

THE
MERCK
INDEX
★
TENTH EDITION

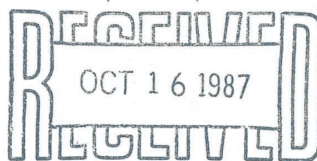
THE MERCK INDEX

AN ENCYCLOPEDIA OF
CHEMICALS, DRUGS, AND BIOLOGICALS

TENTH EDITION

Martha Windholz, *Editor*
Susan Budavari, *Co-Editor*
Rosemary F. Blumetti, *Associate Editor*
Elizabeth S. Otterbein, *Assistant Editor*

FINLEY, KUMBLE, WAGNER



LIBRARY

Published by

MERCK & CO., INC.

RAHWAY, N. J., U. S. A.

1983

Nalox1039

Nalox-1 Pharmaceuticals, LLC

Page 2 of 17

Copyright © 1983 by Merck & Co., Inc.

Previous Editions

Copyright © 1940, 1952, 1960, 1968, 1976

by Merck & Co., Inc.

All rights reserved. Copyright under the Universal Copyright Convention and the International Copyright Convention. Copyright reserved under the Pan-American Copyright Convention.

Merck & Co., Inc.

Rahway, New Jersey, U.S.A.

MERCK SHARP & DOHME

West Point, Pa.

MERCK SHARP & DOHME INTERNATIONAL

Rahway, N. J.

MERCK SHARP & DOHME RESEARCH LABORATORIES

Rahway, N. J. / West Point, Pa.

MSD AGVET DIVISION

Rahway, N. J.

HUBBARD FARMS, INC.

Walpole, N. H.

MERCK CHEMICAL MANUFACTURING DIVISION

Rahway, N. J.

MERCK CHEMICAL DIVISION

Rahway, N. J.

KELCO/AIL INTERNATIONAL LIMITED

London, England

BALTIMORE AIRCOIL COMPANY, INC.

Baltimore, Md.

CALGON CARBON CORPORATION

Pittsburgh, Pa.

KELCO DIVISION

San Diego, Calif.

1st Edition—1889

2nd Edition—1896

3rd Edition—1907

4th Edition—1930

5th Edition—1940

6th Edition—1952

7th Edition—1960

8th Edition—1968

9th Edition—1976

10th Edition—1983

Library of Congress Catalog

Card Number 83-61075

ISBN Number 911910-27-1

Printed in the U.S.A.

First Printing—October 1983

Second Printing—March 1984

Third Printing—January 1986

Nalox1039

Nalox-1 Pharmaceuticals, LLC

Page 3 of 17

Isotonic Solutions

The following table provides data for adjusting aqueous solutions of chemical substances, by both the freezing point depression method and the sodium chloride equivalent method, so that they will be isosmotic with normal saline solution and presumably, therefore, isotonic with blood and tears. The freezing point depression values have been determined experimentally and published by E. R. Hammarlund, K. Pedersen-Bjergaard, J. F. Deming, W. E. Fassett, T. S. Fuller, M. Lord, C. Sapp and G. L. Van Pevenage. The sodium chloride equivalent values have been calculated from these data. Because of a general interest in the colligative properties of some medicinal solutions, values are included for certain substances which are not used necessarily as isotonic solutions.

The values first listed for each chemical substance are sodium chloride equivalents. The second values, in *italic*, are freezing point depression values in degree Centigrade. The percentage concentration (w/v) at isotonicity (isosmotic) is given in bold face in the last column.

To prepare an isotonic solution by the method of sodium chloride equivalents, the osmotic equivalent of each ingredient is calculated by multiplying the number of grams of each ingredient present in the preparation by its sodium chloride equivalent from the table at (or nearest to) the proper concentration. The resulting osmotic equivalents are added together (if more than one ingredient) and the total is subtracted from the number of grams of sodium chloride required to make that specified volume of normal saline solution (0.9%), i.e., 0.27 g for 30 ml, 0.54 g for 60 ml, or 0.90 g NaCl for 100 ml of desired solution. The difference is the grams of sodium chloride which must be added to that specific volume of preparation to make it approximately isotonic (actually isosmotic) with blood or tears.

If the value of the osmotic equivalent is found to be larger than the weight of sodium chloride required to prepare that volume of normal saline solution (i.e., the difference in the subtraction step is less than zero), then the solution is already hypertonic and cannot be adjusted to isotonicity without altering concentrations of the given ingredients.

If the solution can be made isotonic and one desires to use a different adjusting chemical, such as dextrose or boric acid rather than sodium chloride, one merely divides the grams of sodium chloride previously found necessary to add by the sodium chloride equivalent of the desired chemical, i.e., 0.16 for dextrose (anhyd) or 0.47 for boric acid (from the table), and one obtains directly the grams of other substance to use for isotonicity adjustment instead of sodium chloride. One should refer to any customary pharmacy text for further explanation and examples if necessary.

Sodium Chloride Equivalents and Freezing Point Depressions (°C)
for Certain Concentrations (w/v) of Solution

Chemical	Concentration of Solution, NaCl Equivalents					At Isosmotic Concentration	
	½%	1%	2%	3%	5%		
Acetazolamide sodium	0.24 <i>0.068°</i>	0.23 <i>0.135°</i>	0.23 <i>0.271°</i>	0.23 <i>0.406°</i>	— —	0.23 <i>0.52°</i>	3.85% 3.85%
Acetizolate methylglucamine	0.09 <i>0.024°</i>	0.08 <i>0.047°</i>	0.08 <i>0.093°</i>	0.08 <i>0.137°</i>	0.08 <i>0.222°</i>	0.07 <i>0.52°</i>	12.12% 12.12%
Acetizolate sodium	0.10 <i>0.027°</i>	0.10 <i>0.055°</i>	0.10 <i>0.109°</i>	0.10 <i>0.163°</i>	0.10 <i>0.273°</i>	0.09 <i>0.52°</i>	9.64% 9.64%
Acetylcysteine	0.20 <i>0.055°</i>	0.20 <i>0.113°</i>	0.20 <i>0.227°</i>	0.20 <i>0.341°</i>	— —	0.20 <i>0.52°</i>	4.58% 4.58%
Acetylsulfanilamide sodium	0.24 <i>0.066°</i>	0.23 <i>0.133°</i>	0.23 <i>0.268°</i>	0.23 <i>0.406°</i>	— —	0.23 <i>0.52°</i>	3.85% 3.85%
Acriflavine	0.10 <i>0.025°</i>	0.10 <i>0.050°</i>	0.09 <i>0.101°</i>	0.09 <i>0.151°</i>	— —	— —	— —
Adenosine phosphate	0.50 <i>0.140°</i>	0.41 <i>0.234°</i>	— —	— —	— —	— —	— —
Adiphenine hydrochloride	0.28 <i>0.083°</i>	0.22 <i>0.126°</i>	0.17 <i>0.194°</i>	0.15 <i>0.250°</i>	0.12 <i>0.346°</i>	— —	— —
Adrenalone hydrochloride	0.30 <i>0.086°</i>	0.27 <i>0.154°</i>	0.24 <i>0.275°</i>	0.22 <i>0.387°</i>	— —	0.21 <i>0.52°</i>	4.24% 4.24%
Alcohol	0.65 <i>0.188°</i>	0.65 <i>0.375°</i>	— —	— —	— —	0.65 <i>0.52°</i>	1.39% 1.39%
Alcohol, dehydrated	0.70 <i>0.203°</i>	0.70 <i>0.406°</i>	— —	— —	— —	0.70 <i>0.52°</i>	1.28% 1.28%
Alphaprodine hydrochloride	0.19 <i>0.053°</i>	0.19 <i>0.105°</i>	0.18 <i>0.212°</i>	0.18 <i>0.315°</i>	— —	0.18 <i>0.52°</i>	4.98% 4.98%
Alum, potassium	0.20 <i>0.054°</i>	0.18 <i>0.100°</i>	0.16 <i>0.185°</i>	0.15 <i>0.265°</i>	0.15 <i>0.418°</i>	0.14 <i>0.52°</i>	6.35% 6.35%

