

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Lyophilized or Dried Biological Material Preparations
Product synonym : Charcoal and non-charcoal based Microorganism Products
Trade names : KWIK-STIK™
KWIK-STIK™ Plus
LYFO-DISK™
Epower™
Epower™ CRM
EZ-CFU™
EZ-CFU™ One Step
EZ-FPC™
EZ-PEC™
EZ-SPORE™
Lab-Elite™ CRM
EZ-Accu Shot™
EZ-Accu Shot™ Select
EZ-Hydro Shot™

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Used for microbiological quality control.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Microbiologics, Inc.
200 Cooper Avenue North
Saint Cloud, MN 56303

1.4. Emergency telephone number

+1.320.253.1640

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

No labeling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Gelatin	(CAS No) 9000-70-8 (EC no) 232-554-6	30 - 60	Not classified
Sucrose	(CAS No) 57-50-1 (EC no) 200-334-9	0 - 50	Not classified
Phosphoric acid, potassium salt (1:1)	(CAS No) 7778-77-0 (EC no) 231-913-4	5 - 20	Not classified
Glucose	(CAS No) 50-99-7 (EC no) 200-075-1	0 - 15	Not classified
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	5 - 10	Not classified
Skim milk (Bovine - USA origin)	None	2 - 10	Not classified
L-Ascorbic acid	(CAS No) 50-81-7 (EC no) 200-066-2	1 - 3	Not classified
Carbon	(CAS No) 7440-44-0 (EC no) 231-153-3	0.5 - 2	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Avoid the production of aerosols. If inhalation occurs, move to an area of fresh air and seek medical advice.
First-aid measures after skin contact	: Non-irritant. If skin contact occurs, wash with an appropriate biocidal solution.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, get medical advice/attention.
First-aid measures after ingestion	: Avoid hand to mouth contact. If ingested, seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	: Inhalation of infectious materials may result in infection.
Symptoms/injuries after skin contact	: None anticipated under normal product use conditions.
Symptoms/injuries after eye contact	: Contact with eyes may cause infection.
Symptoms/injuries after ingestion	: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use suitable extinguishing media for surrounding fire.
Unsuitable extinguishing media	: None.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: None.
Explosion hazard	: None.

5.3. Advice for firefighters

Protection during firefighting	: Firefighters should wear full protective gear.
--------------------------------	--

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Notify all people working in the immediate area of the incident. Do not leave the area unattended (unless you are the only individual in the area). Designate another employee to divert traffic from the incident area. Use disposable gloves, moisture impervious aprons, and other protective clothing must be dictated by the standard operational procedures of each individual laboratory.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid release to the environment.

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

6.3. Methods and material for containment and cleaning up

For containment : Stop the flow of material, if this is without risk.

Methods for cleaning up : Biohazard Spill Kits are available from commercial sources, or can be made with the following materials:

- A bottle of an aqueous germicidal solution
- One pair of disposable gloves
- Forceps
- One biohazard bag with closure
- One stack or roll of paper towels

Note: A sharps biohazard container should also be available for the collection of any broken material that could cause a cut or puncture wound (e.g. broken glass vial or tube).

Procedure:

1. After notifying all employees in the immediate area, collect the biohazard spill kit and immediately return to the area.
2. Put on the disposable gloves, and any other personal protective equipment as dictated by regulatory requirements or laboratory procedures.
3. To avoid injury due to broken material, such as packaging or labware, use the forceps to pick up as much material as possible, and carefully place the materials into the sharps biohazard container.
4. Cover area with paper towels to decrease spread of spill and the creation of an aerosol.
5. Saturate the spill area with germicidal solution. Keep the spill area moist with the germicidal solution for the appropriate amount of time as indicated on the germicidal solution used.
6. Wipe up the area with the paper towels. Place all used paper towels in the biohazard bag.
7. Following the cleanup, carefully remove the gloves, and place them into the biohazard bag.
8. Seal the biohazard bag.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Proper techniques must be employed to avoid exposure and contact with microorganism growth, and rehydrated pellet suspensions. The microbiology laboratory personnel using these devices must be trained, experienced, and demonstrate proficiency in processing, maintaining, storing and disposing of biohazard material.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : The viable biological material preparation must be stored at 2°C - 8°C in the original sealed container. The microbiology laboratory must be equipped, and have the facilities to receive, process, maintain, store and dispose of biohazard material.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sucrose (57-50-1)		
Belgium	Limit value (mg/m ³)	10 mg/m ³
Bulgaria	OEL TWA (mg/m ³)	10 mg/m ³ (dust, inhalable fraction)
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	10 mg/m ³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	20 mg/m ³
Estonia	OEL TWA (mg/m ³)	10 mg/m ³
France	VME (mg/m ³)	10 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³
Ireland	OEL (15 min ref) (mg/m ³)	20 mg/m ³

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

Sucrose (57-50-1)		
Latvia	OEL TWA (mg/m ³)	5 mg/m ³ (dust)
Lithuania	IPRV (mg/m ³)	10 mg/m ³
Portugal	OEL TWA (mg/m ³)	10 mg/m ³
Slovakia	NPHV (priemerná) (mg/m ³)	6 mg/m ³ (total aerosol)
Spain	VLA-ED (mg/m ³)	10 mg/m ³
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	20 mg/m ³
Australia	TWA (mg/m ³)	10 mg/m ³ (containing no asbestos and <1% crystalline silica-inhalable dust)
Canada (Quebec)	VEMP (mg/m ³)	10 mg/m ³
USA - ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA - NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Carbon (7440-44-0)		
Austria	MAK (mg/m ³)	5 mg/m ³ (alveolar dust with <1% Quartz, respirable fraction)
Austria	MAK Short time value (mg/m ³)	10 mg/m ³ (alveolar dust with <1% Quartz, respirable fraction)
Poland	NDS (mg/m ³)	4 mg/m ³ (natural-inhalable fraction) 1 mg/m ³ (natural-respirable fraction) 6 mg/m ³ (synthetic-inhalable fraction)

8.2. Exposure controls

Appropriate engineering controls	: Local exhaust and general ventilation must be adequate to meet exposure standards. Restrict access to the area. Use under the direct supervision of, persons trained and competent in microbiological techniques. Good laboratory practices must be observed and followed.
Hand protection	: Wear general protective gloves.
Eye protection	: Safety glasses with side shields.
Skin and body protection	: Wear moisture impervious aprons and safety footwear.
Respiratory protection	: When undertaking procedures that are likely to give rise to infectious aerosols, a Class 1 microbiological biological safety cabinet should be used. If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Freeze dried pellet
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Miscible
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

Explosive properties : No data available
Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal ambient and anticipated storage and handling conditions.

10.3. Possibility of hazardous reactions

Will not occur.

10.4. Conditions to avoid

Avoid inhalation of infectious aerosols or ingestion.

10.5. Incompatible materials

Many chemicals may kill the organism enclosed. There are no additional hazards created by incompatible materials.

10.6. Hazardous decomposition products

When stored as directed, the biological material preparations are stable until the last day of the stated month of the expiration date. The length of storage does not affect the risk of infection.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Water (7732-18-5)

LD50 oral rat	> 90 ml/kg
---------------	------------

Glucose (50-99-7)

LD50 oral rat	25800 mg/kg
---------------	-------------

Sucrose (57-50-1)

LD50 oral rat	29700 mg/kg
---------------	-------------

Carbon (7440-44-0)

LD50 oral rat	> 10000 mg/kg
---------------	---------------

L-Ascorbic acid (50-81-7)

LD50 oral rat	11900 mg/kg
---------------	-------------

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Aquatic acute : Not classified
Aquatic chronic : Not classified

12.2. Persistence and degradability

No additional information available

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / AND

Most Microbiologics microorganism strains ship according to UN classification UN3373. However, there are several Microbiologics microorganism strains which ship according to UN classification UN2814. The following catalog numbers ship per UN2814.

