



## Maximum Recovery Diluent

Diluent for preparation of food samples for microbiological examination, according to ISO 6887.

### DESCRIPTION

Maximum Recovery Diluent is a protective and isotonic diluent used to maximize the recovery of microorganisms in the preparation of the initial suspension and decimal dilutions of test samples.

This diluent is also known as Peptone Salt Solution and complies with the recommendations of ISO 6887 for the microbiological examination of food.

### TYPICAL FORMULA (per liter of purified water)

Enzymatic Digest of Casein	1.0 g
Sodium Chloride	8.5 g
Final pH 7.0 ± 0.2 at 25°C	

### METHOD PRINCIPLE

Enzymatic digest of casein provides amino acids, nitrogen, carbon and minerals. Sodium chloride maintains the osmotic balance of the medium.

### PREPARATION

Dehydrated medium Suspend 9.5 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil shaking frequently until completely dissolved. Sterilize in autoclave at 121°C for 15 minutes.

### TEST PROCEDURE

Use this diluent according to specific procedures for microbiological examination of food samples.

For ISO method, put 10 g or 10 ml of the test sample into a sterile vessel or sterile plastic bag. Add 90 ml of Maximum Recovery Diluent and homogenize with a blender or Stomacher.

Transfer 1 ml of the macerate, within 15 minutes, to 9 ml of sterile diluent and mix well. The number of further decimal dilutions depends on the expected contamination of the sample.

### INTERPRETING RESULTS

Due to the isotonic propriety of the diluent, several organisms, even stressed or injured cells are allowed to recover and maintain their viability for 1-2 h without multiplication.

### APPEARANCE

Dehydrated medium: free-flowing, homogeneous, beige.

Prepared medium: clear, light amber.

### STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed. Store tubes, bottles and bags at 10-25°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

### SHELF LIFE

Dehydrated medium: 4 years.

Medium in tubes, bottles or bags: 2 years.

## QUALITY CONTROL

The medium is inoculated with the microbial strains indicated in the QC table.

Inoculum for use as diluent:  $10^3$ - $10^4$  CFU.

Incubation conditions: 18-27°C for 45-60 minutes.

### QC Table.

Microorganism	Growth on Tryptic Soy Agar	
<i>Escherichia coli</i>	WDCM 00012	± 30% colonies of original count
<i>Staphylococcus aureus</i>	WDCM 00034	± 30% colonies of original count

## WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is intended for professional use only and must be used by properly trained operators.

## DISPOSAL OF WASTE

Disposal of waste must be carried out according to national and local regulations in force.

## BIBLIOGRAPHY

- ISO 6887-3:2017+Amd1:2020. Microbiology of food the food chain s – Preparation of test samples, initial suspension and decimal dilutions for microbiological examination – Part 3: Specific rules for the preparation of fish and fishery products.
- EN ISO 11133:2014+Amd1:2018. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
- ISO 6887-4:2017. Microbiology of food the food chain – Preparation of test samples, initial suspension and decimal dilutions for microbiological examination – Part 4: Specific rules for the preparation of products other than milk and milk products, meat and meat products, and fish and fishery products.
- ISO 6887-2:2017. Microbiology of food the food chain – Preparation of test samples, initial suspension and decimal dilutions for microbiological examination – Part 2: Specific rules for the preparation of meat and meat products.
- ISO 6887-1:2017. Microbiology of food the food chain – Preparation of test samples, initial suspension and decimal dilutions for microbiological examination – Part 1: General rules for the preparation of the initial suspension and decimal dilutions.
- Vanderzant, C., and D. F. Splitstoesser (eds.). Compendium of methods for the microbiological examination of foods, 3<sup>rd</sup> ed. American Public Health Association, Washington, D.C.
- U.S. Food and Drug Administration. Bacteriological analytical manual, 8<sup>th</sup> ed., AOAC International, Gaithersburg, MD.