MISC-47

Nalox1039

Nalox-1 Pharmaceuticals, LLC

Page 4 of 17

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents					At Isosmotic Concentration	
	½%	1%	2%	3%	5%		
Amantadine hydrochloride	0.31 0.090°	0.31 0.180°	0.31 0.354°	— —	— —	0.31 0.52°	2.95% 2.95%
Amidoxyl benzoate	0.20 0.059°	0.20 0.118°	0.20 0.236°	0.20 0.353°	—	0.20 0.52°	4.42% 4.42%
Amikacin	0.06 0.016°	0.05 0.031°	0.05 0.062°	0.05 0.091°	0.05 0.153°	— —	— —
Aminacrine hydrochloride	0.20 0.052°	0.17 0.097°	— —	— —	— —	— —	— —
Aminoacetic acid	0.42 0.119°	0.41 0.235°	0.41 0.470°	— —	— —	0.41 0.52°	2.20% 2.20%
Aminocaproic acid	0.26 0.075°	0.26 0.148°	0.26 0.297°	0.26 0.444°	— —	— —	— —
p-Aminohippuric acid	0.13 0.035°	0.13 0.075°	— —	— —	— —	— —	— —
Aminophylline	0.18 0.056°	0.17 0.100°	— —	— —	— —	— —	— —
p-Aminosalicylate sodium	0.30 0.086°	0.29 0.169°	0.29 0.326°	0.28 0.479°	— —	0.27 0.52°	3.27% 3.27%
Amitriptyline hydrochloride	0.24 0.070°	0.18 0.100°	0.11 0.125°	0.08 0.147°	0.06 0.177°	— —	— —
Ammonium carbonate	0.70 0.202°	0.70 0.405°	— —	— —	— —	0.70 0.52°	1.29% 1.29%
Ammonium chloride	1.16 0.331°	— —	— —	— —	— —	1.12 0.52°	0.8% 0.8%
Ammonium lactate	0.33 0.093°	0.33 0.185°	0.33 0.370°	— —	— —	0.33 0.52°	2.76% 2.76%
Ammonium nitrate	0.69 0.200°	0.69 0.400°	— —	— —	— —	0.69 0.52°	1.30% 1.30%
Ammonium phosphate, dibasic	0.58 0.165°	0.55 0.315°	— —	— —	— —	0.51 0.52°	1.76% 1.76%
Ammonium sulfate	0.55 0.158°	0.55 0.315°	— —	— —	— —	0.54 0.52°	1.68% 1.68%
Amobarbital sodium	0.26 0.074°	0.25 0.144°	0.25 0.293°	0.25 0.440°	— —	0.25 0.52°	3.6% 3.6%
Amphetamine phosphate	0.38 0.114°	0.34 0.196°	0.30 0.338°	0.27 0.466°	— —	0.26 0.52°	3.47% 3.47%
Amphetamine sulfate	0.22 0.066°	0.22 0.128°	0.22 0.251°	0.21 0.371°	— —	0.21 0.52°	4.23% 4.23%
Ampicillin sodium	0.16 0.045°	0.16 0.090°	0.16 0.181°	0.16 0.272°	0.16 0.451°	0.16 0.52°	5.78% 5.78%
Amprotropine phosphate	0.19 0.058°	0.18 0.106°	0.17 0.196°	0.16 0.281°	0.15 0.445°	— —	— —
Amydracaine hydrochloride	0.28 0.080°	0.24 0.136°	0.20 0.231°	0.18 0.316°	0.16 0.467°	0.16 0.52°	5.74% 5.74%
Amydracaine nitrate	0.20 0.058°	0.19 0.106°	0.18 0.199°	0.17 0.289°	0.16 0.461°	0.16 0.52°	5.68% 5.68%

MISC-48

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents						At Isosmotic Concentration
	½%	1%	2%	3%	5%		
Anileridine hydrochloride	0.19 0.052°	0.19 0.104°	0.19 0.212°	0.18 0.316°	0.18 0.509°	0.18 0.52°	5.13%
Antazoline hydrochloride	0.25 0.073°	0.23 0.131°	0.21 0.245°	— —	— —	— —	
Antazoline phosphate	0.20 0.062°	0.20 0.112°	0.18 0.204°	0.17 0.291°	0.15 0.445°	— —	
Antimony potassium tartrate	0.22 0.065°	0.18 0.106°	0.15 0.174°	0.13 0.232°	0.10 0.331°	— —	
Antipyrine	0.18 0.050°	0.17 0.094°	0.16 0.174°	0.14 0.250°	0.14 0.394°	0.13 0.52°	6.81%
Apomorphine hydrochloride	0.14 0.041°	0.14 0.080°	0.14 0.155°	— —	— —	— —	
Arecoline hydrobromide	0.30 0.084°	0.27 0.155°	0.25 0.286°	0.24 0.413°	— —	0.23 0.52°	3.88%
Arginine glutamate	0.17 0.048°	0.17 0.097°	0.17 0.195°	0.17 0.292°	0.17 0.487°	0.17 0.52°	5.37%
Arsenic trioxide	0.30 0.085°	0.30 0.169°	— —	— —	— —	— —	
Ascorbic acid	0.20 0.053°	0.18 0.105°	0.18 0.209°	0.18 0.311°	0.18 0.516°	0.18 0.52°	5.94%
Atropine methylnitrate	0.20 0.055°	0.18 0.101°	0.16 0.185°	0.15 0.264°	0.14 0.412°	0.14 0.52°	6.52%
Atropine sulfate	0.14 0.039°	0.13 0.073°	0.12 0.136°	0.11 0.196°	0.11 0.311°	0.10 0.52°	8.85%
Aurothioglucose	0.03 0.007°	0.03 0.014°	0.03 0.028°	0.03 0.044°	0.03 0.073°	— —	
Bacitracin	0.06 0.016°	0.05 0.028°	0.05 0.052°	0.04 0.075°	0.04 0.120°	— —	
Barbital sodium	0.32 0.087°	0.30 0.171°	0.29 0.336°	0.29 0.500°	— —	0.29 0.52°	3.12%
Benoxinate hydrochloride	0.20 0.061°	0.18 0.104°	0.15 0.175°	0.14 0.239°	— —	— —	
Benzalkonium chloride	0.18 0.048°	0.16 0.091°	0.15 0.170°	0.14 0.245°	0.13 0.388°	— —	
Benzethonium chloride	0.08 0.022°	0.05 0.028°	0.03 0.037°	0.02 0.043°	0.02 0.051°	— —	
Benzpyrinium bromide	0.20 0.061°	0.20 0.114°	0.19 0.213°	0.18 0.309°	0.17 0.483°	— —	
Benzquinamide hydrochloride	0.14 0.041°	0.14 0.079°	0.13 0.150°	0.12 0.216°	— —	— —	
Benztropine mesylate	0.26 0.073°	0.21 0.115°	0.15 0.170°	0.12 0.203°	0.09 0.242°	— —	
Benzyl alcohol	0.18 0.049°	0.17 0.095°	0.16 0.182°	0.15 0.266°	— —	— —	
Benzylpenicillin potassium	0.18 0.052°	0.18 0.101°	0.17 0.197°	0.17 0.290°	0.16 0.474°	0.16 0.52°	5.48%