Microbiologics Catalog Number	Reference Collection Number	Microorganism Name
0231	ATCC® 700728™	<i>Escherichia coli</i> (serotype O157:H7)
0617	ATCC® 35150™	<i>Escherichia coli</i> (serotype O157:H7)
0861	NCTC 12900	<i>Escherichia coli</i> (serotype O157:H7)
01062	NCTC 8622	<i>Escherichia coli</i> (serovar O126:K71(B16):H2)
01073	NCTC 9091	<i>Escherichia coli</i> (serovar O91:H-)
01074	NCTC 10677	<i>Escherichia coli</i> (serovar O146:K:H21)
01097	CDC 99-3311	<i>Escherichia coli</i> (serotype O145:NM)
01098	CDC 00-3039	<i>Escherichia coli</i> (serotype O45:H2)
01099	CDC 02-3211	<i>Escherichia coli</i> (serotype O121:H19)
01100	CDC 03-3014	<i>Escherichia coli</i> (serotype O26:H11)
01101	CDC 06-3008	<i>Escherichia coli</i> (serotype O103:H11)
01102	CDC 2010C-3114	<i>Escherichia coli</i> (serotype O111:H8)
01104	ATCC® BAA-2326™	<i>Escherichia coli</i> (serotype O104:H4)

See product label to determine catalog number and organism name.

Visit www.microbiologics.com to obtain technical information bulletin TIB.2023 for most up to date information regarding UN2814 strains.

14.1. UN number

UN-No. (ADR) : 3373; 2814

UN-No. (IMDG) : 3373; 2814

UN-No. (IATA) : 3373; 2814

UN-No. (ADN) : 3373; 2814

UN-No. (RID) : 3373; 2814

14.2. UN proper shipping name

UN3373

Proper Shipping Name (ADR) : BIOLOGICAL SUBSTANCE, CATEGORY B

Proper Shipping Name (IMDG) : BIOLOGICAL SUBSTANCE, CATEGORY B

Proper Shipping Name (IATA) : Biological substance, category b

Proper Shipping Name (ADN) : BIOLOGICAL SUBSTANCE, CATEGORY B

Proper Shipping Name (RID) : BIOLOGICAL SUBSTANCE, CATEGORY B

Transport document description (ADR) : UN 3373 BIOLOGICAL SUBSTANCE, CATEGORY B, 6.2, (-)

Transport document description (IMDG) : UN 3373 BIOLOGICAL SUBSTANCE, CATEGORY B, 6.2

Transport document description (IATA) : UN 3373 Biological substance, category b, 6.2

Transport document description (ADN) : UN 3373 BIOLOGICAL SUBSTANCE, CATEGORY B, 6.2

Transport document description (RID) : UN 3373 BIOLOGICAL SUBSTANCE, CATEGORY B, 6.2

UN2814

Proper Shipping Name (ADR) : INFECTIOUS SUBSTANCE, AFFECTING HUMANS

Proper Shipping Name (IMDG) : INFECTIOUS SUBSTANCE, AFFECTING HUMANS

Proper Shipping Name (IATA) : Infectious substance, affecting humans

Proper Shipping Name (ADN) : INFECTIOUS SUBSTANCE, AFFECTING HUMANS

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

Proper Shipping Name (RID)	: INFECTIOUS SUBSTANCE, AFFECTING HUMANS
Transport document description (ADR)	: UN 2814 INFECTIOUS SUBSTANCE, AFFECTING HUMANS, 6.2, (E)
Transport document description (IMDG)	: UN 2814 INFECTIOUS SUBSTANCE, AFFECTING HUMANS, 6.2
Transport document description (IATA)	: UN 2814 Infectious substance, affecting humans, 6.2
Transport document description (ADN)	: UN 2814 INFECTIOUS SUBSTANCE, AFFECTING HUMANS, 6.2
Transport document description (RID)	: UN 2814 INFECTIOUS SUBSTANCE, AFFECTING HUMANS, 6.2

14.3. Transport hazard class(es)

UN3373 and UN2814

ADR

Transport hazard class(es) (ADR) : 6.2

Hazard labels (ADR) : 6.2



IMDG

Transport hazard class(es) (IMDG) : 6.2

Hazard labels (IMDG) : 6.2



IATA

Transport hazard class(es) (IATA) : 6.2

Hazard labels (IATA) : 6.2



ADN

Transport hazard class(es) (ADN) : 6.2

Hazard labels (ADN) : 6.2



RID

Transport hazard class(es) (RID) : 6.2

Hazard labels (RID) : 6.2



14.4. Packing group

Packing group (ADR) : Not applicable

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

UN3373

- Overland transport

Classification code (ADR)	: I4
Special provision (ADR)	: 319
Limited quantities (ADR)	: 0
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P650
Portable tank and bulk container instructions (ADR)	: T1
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: L4BH
Tank special provisions (ADR)	: TU15, TU37, TE19
Vehicle for tank carriage	: AT
Special provisions for carriage - Operation (ADR)	: S3
Hazard identification number (Kemler No.)	: 606
Orange plates	:



Tunnel restriction code (ADR)	: -
EAC	: 2X

- Transport by sea

Special provision (IMDG)	: 319, 341
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P650
Tank instructions (IMDG)	: T1, BK2
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-T
Stowage category (IMDG)	: C
Stowage and handling (IMDG)	: SW2, SW18

- Air transport

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: See 650
PCA max net quantity (IATA)	: See 650
CAO packing instructions (IATA)	: See 650
CAO max net quantity (IATA)	: See 650
ERG code (IATA)	: 11L

- Inland waterway transport

Classification code (ADN)	: I4
Special provision (ADN)	: 319

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP
Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : I4
Special provision (RID) : 319
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P650
Portable tank and bulk container instructions (RID) : T1
Portable tank and bulk container special provisions (RID) : TP1
Tank codes for RID tanks (RID) : L4BH
Special provisions for RID tanks (RID) : TU15, TU37
Colis express (express parcels) (RID) : CE14
Hazard identification number (RID) : 606

UN 2814

- Overland transport

Classification code (ADR) : I1
Special provision (ADR) : 318
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P620
Mixed packing provisions (ADR) : MP5
Transport category (ADR) : 0
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV25, CV26, CV28
Special provisions for carriage - Operation (ADR) : S3, S9, S15
Tunnel restriction code (ADR) : E
EAC : 2X

- Transport by sea

Special provision (IMDG) : 318, 341
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P620
Tank instructions (IMDG) : BK2
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-T
Stowage category (IMDG) : None
Stowage and handling (IMDG) : SW7

- Air transport

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 620
PCA max net quantity (IATA) : 50g
CAO packing instructions (IATA) : 620
CAO max net quantity (IATA) : 4kg
Special provision (IATA) : A81, A140
ERG code (IATA) : 11Y

- Inland waterway transport

Classification code (ADN) : I1
Special provision (ADN) : 318, 802

Lyophilized or Dried Biological Material Preparations

Safety Data Sheet

Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0

- Rail transport

Classification code (RID)	: I1
Special provision (RID)	: 318
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P620
Mixed packing provisions (RID)	: MP5
Transport category (RID)	: 0
Special provisions for carriage – Packages (RID)	: W9
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW18, CW26, CW28
Colis express (express parcels) (RID)	: CE14
Hazard identification number (RID)	: 606

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no substances with Annex XVII restrictions
Contains no REACH candidate substance
Contains no REACH Annex XIV substances.

15.1.2. National regulations

Germany

AwSV/VwVwS Annex reference	: Water hazard class (WGK) 3, strongly hazardous to water (Classification according to AwSV, Annex 1)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen	: Gelatin is listed
SZW-lijst van mutagene stoffen	: Gelatin is listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	: None of the components are listed

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product