

## 1 Identification

- **Product identifier**
- **Trade name:** *SD Medium-Leu (Pouches)*
- **Article number:** 4811065
- **Application of the substance / the mixture** *For Research Use Only*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
MP Biomedicals, LLC  
29525 Fountain Parkway  
Solon, OH 44139  
United States  
www.mpbio.com
- **Information department:** *Quality Control Department*
- **Emergency telephone number:** *CHEMTREC: 1-800-424-9300 (1-703-527-3887)*

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
*The product is not classified according to the Globally Harmonized System (GHS).*

- **Label elements**
- **GHS label elements** *Void*
- **Hazard pictograms** *Void*
- **Signal word** *Void*
- **Hazard statements** *Void*
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

## 3 Composition/information on ingredients

- **Chemical characterization:** *Mixtures*
- **Description:**  
*Mixture of substances listed below with nonhazardous additions.*  
*Mixture: consisting of the following components.*
- **Dangerous components:** *Void*

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## 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Flush eyes with running water as a precaution.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

7783-20-2	Ammonium Sulfate	13 mg/m <sup>3</sup>
7778-77-0	Potassium Phosphate Monobasic Anhydrous	9.6 mg/m <sup>3</sup>
7487-88-9	magnesium sulphate	20 mg/m <sup>3</sup>
10035-04-8	Calcium Chloride Dihydrate	16 mg/m <sup>3</sup>
10043-35-3	Boric Acid	6 mg/m <sup>3</sup>
10034-96-5	Manganese Sulfate Monohydrate	9.2 mg/m <sup>3</sup>
150-13-0	p-Aminobenzoic Acid	15 mg/m <sup>3</sup>
7631-95-0	Sodium Molybdate	3.2 mg/m <sup>3</sup>
7705-08-0	iron trichloride	8.7 mg/m <sup>3</sup>
7681-11-0	Potassium Iodide	1.3 mg/m <sup>3</sup>
7758-98-7	copper sulphate	7.5 mg/m <sup>3</sup>

- **PAC-2:**

7783-20-2	Ammonium Sulfate	140 mg/m <sup>3</sup>
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7778-77-0	Potassium Phosphate Monobasic Anhydrous	110 mg/m <sup>3</sup>
7487-88-9	magnesium sulphate	220 mg/m <sup>3</sup>
10035-04-8	Calcium Chloride Dihydrate	170 mg/m <sup>3</sup>
10043-35-3	Boric Acid	23 mg/m <sup>3</sup>
10034-96-5	Manganese Sulfate Monohydrate	15 mg/m <sup>3</sup>
150-13-0	p-Aminobenzoic Acid	69 mg/m <sup>3</sup>
7631-95-0	Sodium Molybdate	17 mg/m <sup>3</sup>
7705-08-0	iron trichloride	30 mg/m <sup>3</sup>
7681-11-0	Potassium Iodide	15 mg/m <sup>3</sup>
7758-98-7	copper sulphate	9.9 mg/m <sup>3</sup>

**· PAC-3:**

7783-20-2	Ammonium Sulfate	840 mg/m <sup>3</sup>
7778-77-0	Potassium Phosphate Monobasic Anhydrous	630 mg/m <sup>3</sup>
7487-88-9	magnesium sulphate	1,300 mg/m <sup>3</sup>
10035-04-8	Calcium Chloride Dihydrate	1,100 mg/m <sup>3</sup>
10043-35-3	Boric Acid	830 mg/m <sup>3</sup>
10034-96-5	Manganese Sulfate Monohydrate	90 mg/m <sup>3</sup>
150-13-0	p-Aminobenzoic Acid	410 mg/m <sup>3</sup>
7631-95-0	Sodium Molybdate	100 mg/m <sup>3</sup>
7705-08-0	iron trichloride	180 mg/m <sup>3</sup>
7681-11-0	Potassium Iodide	87 mg/m <sup>3</sup>
7758-98-7	copper sulphate	59 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special requirements.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15-30°C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.