MISC-49



Nalox1039

Nalox-1 Pharmaceuticals, LLC

Page 6 of 17

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents						At Isosmotic Concentration
	½%	1%	2%	3%	5%		
Benzylpenicillin sodium	0.18 0.052°	0.18 0.100°	0.17 0.190°	0.16 0.280°	0.16 0.451°	— —	
Betazole hydrochloride	0.54 0.158°	0.51 0.294°	— —	— —	— —	0.47 0.52°	1.91% 1.91%
Bethanechol chloride	0.50 0.140°	0.39 0.225°	0.32 0.368°	0.30 0.512°	— —	0.30 0.52°	3.05% 3.05%
Bismuth potassium tartrate	0.10 0.033°	0.09 0.051°	0.07 0.080°	0.06 0.103°	0.05 0.142°	— —	
Bismuth sodium tartrate	0.14 0.041°	0.13 0.075°	0.13 0.139°	0.12 0.199°	0.11 0.312°	0.10 0.52°	8.91% 8.91%
Boric acid	0.52 0.146°	0.50 0.283°	— —	— —	— —	0.47 0.52°	1.9% 1.9%
Bretylum tosylate	0.16 0.043°	0.14 0.081°	0.13 0.148°	0.12 0.208°	0.11 0.327°	— —	
Bromodiphenhydramine hydrochloride	0.20 0.067°	0.17 0.106°	0.14 0.166°	0.10 0.186°	0.07 0.209°	— —	
Brompheniramine maleate	0.10 0.026°	0.09 0.050°	0.08 0.084°	— —	— —	— —	
Bupivacaine hydrochloride	0.17 0.048°	0.17 0.096°	0.17 0.193°	0.17 0.290°	0.17 0.484°	0.17 0.52°	5.38% 5.38%
Butabarbital sodium	0.27 0.078°	0.27 0.155°	0.27 0.313°	0.27 0.470°	— —	0.27 0.52°	3.33% 3.33%
Butacaine sulfate	0.26 0.073°	0.20 0.114°	0.16 0.175°	0.13 0.223°	0.10 0.304°	— —	
Butethamine formate	0.28 0.077°	0.26 0.148°	0.24 0.266°	0.21 0.370°	— —	0.20 0.52°	4.56% 4.56%
Butethamine hydrochloride	0.28 0.079°	0.25 0.141°	0.22 0.251°	— —	— —	— —	
Caffeine	0.08 0.025°	0.08 0.048°	— —	— —	— —	— —	
Calcium aminosalicylate	0.30 0.091°	0.27 0.154°	0.23 0.264°	0.21 0.361°	— —	— —	
Calcium chloride (2H ₂ O)	0.50 0.145°	0.51 0.298°	— —	— —	— —	0.53 0.52°	1.70% 1.70%
Calcium chloride (6H ₂ O)	0.34 0.097°	0.35 0.200°	0.36 0.414°	— —	— —	0.36 0.52°	2.5% 2.5%
Calcium chloride, anhydrous	0.66 0.191°	0.68 0.395°	— —	— —	— —	0.69 0.52°	1.3% 1.3%
Calcium disodium edetate	0.21 0.061°	0.21 0.120°	0.21 0.240°	0.20 0.357°	— —	0.20 0.52°	4.50% 4.50%
Calcium gluconate	0.18 0.050°	0.16 0.091°	0.15 0.167°	0.14 0.237°	— —	— —	
Calcium lactate	0.26 0.073°	0.23 0.135°	0.22 0.253°	0.21 0.370°	— —	0.20 0.52°	4.5% 4.5%
Calcium lactobionate	0.08 0.022°	0.08 0.043°	0.08 0.085°	0.07 0.126°	0.07 0.197°	— —	

MISC-50

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents						At Isosmotic Concentration
	½%	1%	2%	3%	5%		
Calcium levulinate	0.30 0.080°	0.27 0.155°	0.26 0.304°	0.25 0.442°	—	—	
Calcium pantothenate	0.20 0.055°	0.19 0.105°	0.18 0.201°	0.17 0.293°	0.16 0.470°	0.16 0.52°	5.6% 5.6%
Capreomycin sulfate	0.04 0.011°	0.04 0.020°	0.04 0.042°	0.04 0.063°	0.04 0.106°	—	
Carbachol	0.40 0.108°	0.36 0.203°	0.34 0.383°	—	—	0.32 0.52°	2.82% 2.82%
Carbazochrome salicylate	0.38 0.106°	0.36 0.210°	0.36 0.410°	—	—	0.35 0.52°	2.57% 2.57%
Carbenicillin disodium	0.20 0.059°	0.20 0.118°	0.20 0.236°	0.20 0.355°	—	0.20 0.52°	4.40% 4.40%
Cefamandole nafate	0.16 0.045°	0.14 0.079°	0.12 0.137°	0.11 0.187°	0.10 0.290°	—	
Cefazolin sodium	0.14 0.042°	0.13 0.074°	0.12 0.132°	0.11 0.190°	0.11 0.303°	—	
Cefoxitin sodium	0.18 0.050°	0.16 0.092°	0.15 0.166°	0.14 0.238°	0.13 0.384°	—	
Cephaloridine	0.09 0.023°	0.07 0.041°	0.06 0.074°	0.06 0.106°	0.05 0.145°	—	
Cephalothin sodium	0.18 0.050°	0.17 0.095°	0.16 0.179°	0.15 0.259°	0.14 0.400°	0.13 0.52°	6.80% 6.80%
Cephapirin sodium	0.14 0.038°	0.13 0.075°	0.13 0.149°	0.13 0.222°	0.12 0.361°	0.11 0.52°	7.80% 7.80%
Cetrimonium bromide	0.10 0.030°	0.09 0.051°	0.09 0.105°	0.09 0.148°	0.08 0.233°	—	
Chiniofon	0.14 0.039°	0.13 0.073°	0.12 0.139°	0.11 0.200°	—	—	
Chloramine-T	0.24 0.064°	0.23 0.129°	0.22 0.255°	0.22 0.383°	—	0.22 0.52°	4.1% 4.1%
Chloramphenicol sodium succinate	0.14 0.038°	0.14 0.078°	0.14 0.154°	0.13 0.230°	0.13 0.382°	0.13 0.52°	6.83% 6.83%
Chlorcyclizine hydrochloride	0.24 0.068°	0.17 0.095°	0.12 0.132°	0.09 0.161°	0.07 0.205°	—	
Chlordiazepoxide hydrochloride	0.24 0.068°	0.22 0.125°	0.19 0.220°	0.18 0.315°	0.17 0.487°	0.16 0.52°	5.50% 5.50%
Chlorobutanol, hydrated	0.24 0.071°	—	—	—	—	—	
Chlorophyll	0.14 0.037°	0.10 0.056°	0.08 0.087°	0.06 0.113°	0.05 0.154°	—	
2-Chloroprocaine hydrochloride	0.20 0.054°	0.20 0.108°	0.18 0.210°	—	—	—	
Chloroquine phosphate	0.14 0.039°	0.14 0.082°	0.14 0.162°	0.14 0.242°	0.13 0.379°	0.13 0.52°	7.15% 7.15%
Chloroquine sulfate	0.10 0.028°	0.09 0.050°	0.08 0.090°	0.07 0.127°	0.07 0.195°	—	

MISC-51



Nalox1039

Nalox-1 Pharmaceuticals, LLC

Page 8 of 17

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents					At Isosmotic Concentration	
	½%	1%	2%	3%	5%		
Chlorpheniramine maleate	0.18 0.049°	0.17 0.087°	0.14 0.160°	0.12 0.223°	0.09 0.268°	— —	— —
Chlorpromazine hydrochloride	0.18 0.052°	0.10 0.058°	0.06 0.069°	0.05 0.078°	0.03 0.100°	— —	— —
Chlortetracycline hydrochloride	0.10 0.030°	0.10 0.061°	0.10 0.121°	— —	— —	— —	— —
Chlortetracycline sulfate	0.16 0.047°	0.13 0.077°	0.11 0.127°	0.10 0.170°	— —	— —	— —
Citric acid	0.18 0.050°	0.18 0.098°	0.17 0.193°	0.17 0.287°	0.16 0.472°	0.16 0.52°	5.52% 5.52%
Clindamycin phosphate	0.08 0.022°	0.08 0.046°	0.08 0.095°	0.08 0.144°	0.08 0.242°	0.08 0.52°	10.73% 10.73%
Cocaine hydrochloride	0.16 0.047°	0.16 0.091°	0.16 0.175°	0.15 0.256°	0.14 0.416°	0.14 0.52°	6.33% 6.33%
Codeine hydrochloride	0.16 0.045°	0.15 0.087°	0.15 0.171°	0.15 0.253°	— —	— —	— —
Codeine phosphate	0.14 0.040°	0.14 0.078°	0.13 0.151°	0.13 0.223°	0.13 0.362°	0.12 0.52°	7.29% 7.29%
Colistimethate sodium	0.15 0.045°	0.15 0.085°	0.15 0.170°	0.15 0.253°	0.14 0.411°	0.13 0.52°	6.73% 6.73%
Congo red	0.05 0.015°	0.05 0.030°	0.05 0.059°	0.05 0.092°	0.05 0.151°	— —	— —
Cupric sulfate	0.20 0.054°	0.18 0.098°	0.16 0.179°	0.15 0.254°	0.14 0.396°	0.13 0.52°	6.85% 6.85%
Cupric sulfate, anhydrous	0.30 0.084°	0.27 0.153°	0.25 0.280°	0.23 0.397°	— —	0.22 0.52°	4.09% 4.09%
Cyclizine hydrochloride	0.20 0.060°	— —	— —	— —	— —	— —	— —
Cyclomethycaine sulfate	0.16 0.046°	0.13 0.076°	0.11 0.126°	0.10 0.169°	0.09 0.245°	— —	— —
Cyclopentamine hydrochloride	0.36 0.104°	0.36 0.204°	0.35 0.392°	— —	— —	0.34 0.52°	2.68% 2.68%
Cyclopentolate hydrochloride	0.22 0.061°	0.20 0.117°	0.19 0.218°	0.18 0.319°	0.17 0.499°	0.17 0.52°	5.30% 5.30%
Cyclophosphamide	0.10 0.031°	0.10 0.061°	0.10 0.125°	— —	— —	— —	— —
Cytarabine	0.11 0.034°	0.11 0.066°	0.11 0.134°	0.11 0.198°	0.11 0.317°	0.10 0.52°	8.92% 8.92%
Decamethonium bromide	0.29 0.084°	0.25 0.144°	0.22 0.256°	0.20 0.350°	0.18 0.520°	0.18 0.52°	5.0% 5.0%
Deferoxamine mesylate	0.09 0.023°	0.09 0.047°	0.09 0.093°	0.09 0.142°	0.09 0.241°	— —	— —
Demecarium bromide	0.14 0.038°	0.12 0.069°	0.10 0.108°	0.08 0.139°	0.07 0.192°	— —	— —
Dexamethasone sodium phosphate	0.18 0.050°	0.17 0.095°	0.16 0.180°	0.15 0.260°	0.14 0.410°	0.13 0.52°	6.75% 6.75%

MISC-52

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents					At Isosmotic Concentration	
	½%	1%	2%	3%	5%		
Dexchlorpheniramine maleate	0.17 0.048°	0.15 0.085°	0.14 0.165°	0.13 0.220°	0.09 0.265°	—	—
Dexpanthenol	0.20 0.053°	0.18 0.100°	0.17 0.193°	0.17 0.283°	0.16 0.468°	0.16 0.52°	5.60% 5.60%
Dextroamphetamine hydrochloride	0.34 0.097°	0.34 0.196°	0.34 0.392°	— —	— —	0.34 0.52°	2.64% 2.64%
Dextroamphetamine phosphate	0.25 0.072°	0.25 0.144°	0.25 0.288°	0.25 0.432°	— —	0.25 0.52°	3.62% 3.62%
Dextroamphetamine sulfate	0.24 0.069°	0.23 0.134°	0.22 0.259°	0.22 0.380°	— —	0.22 0.52°	4.16% 4.16%
Dextrose	0.16 0.045°	0.16 0.091°	0.16 0.184°	0.16 0.279°	0.16 0.470°	0.16 0.52°	5.51% 5.51%
Dextrose, anhydrous	0.18 0.050°	0.18 0.100°	0.18 0.205°	0.18 0.310°	0.18 0.516°	0.18 0.52°	5.05% 5.05%
Diatrizoate sodium	0.10 0.025°	0.09 0.049°	0.09 0.098°	0.09 0.149°	0.09 0.248°	0.09 0.52°	10.55% 10.55%
Dibucaine hydrochloride	0.14 0.040°	0.13 0.076°	0.12 0.139°	0.11 0.188°	0.08 0.223°	— —	— —
Dibutoline sulfate	0.18 0.049°	0.16 0.093°	0.15 0.175°	0.15 0.259°	0.14 0.416°	— —	— —
Dichlorophenarsine hydrochloride	0.55 0.150°	0.55 0.310°	— —	— —	— —	0.55 0.52°	1.64% 1.64%
Dicloxacillin sodium (monohydrate)	0.10 0.030°	0.10 0.061°	0.10 0.122°	0.10 0.182°	— —	— —	— —
Dicyclomine hydrochloride	0.18 0.052°	0.18 0.102°	0.17 0.201°	0.17 0.298°	— —	— —	— —
Diethanolamine	0.31 0.089°	0.31 0.177°	0.31 0.358°	— —	— —	0.31 0.52°	2.90% 2.90%
Diethylcarbazine citrate	0.14 0.042°	0.14 0.083°	0.14 0.166°	0.14 0.248°	0.14 0.415°	0.14 0.52°	6.29% 6.29%
Dihydrocodeinone enol acetate hydrochloride	0.15 0.042°	0.14 0.080°	0.13 0.151°	0.13 0.217°	0.12 0.347°	0.12 0.52°	7.76% 7.76%
Dihydrostreptomycin sulfate	0.08 0.017°	0.06 0.032°	0.06 0.059°	0.05 0.086°	0.05 0.137°	0.04 0.52°	21.4% 21.4%
Dimethindene maleate	0.13 0.039°	0.12 0.070°	0.11 0.120°	— —	— —	— —	— —
Dimethyl sulfoxide	0.42 0.122°	0.42 0.245°	0.42 0.480°	— —	— —	0.42 0.52°	2.16% 2.16%
Diperodon hydrochloride	0.15 0.045°	0.14 0.079°	0.13 0.141°	— —	— —	— —	— —
Diphemanyl methylsulfate	0.16 0.047°	0.15 0.088°	— —	— —	— —	— —	— —
Diphenhydramine hydrochloride	0.34 0.099°	0.27 0.158°	0.22 0.256°	0.20 0.338°	0.17 0.477°	— —	— —
Diphenidol hydrochloride	0.16 0.045°	0.16 0.090°	0.16 0.180°	— —	— —	— —	— —