PRESENTATION	Format	Package	Ref.
Maximum Recovery Diluent	Tubes	20 x 9 ml tubes	20071
Maximum Recovery Diluent	Tubes	100 x 9 ml tubes	26071
Maximum Recovery Diluent	Bottles	6 x 90 ml bottles	402660
Maximum Recovery Diluent	Bottles	6 x 100 ml bottles	402590
Maximum Recovery Diluent	Bottles	6 x 200 ml bottles	412400
Maximum Recovery Diluent	Bottles	6 x 225 ml bottles	412420
Maximum Recovery Diluent	Bottles	25 x 225 ml bottles	452420
Maximum Recovery Diluent	Bags	3 x 3 liters bags	499040
Maximum Recovery Diluent	Bags	3 x 5 liters bags	499045
Maximum Recovery Diluent	Dehydrated medium	500 g of powder	610077
Maximum Recovery Diluent	Dehydrated medium	100 g of powder	620077

## TABLE OF SYMBOLS

LOT	Batch code		Keep away from sunlight		Manufacturer		Use by		Fragile, handle with care
REF	Catalogue number		Temperature limitation		Contains sufficient for <n> tests		i Caution, consult Instruction For Use		Do not reuse



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## Maximum Recovery Diluent

Diluente per la preparazione di campioni alimentari  
per l'esame microbiologico, secondo ISO 6887.

### DESCRIZIONE

Maximum Recovery Diluent è un diluente isotonicoo protettivo utilizzato per massimizzare il recupero dei microrganismi nella preparazione della sospensione iniziale e delle diluizioni decimali dei campioni da esaminare.

Questo diluente è conosciuto anche come Peptone Salt Solution e soddisfa le raccomandazioni della ISO 6887 per l'esame microbiologico degli alimenti.

### FORMULA TIPICA (per litro di acqua purificata)

Digerito Enzimatico di Caseina	1.0 g
Sodio Cloruro	8.5 g
pH Finale 7.0 ± 0.2 a 25°C	

### PRINCIPIO DEL METODO

Il digerito enzimatico di caseina fornisce aminoacidi, azoto, carbonio e minerali. Il sodio cloruro mantiene il bilancio osmotico del terreno.

### PREPARAZIONE

Terreno disidratato Sospendere 9.5 g di polvere in 1 litro di acqua distillata o deionizzata sterile. Mescolare bene. Riscaldare agitando di frequente e bollire fino a completa dissoluzione. Sterilizzare in autoclave a 121°C per 15 minuti.

### PROCEDURA DEL TEST

Utilizzare questo diluente secondo procedure specifiche per l'esame microbiologico dei campioni alimentari.

Secondo il metodo ISO, inserire 10 g o 10 ml del campione da esaminare all'interno di un recipiente sterile o di una busta di plastica sterile. Aggiungere 90 ml di Maximum Recovery Diluent ed omogeneizzare con un frullatore o Stomacher.

Trasferire 1 ml della sospensione, entro 15 minuti, in 9 ml di diluente sterile e miscelare bene. Il numero delle successive diluizioni decimali dipende dal grado presunto di contaminazione del campione.

### INTERPRETAZIONE DEI RISULTATI

Grazie alle proprietà isotoniche del diluente, diversi microrganismi perfino cellule stressate o danneggiate sono in grado di recuperare e mantenersi vitali per 1-2 ore senza moltiplicarsi.

### ASPETTO

Terreno disidratato: omogeneo, fine granulometria, beige.

Terreno preparato: ambra chiaro, limpido.

### CONSERVAZIONE

La polvere è fortemente igroscopica, conservare a 10-30°C, in ambiente asciutto, nel suo contenitore originale chiuso ermeticamente. Conservare le provette, i flaconi e le sacche a 10-25°C al riparo dalla luce. Non usare il prodotto dopo la sua data di scadenza indicata sull'etichetta o se il prodotto mostra segni di contaminazione o deterioramento.

### VALIDITÀ

Terreno disidratato: 4 anni.

Terreno in provette, flaconi o sacche: 2 anni.

## CONTROLLO DI QUALITÀ

Il terreno è inoculato con i ceppi microbici indicati nella tabella CQ.

Inoculo per l'utilizzo come diluente:  $10^3\text{-}10^4$  UFC.

Condizioni di incubazione: 45-60 minuti a 18-27°C.

