Safety Data Sheet
acc. to OSHA HCS

Printing date 04/04/2019 Reviewed on 04/04/2019

1 Identification

· **Product identifier**

· **Trade name: Methionine/Choline Deficient Diet**

· **Article number:** 960438
· **Application of the substance / the mixture** For Research Use Only

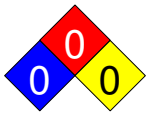
· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
United States
www.mpbio.com

· **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)**



Health = 0
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0
Fire = 0
Reactivity = 0

· **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:**

CAS: 57-50-1 EINECS: 200-334-9 RTECS: WN6500000	Sucrose	10-50%

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CAS: 9005-25-8 EINECS: 232-679-6 RTECS: GM5090000	Corn Starch	10-50%
CAS: 9004-34-6 EINECS: 232-674-9 RTECS: FJ5691460	Alphacel	≥2.5-<10%

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**
No dangerous substances are released.
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:**		
6100-05-6	Potassium citrate monohydrate	30 mg/m³
7778-80-5	potassium sulphate	20 mg/m³
1309-48-4	magnesium oxide	30 mg/m³
598-62-9	Manganese Carbonate	6.3 mg/m³
7631-86-9	silicon dioxide, chemically prepared	18 mg/m³

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150-13-0	p-Aminobenzoic Acid	15 mg/m³
3486-35-9	Zinc Carbonate	12 mg/m³
7788-99-0	Chromium Potassium Sulfate Dodecahydrate	14 mg/m³
12069-69-1	Cupric Carbonate	5.2 mg/m³
7758-05-6	potassium iodate	0.45 mg/m³
10102-18-8	Sodium Selenite	1.3 mg/m³

· **PAC-2:**

6100-05-6	Potassium citrate monohydrate	330 mg/m³
7778-80-5	potassium sulphate	220 mg/m³
1309-48-4	magnesium oxide	120 mg/m³
598-62-9	Manganese Carbonate	10 mg/m³
7631-86-9	silicon dioxide, chemically prepared	740 mg/m³
150-13-0	p-Aminobenzoic Acid	69 mg/m³
3486-35-9	Zinc Carbonate	130 mg/m³
7788-99-0	Chromium Potassium Sulfate Dodecahydrate	160 mg/m³
12069-69-1	Cupric Carbonate	45 mg/m³
7758-05-6	potassium iodate	4.9 mg/m³
10102-18-8	Sodium Selenite	2.3 mg/m³

· **PAC-3:**

6100-05-6	Potassium citrate monohydrate	2,000 mg/m³
7778-80-5	potassium sulphate	1,300 mg/m³
1309-48-4	magnesium oxide	730 mg/m³
598-62-9	Manganese Carbonate	60 mg/m³
7631-86-9	silicon dioxide, chemically prepared	4,500 mg/m³
150-13-0	p-Aminobenzoic Acid	410 mg/m³
3486-35-9	Zinc Carbonate	750 mg/m³
7788-99-0	Chromium Potassium Sulfate Dodecahydrate	950 mg/m³
12069-69-1	Cupric Carbonate	270 mg/m³
7758-05-6	potassium iodate	29 mg/m³
10102-18-8	Sodium Selenite	3.1 mg/m³

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:** 2-8°C
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Further information about storage conditions:**
· **Specific end use(s)** No further relevant information available.

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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:**	
57-50-1 Sucrose	
PEL	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV	Long-term value: 10 mg/m³
9005-25-8 Corn Starch	
PEL	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV	Long-term value: 10 mg/m³
9004-34-6 Alphacel	
PEL	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV	Long-term value: 10 mg/m³

· **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.
· **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.

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Powder
Color:	Off-White
· **Odor:**	Indeterminate
· **Odor threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Boiling point/Boiling range:	Undetermined.
· **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:**	
Lower:	Not Applicable
Upper:	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:**	Not determined.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Solvent content:**	
VOC content:	0.00 % 0.0 g/l / 0.00 lb/gl
Solids content:	100.0 %
· **Other information**	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.

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· **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.
· **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**

· **IARC (International Agency for Research on Cancer)**		
7631-86-9	silicon dioxide, chemically prepared	3
150-13-0	p-Aminobenzoic Acid	3
10102-18-8	Sodium Selenite	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.
· **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.

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· **Uncleaned packagings:**
· **Recommendation:** Discard must be made according to official regulations.

14 Transport information

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

15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**	
10102-18-8	Sodium Selenite

· **Section 313 (Specific toxic chemical listings):**	
598-62-9	Manganese Carbonate
3486-35-9	Zinc Carbonate
12069-69-1	Cupric Carbonate
10102-18-8	Sodium Selenite

· **TSCA (Toxic Substances Control Act):**	
57-50-1	Sucrose
9005-25-8	Corn Starch
8001-30-7	Corn Oil
56-86-0	L-Glutamic Acid, free acid
9004-34-6	Alphacel
56-40-6	Glycine
7757-93-9	Calcium Phosphate Dibasic
657-27-2	L-Lysine Monohydrochloride
1119-34-2	L-Arginine Hydrochloride

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61-90-5	L-Leucine
72-19-5	L-Threonine
73-32-5	L-Isoleucine
72-18-4	L-Valine
63-91-2	L-Phenylalanine
60-18-4	L-Tyrosine
56-84-8	L-Aspartic Acid
147-85-3	L-Proline
56-45-1	L-serine
56-41-7	L-Alanine
56-89-3	Cystine
7647-14-5	Sodium Chloride
7778-80-5	potassium sulphate
73-22-3	L-Tryptophan
50-81-7	L-Ascorbic Acid
1309-48-4	magnesium oxide
598-62-9	Manganese Carbonate
7695-91-2	DL-alpha-Tocopherol Acetate
7631-86-9	silicon dioxide, chemically prepared
87-89-8	D-myo-Inositol
150-13-0	p-Aminobenzoic Acid

· **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)**

598-62-9	Manganese Carbonate	D
10102-18-8	Sodium Selenite	D

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

57-50-1	Sucrose	A4
9005-25-8	Corn Starch	A4
1309-48-4	magnesium oxide	A4

· **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

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· **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** 04/04/2019 / -
· **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)
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