MISC-53

Nalox1039

Nalox-1 Pharmaceuticals, LLC

Page 10 of 17

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents						At Isosmotic Concentration
	½%	1%	2%	3%	5%		
Dipyrone	0.20 0.057°	0.19 0.115°	0.19 0.223°	0.19 0.338°	— —	0.19 0.52°	4.65% 4.65%
Disodium edetate	0.24 0.070°	0.23 0.132°	0.22 0.248°	0.21 0.360°	— —	0.20 0.52°	4.44% 4.44%
Dobutamine hydrochloride	0.20 0.053°	0.18 0.101°	0.16 0.188°	— —	— —	— —	— —
Dopamine hydrochloride	0.30 0.085°	0.30 0.170°	0.29 0.335°	0.29 0.502°	— —	0.29 0.52°	3.11% 3.11%
Doxapram hydrochloride	0.12 0.035°	0.12 0.070°	0.12 0.140°	0.12 0.210°	— —	— —	— —
Doxycycline hyclate	0.12 0.035°	0.12 0.072°	0.12 0.134°	0.11 0.186°	0.09 0.264°	— —	— —
Dyclonine hydrochloride	0.26 0.073°	0.24 0.135°	0.17 0.190°	— —	— —	— —	— —
Dyphylline	0.10 0.025°	0.10 0.052°	0.09 0.104°	0.09 0.155°	0.08 0.245°	— —	— —
Echothiopate iodide	0.16 0.045°	0.16 0.090°	0.16 0.179°	— —	— —	— —	— —
Edrophonium chloride	0.32 0.093°	0.31 0.175°	0.29 0.326°	0.27 0.473°	— —	0.27 0.52°	3.36% 3.36%
Emetine hydrochloride	0.12 0.033°	0.10 0.062°	0.10 0.118°	0.10 0.171°	0.10 0.274°	— —	— —
Ephedrine hydrochloride	0.32 0.087°	0.30 0.169°	0.29 0.331°	0.28 0.489°	— —	0.28 0.52°	3.2% 3.2%
Ephedrine lactate	0.28 0.075°	0.26 0.146°	0.25 0.285°	0.24 0.422°	— —	0.24 0.52°	3.72% 3.72%
Ephedrine sulfate	0.24 0.070°	0.23 0.132°	0.22 0.247°	0.20 0.355°	— —	0.20 0.52°	4.54% 4.54%
Epinephrine bitartrate	0.18 0.050°	0.18 0.098°	0.17 0.190°	0.16 0.281°	0.16 0.458°	0.16 0.52°	5.7% 5.7%
Epinephrine hydrochloride	0.30 0.088°	0.29 0.165°	0.27 0.311°	0.26 0.451°	— —	0.26 0.52°	3.47% 3.47%
Ergonovine maleate	0.20 0.055°	0.16 0.089°	0.13 0.143°	— —	— —	— —	— —
Erythromycin glucoheptonate	0.08 0.021°	0.07 0.042°	0.07 0.081°	0.07 0.120°	0.07 0.194°	— —	— —
Erythromycin lactobionate	0.08 0.020°	0.07 0.040°	0.07 0.078°	0.07 0.115°	0.06 0.187°	— —	— —
Ethaverine hydrochloride	0.14 0.037°	0.12 0.072°	— —	— —	— —	— —	— —
Ethylenediamine	0.46 0.130°	0.44 0.255°	0.43 0.501°	— —	— —	— —	— —
Ethylhydrocupreine hydrochloride	0.22 0.063°	0.17 0.098°	0.13 0.151°	0.11 0.196°	0.09 0.270°	— —	— —
Ethylmorphine hydrochloride	0.16 0.045°	0.16 0.088°	0.15 0.173°	0.15 0.257°	0.15 0.423°	0.15 0.52°	6.18% 6.18%