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- **Breathing equipment:** Not required.
- **Protection of hands:**  
*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
- **Material of gloves**  
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*
- **Penetration time of glove material**  
*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*
- **Eye protection:** Not required.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Powder
<b>Color:</b>	White
- **Odor:** Indeterminate
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**

<b>Boiling point/Boiling range:</b>	Undetermined.
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- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** See section 10
- **Explosion limits:**

<b>Lower:</b>	Not Applicable
<b>Upper:</b>	Not Applicable
- **Vapor pressure:** Not applicable.
- **Density:** Not Applicable
- **Relative density** Not determined.
- **Vapor density** Not applicable.
- **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with** Not Determined
- **Water:** Easily soluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**

<b>Dynamic:</b>	Not applicable.
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<b>Kinematic:</b>	Not applicable.
<b>Solvent content:</b>	
<b>VOC content:</b>	0.00 % 0.0 g/l / 0.00 lb/gl
<b>Solids content:</b>	100.0 %
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

### · LD/LC50 values that are relevant for classification:

<b>ATE (Acute Toxicity Estimate)</b>		
Oral	LD50	13,626 mg/kg (rat)
Inhalative	LC50/4 h	109,583 mg/L (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritant and potentially harmful
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

### · Carcinogenic categories

<b>· IARC (International Agency for Research on Cancer)</b>		
150-13-0	p-Aminobenzoic Acid	3

### · NTP (National Toxicology Program)

None of the ingredients is listed.

### · OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.

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- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 1 (Self-assessment): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Can not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** *Discard must be made according to official regulations.*
- **Recommended cleansing agent:** *Water, if necessary with cleaning agents.*

## 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Not regulated   |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Not regulated   |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   |                 |
| · <b>Class</b>   | Not regulated   |
| · <b>Packing group</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Not regulated   |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | Not regulated   |

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## 15 Regulatory information

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

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

7783-20-2 Ammonium Sulfate

7446-19-7 zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate)

10034-96-5 Manganese Sulfate Monohydrate

7758-98-7 copper sulphate

· TSCA (Toxic Substances Control Act):

50-99-7 D-(+)-Dextrose, Anhydrous

7783-20-2 Ammonium Sulfate

7778-77-0 Potassium Phosphate Monobasic Anhydrous

7487-88-9 magnesium sulphate

72-18-4 L-Valine

72-19-5 L-Threonine

7647-14-5 Sodium Chloride

56-84-8 L-Aspartic Acid

74-79-3 L-Arginine

73-32-5 L-Isoleucine

657-27-2 L-Lysine Monohydrochloride

63-91-2 L-Phenylalanine

73-22-3 L-Tryptophan

60-18-4 L-Tyrosine

63-68-3 L-Methionine

66-22-8 Uracil

73-24-5 Adenine

87-89-8 D-myo-Inositol, cell culture reagent

10043-35-3 Boric Acid

59-67-6 nicotinic acid

58-56-0 Pyridoxine Hydrochloride

67-03-8 Thiamine Hydrochloride

137-08-6 D-Pantothenic Acid Calcium Salt

150-13-0 p-Aminobenzoic Acid

83-88-5 riboflavin

7631-95-0 Sodium Molybdate

7705-08-0 iron trichloride

7681-11-0 Potassium Iodide

59-30-3 Folic Acid

7758-98-7 copper sulphate

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- **TSCA new (21st Century Act) (Substances not listed)**
- **Proposition 65**

**Chemicals known to cause cancer:**

None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**Carcinogenic categories**
**EPA (Environmental Protection Agency)**

10043-35-3	Boric Acid	I (oral)
7446-19-7	zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate)	D, I, II
10034-96-5	Manganese Sulfate Monohydrate	D

**TLV (Threshold Limit Value established by ACGIH)**

10043-35-3	Boric Acid	A4
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**NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** Void· **Hazard pictograms** Void· **Signal word** Void· **Hazard statements** Void· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Quality Control Dept.
- **Date of preparation / last revision** 03/21/2018 / -
- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit