10X Dilutions

Generally, an initial 10X dilution is prepared from the original sample. Further dilutions are then made from this initial dilution. In order to make this 10X dilution, follow the guidelines below for sample size and amount of diluent to use.

General Products			Dairy Products		
Amt of sample		Amt of diluent	Amt of sample		Amt of diluent
10 mL or grams	+	90 mL diluent	11 mL or grams	+	99 mL diluent
50 mL or grams	+	450 mL diluent	55 mL or grams	+	495 mL diluent

Solid samples: Blend the sample with the diluent in a sterile blender for 2 minutes, or massage the sample with the diluent in a stomacher bag for 2 minutes.
Liquid samples: Add the sample to the diluent in a sterile container (such as a diluent bottle or stomacher bag) and shake approximately 25 times.

Remove 1 mL from this 10X dilution and place in the Easygel bottle. Swirl and pour into a pretreated dish. Incubate, and count colonies. Multiply the count by the dilution factor, which is 10.

For example, a count of 34 colonies would be multiplied by 10, resulting in a reading of 340 colonies per gram or per mL of sample.

100X Dilutions

General Products	Dairy Products
Remove 10 mL from the 10X dilution and deposit in a new 90 mL diluent bottle. Shake 25 times.	Remove 11 mL from the 10X dilution and deposit in a new 99 mL diluent bottle. Shake 25 times.

Remove 1 mL from this 100X dilution and place in the Easygel bottle. Swirl and pour into a pretreated dish. Incubate, and count colonies. Multiply the count by the dilution factor, which is 100.

For example, a count of 45 colonies would be multiplied by 100, resulting in a reading of 4,500 colonies per gram or per mL of sample.

1000X Dilutions

General Products	Dairy Products
Remove 10 mL from the 100X dilution and deposit in a new 90 mL diluent bottle. Shake 25 times.	Remove 11 mL from the 100X dilution and deposit in a new 99 mL diluent bottle. Shake 25 times.

Remove 1 mL from this 1000X dilution and place in the Easygel bottle. Swirl and pour into a pretreated dish. Incubate, and count colonies. Multiply the count by the dilution factor, which is 1000.

For example, a count of 75 colonies would be multiplied by 1000, resulting in a reading of 75,000 colonies per gram or per mL of sample.

Expected Dilutions for Various Products

The following table recommends dilutions for total count, coliform, and yeast and mold testing. However, some of these products may require testing for other organisms also.

SAMPLE	TOTAL COUNT	COLIFORM COUNT	YEAST and MOLD
Butter	100X	10X	10X
Cheese	-	10X	-
Cottage Cheese	10X - 100X	10X	10X
Milk, Cream	1000X - 10,000X	-	-
Dry Milk	10X - 100X	10X	10X
Raw Meat	10,000X - 100,000X	10X	-
Fish, Seafood	10,000X - 100,000X	10X	10X
Eggs/Products	1000X	10X	10X - 100X
Flour	10X - 10,000X	10X	10X - 100X
Breakfast. Cereals	10X	10X	0 - 10X
Baked Goods	10X	10X	0 - 10X
Pasta Products	100X - 1000X	0 - 10X	10X - 1000X
Raw Water	0 - 10X	no dilution needed	-
Drinking Water	no dilution needed	no dilution needed	-

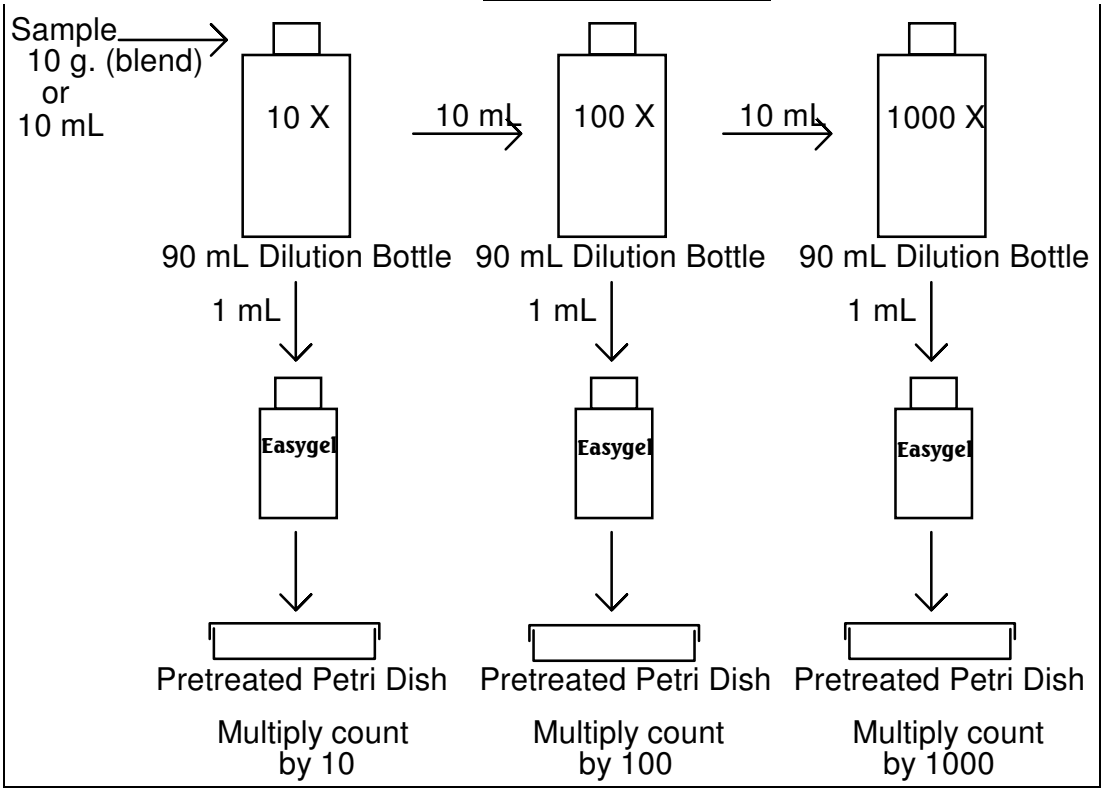
Dilutions should yield between 25 and 250 colonies per dish. This assures for both accuracy and ease of counting.

For example, if the expected count is somewhere between 2500 and 250,000 colonies per mL or gram, a dilution of 100X and 1000X should be prepared.

If you do not know what count to expect from your product, try running a 10X, and 1000X dilution. This will give you a good idea of what to expect for future dilutions.

Dilution Overview

General Products



Dairy Products