MISC-54

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents					At Isosmotic Concentration	
	½%	1%	2%	3%	5%		
Ethylnorepinephrine hydrochloride	0.36 0.104°	0.32 0.188°	0.29 0.334°	0.28 0.477°	— —	0.27 0.52°	3.32% 3.32%
Etidocaine hydrochloride	0.18 0.051°	0.18 0.102°	0.18 0.204°	0.18 0.306°	0.18 0.510°	0.18 0.52°	5.08% 5.08%
Evans blue	0.06 0.017°	0.06 0.033°	0.06 0.061°	0.05 0.091°	0.05 0.148°	— —	— —
Ferric ammonium citrate, green	0.18 0.054°	0.17 0.098°	0.16 0.179°	0.15 0.255°	0.14 0.397°	— —	— —
Ferric cacodylate	0.10 0.023°	0.09 0.046°	0.08 0.093°	— —	— —	— —	— —
Ferrous gluconate	0.16 0.048°	0.15 0.086°	0.14 0.154°	0.12 0.216°	0.11 0.330°	— —	— —
Ferrous lactate	0.22 0.062°	0.21 0.121°	0.21 0.237°	— —	— —	— —	— —
Floxuridine	0.14 0.040°	0.13 0.076°	0.13 0.147°	0.12 0.213°	0.12 0.335°	0.12 0.52°	8.47% 8.47%
Fluorescein sodium	0.36 0.099°	0.31 0.182°	0.29 0.332°	0.27 0.472°	— —	0.27 0.52°	3.34% 3.34%
Fluphenazine dihydrochloride	0.14 0.041°	0.14 0.082°	0.12 0.145°	0.09 0.155°	— —	— —	— —
Folinic acid-SF calcium	0.06 0.013°	0.05 0.026°	0.05 0.052°	0.04 0.077°	0.04 0.126°	— —	— —
D-Fructose	0.18 0.050°	0.18 0.100°	0.18 0.205°	0.18 0.310°	0.18 0.516°	0.18 0.52°	5.05% 5.05%
Furtrethonium iodide	0.24 0.070°	0.24 0.133°	0.22 0.250°	0.21 0.360°	— —	0.20 0.52°	4.44% 4.44%
Galactose, anhydrous	0.18 0.053°	0.18 0.105°	0.18 0.210°	0.18 0.316°	— —	0.18 0.52°	4.92% 4.92%
Gallamine triethiodide	0.08 0.022°	0.08 0.046°	0.08 0.091°	0.08 0.136°	0.08 0.227°	— —	— —
Gentamicin sulfate	0.05 0.015°	0.05 0.030°	0.05 0.060°	0.05 0.093°	0.05 0.153°	— —	— —
Glucoheptonate calcium	0.12 0.037°	0.12 0.068°	0.11 0.124°	0.10 0.178°	0.10 0.275°	— —	— —
Glucosulfone sodium	0.18 0.049°	0.16 0.089°	0.14 0.162°	0.13 0.233°	0.13 0.366°	— —	— —
D-Glucuronic acid	0.20 0.061°	0.20 0.115°	0.19 0.220°	0.19 0.323°	0.18 0.517°	0.18 0.52°	5.02% 5.02%
L-Glutamic acid	0.25 0.070°	0.25 0.144°	0.25 0.294°	— —	— —	— —	— —
Glycerin	0.36 0.104°	0.35 0.202°	0.35 0.403°	— —	— —	0.35 0.52°	2.6% 2.6%
Glycine	0.41 0.118°	0.41 0.235°	0.41 0.470°	— —	— —	0.41 0.52°	2.19% 2.19%
Glycopyrrolate	0.15 0.042°	0.15 0.084°	0.15 0.166°	0.14 0.242°	0.13 0.381°	0.12 0.52°	7.22% 7.22%

MISC-55



Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents					At Isosmotic Concentration	
	½%	1%	2%	3%	5%		
Gnoscopine hydrochloride	0.11 0.032°	0.10 0.056°	0.09 0.102°	0.08 0.144°	0.08 0.222°	— —	
Gold sodium thiomalate	0.10 0.032°	0.10 0.061°	0.10 0.111°	0.09 0.159°	0.09 0.250°	— —	
Guanidine hydrochloride	0.72 0.208°	0.65 0.376°	— —	— —	— —	0.61 0.52°	1.47% 1.47%
Heparin sodium	0.07 0.021°	0.07 0.042°	0.07 0.084°	0.07 0.128°	0.07 0.213°	0.07 0.52°	12.2% 12.2%
Hetacillin potassium	0.17 0.048°	0.17 0.095°	0.17 0.190°	0.17 0.284°	0.17 0.474°	0.17 0.52°	5.50% 5.50%
Hexafluorenum bromide	0.12 0.033°	0.11 0.065°	— —	— —	— —	— —	
Hexamethonium bromide	0.24 0.069°	0.22 0.126°	0.20 0.233°	0.19 0.330°	— —	0.18 0.52°	4.99% 4.99%
Hexamethonium chloride	0.27 0.078°	0.27 0.156°	0.27 0.315°	0.27 0.477°	— —	0.27 0.52°	3.3% 3.3%
Hexamethonium tartrate	0.16 0.045°	0.16 0.089°	0.16 0.181°	0.16 0.271°	0.16 0.456°	0.16 0.52°	5.68% 5.68%
Hexamethylenamine sodium acetaminosalicylate	0.18 0.049°	0.18 0.099°	0.17 0.199°	0.17 0.297°	0.16 0.485°	0.16 0.52°	5.48% 5.48%
Hexobarbital sodium	0.28 0.078°	0.26 0.148°	0.25 0.282°	0.24 0.409°	— —	0.23 0.52°	3.88% 3.88%
Hexylcaine hydrochloride	0.28 0.084°	0.26 0.151°	0.24 0.270°	0.22 0.380°	— —	— —	
Histamine dihydrochloride	0.40 0.115°	0.40 0.233°	0.40 0.466°	— —	— —	0.40 0.52°	2.24% 2.24%
Histamine phosphate	0.28 0.080°	0.25 0.148°	0.24 0.274°	0.23 0.394°	— —	0.22 0.52°	4.1% 4.1%
Histidine monohydrochloride	0.30 0.082°	0.29 0.162°	0.28 0.313°	0.26 0.460°	— —	— —	
Homatropine hydrobromide	0.18 0.049°	0.17 0.096°	0.17 0.189°	0.16 0.280°	0.16 0.461°	0.16 0.52°	5.67% 5.67%
Homatropine methyl bromide	0.20 0.060°	0.19 0.106°	0.17 0.184°	0.15 0.256°	0.13 0.392°	— —	
Hyaluronidase	0.01 0.004°	0.01 0.007°	0.01 0.013°	0.01 0.020°	0.01 0.033°	— —	
Hydralazine hydrochloride	0.44 0.126°	0.37 0.213°	— —	— —	— —	— —	
Hydrastine hydrochloride	0.18 0.052°	0.15 0.089°	0.14 0.153°	0.12 0.208°	0.11 0.312°	— —	
Hydromorphone hydrochloride	0.26 0.073°	0.22 0.124°	0.19 0.211°	0.17 0.288°	0.15 0.429°	0.14 0.52°	6.39% 6.39%
Hydroxyamphetamine hydrobromide	0.28 0.083°	0.26 0.156°	0.26 0.298°	0.25 0.435°	— —	0.24 0.52°	3.71% 3.71%
Hydroxychloroquine phosphate	0.20 0.059°	0.18 0.104°	0.16 0.181°	0.15 0.256°	0.13 0.388°	— —	