### Tabella CQ.

Microrganismo	Crescita su Tryptic Soy Agar	
<i>Escherichia coli</i>	WDCM 00012	± 30% delle colonie rispetto al conteggio originale
<i>Staphylococcus aureus</i>	WDCM 00034	± 30% delle colonie rispetto al conteggio originale

## AVVERTENZE E PRECAUZIONI

Il prodotto non contiene sostanza nocive in concentrazioni superiori ai limiti fissati dall'attuale legislazione e perciò non è classificato come pericoloso. Ciononostante si raccomanda di consultare la scheda di sicurezza per il suo corretto uso. Il prodotto è da intendersi per uso esclusivo in ambito professionale e deve essere utilizzato da operatori adeguatamente addestrati.

## SMALTIMENTO DEI RIFIUTI

Lo smaltimento dei rifiuti deve essere effettuato in conformità alle normative nazionali e locali in vigore.

## BIBLIOGRAFIA

- ISO 6887-3:2017+Amd1:2020. Microbiology of food the food chain s – Preparation of test samples, initial suspension and decimal dilutions for microbiological examination – Part 3: Specific rules for the preparation of fish and fishery products.
- EN ISO 11133:2014+Amd1:2018. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
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- U.S. Food and Drug Administration. Bacteriological analytical manual, 8<sup>th</sup> ed., AOAC International, Gaithersburg, MD.

PRESENTAZIONE	FORMATO	CONFEZIONAMENTO	REF.
Maximum Recovery Diluent	Provette	Provette 20 x 9 ml	20071
Maximum Recovery Diluent	Provette	Provette 100 x 9 ml	26071
Maximum Recovery Diluent	Flaconi	Flaconi 6 x 90 ml	402660
Maximum Recovery Diluent	Flaconi	Flaconi 6 x 100 ml	402590
Maximum Recovery Diluent	Flaconi	Flaconi 6 x 200 ml	412400
Maximum Recovery Diluent	Flaconi	Flaconi 6 x 225 ml	412420
Maximum Recovery Diluent	Flaconi	Flaconi 25 x 225 ml	452420
Maximum Recovery Diluent	Sacche	Sacche 3 x 3 litri	499040
Maximum Recovery Diluent	Sacche	Sacche 3 x 5 litri	499045
Maximum Recovery Diluent	Terreno disidratato	500 g di polvere	610077
Maximum Recovery Diluent	Terreno disidratato	100 g di polvere	620077

## TABELLA DEI SIMBOLI

<b>LOT</b>	Codice del lotto	Tenere al riparo da fonti di calore	Fabbricante	Utilizzare entro	Fragile, maneggiare con cura
<b>REF</b>	Numero di catalogo	Limiti di temperatura	Contenuto sufficiente per <n> saggi	Attenzione, Consultare le istruzioni per l'uso	Non riutilizzare



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## Maximum Recovery Diluent

Diluyente para la preparación de muestras de alimentos para su análisis microbiológico según la ISO 6887.

### DESCRIPCIÓN

Maximum Recovery Diluent es un diluyente de protección isotónico utilizado para incrementar la recuperación de microorganismos mientras se prepara la suspensión inicial y las diluciones decimales de las muestras.

Este diluyente también se conoce como Peptone Salt Solution y sigue las recomendaciones de la ISO 6887 para el control microbiológico de alimentos.

### FÓRMULA (por litro de agua purificada)

Digerido Enzimático de Caseína	1.0 g
Cloruro Sódico	8.5 g
pH final 7.0 ± 0.2 a 25°C	

### PRINCIPIO DEL MÉTODO

El digerido enzimático de caseína proporciona los aminoácidos, nitrógeno, carbono, vitaminas y minerales necesarios para el crecimiento de los microorganismos. El cloruro sódico mantiene el equilibrio osmótico del medio.

### PREPARACIÓN

Medio deshidratado Suspender 9.5 g del polvo deshidratado en 1 litro de agua destilada o desionizada. Mezclar bien. Calentar hasta la ebullición removiendo frecuentemente hasta la completa disolución. Esterilizar en autoclave a 121°C durante 15 minutos

### PROCEDIMIENTO DEL TEST

Utilizar este diluyente siguiendo los métodos específicos para el análisis microbiológico de alimentos.

Para el método ISO, disponer 10 g ó 10 de la muestra a analizar dentro de un tubo o en una bolsa de plástico estéril. Añadir 90 ml de Maximum Recovery Diluent y homogeneizar con ayuda de un triturador o de un Stomacher.

