B1404	XLD AGAR	
Formula		
Ingredients:		**gms/lit.**
Yeast extract		3.00
L-Lysine		5.00
Lactose		7.50
Sucrose		7.50
Xylose		3.75
Sodium chloride		5.00
Sodium deoxycholate		1.00
Sodium thiosulphate		6.80
Ferric ammonium citrate#		0.80
Phenol red		0.08
Agar		15.00
# - Equivalent to Iron (III) ammonium citrate		
Final pH (at 25°C) : 7.4 ± 0.2		

Directions :

Suspend 55.43 grams in 1000 ml purified/distilled water. Heat with frequent agitation until the medium boils. DO NOT AUTOCLAVE OR OVERHEAT. Transfer immediately to a water bath at 50°C. After cooling, pour into sterile Petri plates. It is advisable not to prepare large volumes which will require prolonged heating. Note: Slight precipitation in the medium may occur, which is inheritant property of the medium, and does not affect the performance of the medium.

Principle :

Yeast extract provides sources of nitrogen and carbon, as well as vitamins and cofactors required for growth. Xylose, lactose, and sucrose (Saccharose) provide of fermentable carbohydrate. Xylose is fermented by most enteric organisms except Shigella and Providencia. Lysine is added to differentiate Salmonella. As xylose is exhausted, Salmonella organism's decarboxylate lysine causing reversion to alkaline conditions. Alkaline reversion by other lysine – positive organisms is prevented by excess acid production form fermentation of lactose and sucrose.

Sodium Thiosulfate and Ferric Ammonium citrate allow visualization of hydrogen sulfide production under alkaline conditions. Acidic conditions inhibit the reaction. Phenol red is an indicator. Sodium chloride maintains osmotic balance in the medium. Agar is a solidifying agent.

Sodium Deoxycholate in XLD agar inhibits growth of gram – positive organisms.

QC Tests – (I)Dehydrated Medium			
	Colour :	Light yellow to pink	
	Appearance :	Homogeneous Free Flowing powder	
(II)Rehydrated medium			
	pH (post autoclaving/heating) :	7.4 ± 0.2	
	Colour (post autoclaving/heating) :	Red	
	Clarity (post autoclaving/heating) :	Clear to very slightly opalescent	
(III)Q.C. Test Microbiological			
	Cultural response was observed after an incubation at 37 ± 1°C for 24 ± 3 hours.		
	MICROORGANISM (ATCC)	GROWTH	COLOUR OF COLONY
	Salmonella enteritidis (13076)	Good	Red with black centers
	Salmonella typhimurium (14028)	Good	Red with black centers
	Escherichia coli (25922)	growth or partial inhibition	Yellow
	Escherichia coli (8739)	growth or partial inhibition	Yellow
	Enterococcus faecalis (29212)	Inhibited	-
	Enterococcus faecalis (19433)		
	Salmonella Abony NCTC (6017)	good-luxuriant	red with black centres
	Escherichia coli NCTC 9002	Fair	Yellow
	Proteus vulgaris ATCC 13315	good-luxuriant	grey with black centres
	Proteus mirabilis ATCC 25933	good-luxuriant	grey with black centres
	Salmonella Paratyphi A(9150)	good-luxuriant	Red
	Salmonella Paratyphi B(8759)	good-luxuriant	red with black centres

Precautions :	1. For Laboratory Use.				
	2. Follow proper, established laboratory procedures in handling and disposing of infectious materials.				
Limitations :	1. Slight precipitation in the medium may occur, which is inheritant property of the medium, and does not affect the performance of the medium.				
	2. XLD Agar is based on fermentation reaction and H2S production hence second medium should be selected so as to detect lactose positive and H2S negative strains.				
	3. S. Paratyphi A, S.Choleraesuis, S.Pullorum and S.Gallinarum may form red colonies without H2S, thus resembling Shigella species.				
Use:	Recommended for selective isolation and enumeration of Salmonella Typhi and other Salmonella species. The composition and performance criteria of this medium are as per specifications laid down in ISO 6579-1:2017.				
Storage :	Dehydrated medium- Below 30°C Prepared medium– Between 2 to 8°C.				
Packing :	500 gm. bottle				
Product profile:	Reconstitution	Quantity on Preparation (500g)	pH (25°C)	Supplement	Sterilization
B1404	55.43 g/l	9.020L	7.4 ± 0.2	Nil	Donot autoclave/overheat.Boil medium to dissolve w/frequent agitation