MISC-56

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents						At Isosmotic Concentration
	½%	1%	2%	3%	5%		
8-Hydroxyquinoline sulfate	0.26 0.071°	0.21 0.113°	0.16 0.180°	0.14 0.235°	0.12 0.330°	0.11 0.52°	9.75% 9.75%
Hydroxystilbamidine isethionate	0.20 0.060°	0.16 0.090°	0.12 0.137°	0.10 0.170°	0.07 0.216°	— —	
Hydroxyzine hydrochloride	0.26 0.075°	0.25 0.138°	0.22 0.251°	0.20 0.345°	0.16 0.458°	0.14 0.52°	6.32% 6.32%
Hyoscyamine hydrobromide	0.20 0.059°	0.19 0.106°	0.17 0.191°	0.16 0.270°	0.14 0.417°	— —	
Hyoscyamine sulfate	0.17 0.048°	0.15 0.085°	0.13 0.149°	0.12 0.208°	0.11 0.312°	— —	
Imipramine hydrochloride	0.20 0.058°	0.20 0.110°	— —	— —	— —	— —	
Indigotindisulfonate sodium	0.30 0.085°	0.30 0.172°	— —	— —	— —	— —	
o-Iodhippurate sodium	0.16 0.047°	0.16 0.091°	0.16 0.180°	0.15 0.267°	0.15 0.442°	0.15 0.52°	5.92% 5.92%
Iodophthalein sodium	0.20 0.055°	0.17 0.093°	0.14 0.159°	0.12 0.216°	0.11 0.319°	0.09 0.52°	9.58% 9.58%
Iodopyracet	0.12 0.036°	0.11 0.067°	0.11 0.127°	0.11 0.185°	0.10 0.298°	0.10 0.52°	9.21% 9.21%
Iodopyracet diethylamine	0.14 0.035°	0.12 0.068°	0.12 0.130°	0.11 0.190°	0.11 0.308°	0.10 0.52°	8.73% 8.73%
Isoetharine hydrochloride	0.24 0.068°	0.23 0.132°	0.22 0.250°	0.21 0.368°	— —	0.21 0.52°	4.27% 4.27%
Isometheptene mucate	0.18 0.048°	0.18 0.095°	0.18 0.196°	0.18 0.302°	— —	0.18 0.52°	4.95% 4.95%
Isoniazid	0.28 0.079°	0.25 0.144°	0.23 0.266°	0.22 0.378°	— —	0.21 0.52°	4.35% 4.35%
Isoproterenol sulfate	0.14 0.039°	0.14 0.078°	0.14 0.156°	0.14 0.234°	0.14 0.389°	0.14 0.52°	6.65% 6.65%
Kanamycin sulfate	0.08 0.021°	0.07 0.041°	0.07 0.083°	0.07 0.125°	0.07 0.210°	— —	
Ketamine hydrochloride	0.21 0.061°	0.21 0.122°	0.21 0.244°	0.21 0.366°	— —	0.21 0.52°	4.29% 4.29%
Lactic acid	0.44 0.124°	0.41 0.237°	0.39 0.457°	— —	— —	0.39 0.52°	2.3% 2.3%
Lactose	0.06 0.019°	0.07 0.040°	0.08 0.088°	0.08 0.139°	0.09 0.246°	0.09 0.52°	9.75% 9.75%
Levallorphan tartrate	0.13 0.036°	0.13 0.073°	0.13 0.143°	0.12 0.210°	0.12 0.329°	0.10 0.52°	9.40% 9.40%
Levorphanol tartrate	0.12 0.033°	0.12 0.067°	0.12 0.136°	0.12 0.203°	— —	— —	
Lidocaine hydrochloride	0.22 0.065°	0.22 0.125°	0.21 0.243°	0.21 0.358°	— —	0.20 0.52°	4.42% 4.42%
Lincomycin hydrochloride	0.16 0.045°	0.16 0.090°	0.15 0.170°	0.14 0.247°	0.14 0.400°	0.14 0.52°	6.60% 6.60%

MISC-57

Nalox1039

Nalox-1 Pharmaceuticals, LLC

Page 14 of 17

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents						At Isosmotic Concentration
	½%	1%	2%	3%	5%		
Lobeline hydrochloride	0.16 0.047°	0.16 0.091°	0.16 0.174°	— —	— —	— —	
Lyapolate sodium	0.10 0.025°	0.09 0.051°	0.09 0.103°	0.09 0.157°	0.09 0.263°	0.09 0.52°	9.96% 9.96%
Mafenide hydrochloride	0.27 0.075°	0.27 0.153°	0.27 0.303°	0.26 0.448°	— —	0.25 0.52°	3.55% 3.55%
Magnesium chloride	0.48 0.136°	0.45 0.260°	0.45 0.515°	— —	— —	0.45 0.52°	2.02% 2.02%
Magnesium sulfate	0.18 0.049°	0.17 0.094°	0.16 0.178°	0.15 0.261°	0.15 0.419°	0.14 0.52°	6.3% 6.3%
Magnesium sulfate, anhydrous	0.34 0.093°	0.32 0.184°	0.30 0.345°	0.29 0.495°	— —	0.28 0.52°	3.18% 3.18%
Mannitol	0.16 0.047°	0.17 0.099°	0.17 0.200°	0.17 0.304°	0.18 0.514°	0.18 0.52°	5.07% 5.07%
Menadiol sodium diphosphate	0.27 0.078°	0.25 0.142°	0.23 0.262°	0.21 0.372°	— —	— —	
Menadione sodium bisulfite	0.20 0.057°	0.20 0.110°	0.19 0.213°	0.18 0.315°	0.18 0.511°	0.18 0.52°	5.07% 5.07%
Meperidine hydrochloride	0.24 0.066°	0.22 0.124°	0.21 0.235°	0.20 0.340°	— —	0.19 0.52°	4.8% 4.8%
Mephenesin	0.19 0.055°	0.19 0.108°	— —	— —	— —	— —	
Mephentermine sulfate	0.24 0.069°	0.22 0.131°	0.21 0.245°	0.20 0.346°	— —	0.19 0.52°	4.74% 4.74%
Mepivacaine hydrochloride	0.21 0.060°	0.21 0.116°	0.20 0.230°	0.20 0.342°	— —	0.20 0.52°	4.6% 4.6%
Merbromin	0.16 0.044°	0.14 0.081°	0.12 0.136°	0.11 0.185°	0.09 0.272°	— —	
Mercaptomerin sodium	0.19 0.056°	0.18 0.107°	0.18 0.206°	0.18 0.308°	0.17 0.494°	— —	
Mercuric cyanide	0.16 0.047°	0.15 0.087°	0.15 0.166°	0.14 0.239°	0.13 0.383°	— —	
Mercurophylline	0.14 0.042°	0.13 0.073°	0.11 0.126°	0.10 0.175°	0.09 0.262°	— —	
Mercury bichloride	0.14 0.038°	0.13 0.073°	0.12 0.140°	0.12 0.206°	0.10 0.334°	— —	
Mersalyl	0.14 0.041°	0.12 0.063°	0.11 0.122°	0.11 0.181°	0.10 0.294°	0.10 0.52°	9.06% 9.06%
Mesoridazine besylate	0.10 0.024°	0.07 0.040°	0.05 0.058°	0.04 0.071°	0.03 0.087°	— —	
Metaraminol bitartrate	0.20 0.060°	0.20 0.112°	0.19 0.210°	0.18 0.308°	0.17 0.505°	0.17 0.52°	5.17% 5.17%
Methacholine bromide	0.29 0.087°	0.28 0.164°	0.26 0.298°	0.24 0.425°	— —	0.24 0.52°	3.77% 3.77%
Methacholine chloride	0.34 0.099°	0.32 0.181°	0.30 0.388°	0.28 0.494°	— —	0.28 0.52°	3.21% 3.21%

