06	29.2	Choline Chloride, ppm	265	1900
Arginine, %	0.16	1.16	Folic Acid, ppm	0.54	3.8
Cystine, %	0.07	0.49	Pyridoxine, ppm	1.4	10
Glycine, %	0.09	0.69	Biotin, ppm	0.06	0.40
Histidine, %	0.12	0.87	Inositol, ppm	0.25	180
Isoleucine, %	0.22	1.55	p-aminobenzoic acid, ppm	12.5	90
Leucine, %	0.39	2.82	B ₁₂ , mcg/kg	0.25	180
Lysine, %	0.33	2.35	Vitamin A, IU/gm	3.1	22
Methionine, %	0.14	1.05	Vitamin D ₃ (added), IU/gm	0.40	2.9
Phenylalanine, %	0.22	1.56	Vitamin E, IU/kg	0.30	220
Tyrosine, %	0.23	1.63	Ascorbic Acid, mg/gm	9.6	69
Threonine, %	0.18	1.27	Energy*		
Tryptophan, %	0.05	0.35	Protein, kcal/kg	173	
Valine, %	0.26	1.86	Fat, Kcal/kg	350	
Fat (ether extract), %	3.9	28.0	Carbohydrates, kcal/kg	117	
Fiber (Crude), %	0.69	5.0	*Energy Levels used (kcal/gm)		
Minerals			Protein = 4.25; Fat = 9.00;		
Calcium, %	0.14	0.98	Maltodextrin = 4.00; Ethanol =		
Phosphorus, %	0.11	0.78	7.07. The protein value is different		
Potassium, %	0.10	0.69	than the 4 kcal/gm for protein, as		
Magnesium, %	0.03	0.19	generally used.		
Sulfur, %	0.05	0.39	* 1 kilogram of diet in liquid form,		
Sodium, %	0.05	0.39	when prepared according to direc-		
Chlorine, %	0.05	0.39	tions, provides 1000 kilocalories (1		
Fluorine, ppm	0.25	1.8	kcal per gram).		
Iron, ppm	0.18	130	* Lieber, CS & LM DeCarli (1982)		
Zinc, ppm	9.2	66	Alcoholism: Clinical and		
Manganese, ppm	0.14	98	Experimental Research 6: 523-531.		
Copper, ppm	0.24	17	Miller, SS, ME Goldman, CK		
Chromium, ppm	0.58	4.2	Erickson & RL Shorey (1980)		
Iodine, ppm	0.05	0.35	Psychopharmacology 68: 55-59.		
Molybdenum, ppm	0.11	0.80			
Selenium, ppm	0.03	0.20			

Vitamins

Vitamin K (as menadione), ppm	0.25	1.8
Thiamin, ppm	1.5	11
Riboflavin, ppm	1.7	12
Niacin, ppm	7.5	54

PMI® Alcohol Rodent Liquid Diet (LD 102A) Diet Preparation Chart

Diet composition varies according to the amount of alcohol added to maintain an isocaloric diet. The following chart indicates the amount of water, PMI® Alcohol Rodent Liquid Diet LD 102A mix (Dry Mix), PMI® Maltodextrin LD 104, and ethanol to be used to make one kilogram of liquid diet.

% Calories from Ethanol	gms. Water	gms. dry mix	gms. Maltodextrin	gms. Ethanol
36	810.1	139	0	50.9
30	803.6	139	15	42.4
20	792.7	139	40	28.3
10	781.9	139	65	14.1
0	771	139	90	0

For Calculation purposes:

- 139 gms. dry Alcohol Rodent Liquid Diet mix=645 kcal.
- Ethanol=7.1 kcal/gm
- PMI® Maltodextrin LD 104=4.0 kcal/gm