Añadir 1 ml de la mezcla, en un tiempo inferior a 15 minutos, a 9 ml de diluyente estéril y mezclar bien. El número de diluciones a realizar depende del nivel de contaminación que pensemos que exista en la muestra

### INTERPRETACIÓN DE LOS RESULTADOS

Debido a la isotonicidad del diluyente, muchos organismos, incluso estresados o células dañadas pueden recuperarse y mantenerse durante 1-2 h sin multiplicación.

### ASPECTO

Medio deshidratado: suelto, homogéneo, beige claro.

Medio preparado: ligeramente opalescente, ámbar claro.

### ALMACENAMIENTO

El polvo deshidratado es muy higroscópico, almacenar a 10-30°C, en un entorno seco, en su frasco original correctamente cerrado. Almacenar las botellas y las placas preparadas a 10-25°C fuera del contacto de la luz. No utilizar el producto fuera de la fecha de caducidad descrita en la etiqueta o si el producto presenta alguna muestra de deterioro o contaminación.

### SHELF LIFE

Medio deshidratado: 4 años.

Medio en tubos, botellas o bolsas: 2 años.

## CONTROL DE CALIDAD

El medio se inocula con las cepas indicadas en la siguiente tabla.

Inóculo para utilizar como diluyente: 10<sup>3</sup>-10<sup>4</sup> CFU.

Condiciones de incubación: 18-27°C durante 45-60 minutos.

## Table CC.

Microorganismo	Crecimiento en Tryptic Soy Agar
<i>Escherichia coli</i>	WDCM 00012 ± 30% colonias del contejo inicial
<i>Staphylococcus aureus</i>	WDCM 00034 ± 30% colonias del contejo inicial

## ADVERTENCIAS Y PRECAUCIONES

Este producto no contiene sustancias peligrosas en concentraciones que excedan los límites fijados por la legislación actual y no está clasificado como peligroso. Se recomienda de todas formas la lectura de la hoja de seguridad para el uso apropiado. El producto debe ser utilizado sólo por operadores debidamente adiestrados.

## DESECHO DE RESÍDUOS

El desecho de los resíduos debe realizarse según la regulación nacional y local vigente.

## BIBLIOGRAFÍA

- ISO 6887-3:2017+Amd1:2020. Microbiology of food the food chain s – Preparation of test samples, initial suspension and decimal dilutions for microbiological examination – Part 3: Specific rules for the preparation of fish and fishery products.
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- Vanderzant, C., and D. F. Splitstoesser (eds.). Compendium of methods for the microbiological examination of foods, 3<sup>rd</sup> ed. American Public Health Association, Washington, D.C.
- U.S. Food and Drug Administration. Bacteriological analytical manual, 8<sup>th</sup> ed., AOAC International, Gaithersburg, MD.

PRESENTACIÓN	Formato	Embalaje	Ref.
Maximum Recovery Diluent	Tubos	20 x 9 ml tubos	20071
Maximum Recovery Diluent	Tubos	100 x 9 ml tubos	26071
Maximum Recovery Diluent	Botellas	6 x 90 ml botellas	402660
Maximum Recovery Diluent	Botellas	6 x 100 ml botellas	402590
Maximum Recovery Diluent	Botellas	6 x 200 ml botellas	412400
Maximum Recovery Diluent	Botellas	6 x 225 ml botellas	412420
Maximum Recovery Diluent	Botellas	25 x 225 ml botellas	452420
Maximum Recovery Diluent	Bolsas	3 x 3 litros bolsas	499040
Maximum Recovery Diluent	Bolsas	3 x 5 litros bolsas	499045
Maximum Recovery Diluent	Medio deshidratado	500 g de polvo	610077
Maximum Recovery Diluent	Medio deshidratado	100 g de polvo	620077

## TABLA DE SÍMBOLOS

<b>LOT</b>	Código de lote		Mantener fuera del alcance de la luz		Fabricante		Utilizar antes de		Frágil, manipular con cuidado
<b>REF</b>	Número de catálogo		Límites de temperatura		Contenido suficiente para <n> análisis		Atención, consultar el documento adjunto		No reutilizar



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