MISC-58

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents						At Isosmotic Concentration
	½%	1%	2%	3%	5%		
Methadone hydrochloride	0.22 0.060°	0.18 0.101°	0.15 0.171°	0.14 0.232°	0.12 0.344°	0.10 0.52°	8.59% 8.59%
Methamphetamine hydrochloride	0.38 0.112°	0.37 0.208°	0.34 0.388°	— —	— —	0.33 0.52°	2.75% 2.75%
Methantheline bromide	0.22 0.063°	0.15 0.089°	0.11 0.124°	0.09 0.151°	0.07 0.190°	— —	
Methapyrilene hydrochloride	0.20 0.060°	0.19 0.112°	0.18 0.213°	0.18 0.308°	0.17 0.488°	0.17 0.52°	5.35% 5.35%
Methdilazine hydrochloride	0.12 0.035°	0.10 0.056°	0.08 0.080°	0.06 0.093°	0.04 0.112°	— —	
Methenamine	0.22 0.061°	0.23 0.129°	0.24 0.271°	0.24 0.418°	— —	0.24 0.52°	3.68% 3.68%
Methicillin sodium	0.18 0.050°	0.18 0.099°	0.17 0.192°	0.16 0.281°	0.15 0.445°	0.15 0.52°	6.00% 6.00%
Methiodal sodium	0.24 0.068°	0.24 0.136°	0.24 0.274°	0.24 0.410°	— —	0.24 0.52°	3.81% 3.81%
Methionine	0.32 0.091°	0.28 0.160°	0.25 0.285°	— —	— —	— —	
Methitural sodium	0.26 0.074°	0.25 0.142°	0.24 0.275°	0.23 0.407°	— —	0.23 0.52°	3.85% 3.85%
Methocarbamol	0.10 0.030°	0.10 0.060°	— —	— —	— —	— —	
Methotrimeprazine hydrochloride	0.12 0.034°	0.10 0.060°	0.07 0.077°	0.06 0.094°	0.04 0.125°	— —	
Methoxamine hydrochloride	0.28 0.078°	0.26 0.148°	0.25 0.281°	0.24 0.416°	— —	0.24 0.52°	3.82% 3.82%
Methoxyphenamine hydrochloride	0.26 0.075°	0.26 0.150°	0.26 0.300°	0.26 0.450°	— —	0.26 0.52°	3.47% 3.47%
Methylatropine bromide	0.15 0.045°	0.15 0.086°	0.14 0.162°	0.14 0.236°	0.13 0.380°	0.13 0.52°	7.03% 7.03%
Methyldopa ethyl ester hydrochloride	0.21 0.063°	0.21 0.122°	0.21 0.244°	0.21 0.365°	— —	0.21 0.52°	4.28% 4.28%
Methylergonovine maleate	0.10 0.028°	0.10 0.056°	— —	— —	— —	— —	
N-Methylglucamine	0.20 0.057°	0.20 0.111°	0.18 0.214°	0.18 0.315°	0.18 0.517°	0.18 0.52°	5.02% 5.02%
Methylphenidate hydrochloride	0.22 0.065°	0.22 0.127°	0.22 0.258°	0.22 0.388°	— —	0.22 0.52°	4.07% 4.07%
Methylprednisolone sodium succinate	0.10 0.025°	0.09 0.051°	0.09 0.102°	0.08 0.143°	0.07 0.200°	— —	
Metoclopramide hydrochloride	0.16 0.045°	0.15 0.084°	0.13 0.155°	0.12 0.216°	0.11 0.315°	— —	
Metrizamide	0.04 0.010°	0.04 0.020°	0.03 0.040°	0.03 0.060°	— —	— —	
Minocycline hydrochloride	0.10 0.030°	0.10 0.058°	0.09 0.107°	0.08 0.146°	— —	— —	

MISC-59

Nalox1039

Nalox-1 Pharmaceuticals, LLC

Page 16 of 17

Isotonic Solutions (Continued)

Chemical	Concentration of Solution, NaCl Equivalents					At Isosmotic Concentration	
	½%	1%	2%	3%	5%		
Monoethanolamine	0.53 0.154°	0.53 0.306°	— —	— —	— —	0.53 0.52°	1.70% 1.70%
Morphine hydrochloride	0.16 0.044°	0.15 0.086°	0.15 0.168°	0.14 0.248°	— —	— —	— —
Morphine nitrate	0.22 0.061°	0.19 0.106°	0.16 0.184°	0.15 0.255°	— —	— —	— —
Morphine sulfate	0.16 0.046°	0.14 0.078°	0.12 0.131°	0.11 0.178°	0.09 0.258°	— —	— —
Naepaine hydrochloride	0.24 0.067°	0.22 0.126°	0.20 0.233°	0.19 0.338°	— —	0.18 0.52°	4.98% 4.98%
Nafcillin sodium	0.14 0.039°	0.14 0.078°	0.14 0.158°	0.13 0.219°	0.10 0.285°	— —	— —
Nalbuphine hydrochloride	0.16 0.045°	0.15 0.085°	0.14 0.158°	— —	— —	— —	— —
Nalorphine hydrochloride	0.24 0.070°	0.21 0.121°	0.18 0.210°	0.17 0.288°	0.15 0.434°	0.14 0.52°	6.36% 6.36%
Naloxone hydrochloride	0.14 0.042°	0.14 0.083°	0.14 0.158°	0.13 0.230°	0.13 0.367°	0.11 0.52°	8.07% 8.07%
Naphazoline hydrochloride	0.30 0.084°	0.27 0.155°	0.25 0.286°	0.24 0.413°	— —	0.22 0.52°	3.99% 3.99%
Neoarsphenamine	0.42 0.116°	0.40 0.228°	0.39 0.449°	— —	— —	0.39 0.52°	2.32% 2.32%
Neomycin sulfate	0.14 0.041°	0.12 0.067°	0.10 0.112°	0.09 0.154°	0.08 0.223°	— —	— —
Neostigmine bromide	0.23 0.065°	0.22 0.123°	0.20 0.230°	0.19 0.333°	— —	— —	— —
Neostigmine methyl sulfate	0.22 0.056°	0.20 0.108°	0.18 0.208°	0.18 0.306°	0.17 0.500°	0.17 0.52°	5.22% 5.22%
Nicotinamide	0.30 0.083°	0.26 0.148°	0.23 0.264°	0.21 0.371°	— —	0.20 0.52°	4.49% 4.49%
Nicotinic acid	0.26 0.074°	0.25 0.145°	— —	— —	— —	— —	— —
Nikethamide	0.20 0.053°	0.18 0.100°	0.17 0.190°	0.16 0.276°	0.15 0.443°	0.15 0.52°	5.94% 5.94%
Novobiocin sodium	0.10 0.025°	0.08 0.046°	0.08 0.086°	0.07 0.122°	0.07 0.190°	— —	— —
Oleandomycin phosphate	0.08 0.017°	0.08 0.038°	0.08 0.084°	0.08 0.129°	0.08 0.255°	0.08 0.52°	10.82% 10.82%
Orphenadrine citrate	0.13 0.037°	0.13 0.074°	0.13 0.144°	0.12 0.204°	0.10 0.285°	— —	— —
Oxacillin sodium	0.18 0.050°	0.17 0.095°	0.16 0.177°	0.15 0.257°	0.14 0.408°	0.14 0.52°	6.64% 6.64%
Oxophenarsine hydrochloride	0.24 0.067°	0.24 0.138°	0.24 0.281°	0.24 0.425°	— —	0.24 0.52°	3.67% 3.67%
Oxycodone	0.16 0.043°	0.14 0.081°	0.14 0.155°	0.13 0.226°	0.13 0.363°	0.12 0.52°	7.4% 7.4%

MISC-60