

1 Identification

- **Product identifier**
- **Trade name:** Choline Deficient Diet Modified
- **Article number:** 960210
- **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.

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· Dangerous components:		
CAS: 57-50-1 EINECS: 200-334-9 RTECS: WN6500000	Sucrose	50-90%
CAS: 9004-34-6 EINECS: 232-674-9 RTECS: FJ5691460	Alphacel	2.5-<10%
· Non-Hazardous Ingredients		
	rendered animal fat	10-50%
CAS: 9000-71-9 EINECS: 232-555-1 RTECS: FI3519420	Casein	≤10%
	SOY PROTEIN ISOLATED	≤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**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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· Protective Action Criteria for Chemicals
· PAC-1:

7778-77-0	Potassium Phosphate Monobasic Anhydrous	9.6 mg/m ³
471-34-1	Calcium Carbonate, ACS	45 mg/m ³
12167-74-7	Calcium Phosphate Tribasic	120 mg/m ³
10034-99-8	Magnesium Sulfate Heptahydrate	33 mg/m ³
10045-86-0	Ferric Phosphate	8.1 mg/m ³
10034-96-5	Manganese Sulfate Monohydrate	9.2 mg/m ³
7788-99-0	Chromium Potassium Sulfate Dodecahydrate	14 mg/m ³
7646-85-7	Zinc Chloride	2 mg/m ³
7681-49-4	Sodium Fluoride	17 mg/m ³
7758-99-8	Cupric Sulfate Pentahydrate	12 mg/m ³
150-13-0	p-Aminobenzoic Acid	15 mg/m ³
7784-24-9	Aluminum Potassium Sulfate Dodecahydrate	110 mg/m ³
7681-11-0	Potassium Iodide	1.3 mg/m ³
10102-18-8	Sodium Selenite	1.3 mg/m ³

· PAC-2:

7778-77-0	Potassium Phosphate Monobasic Anhydrous	110 mg/m ³
471-34-1	Calcium Carbonate, ACS	210 mg/m ³
12167-74-7	Calcium Phosphate Tribasic	1,300 mg/m ³
10034-99-8	Magnesium Sulfate Heptahydrate	370 mg/m ³
10045-86-0	Ferric Phosphate	89 mg/m ³
10034-96-5	Manganese Sulfate Monohydrate	15 mg/m ³
7788-99-0	Chromium Potassium Sulfate Dodecahydrate	160 mg/m ³
7646-85-7	Zinc Chloride	800 mg/m ³
7681-49-4	Sodium Fluoride	90 mg/m ³
7758-99-8	Cupric Sulfate Pentahydrate	32 mg/m ³
150-13-0	p-Aminobenzoic Acid	69 mg/m ³
7784-24-9	Aluminum Potassium Sulfate Dodecahydrate	1,200 mg/m ³
7681-11-0	Potassium Iodide	15 mg/m ³
10102-18-8	Sodium Selenite	2.3 mg/m ³

· PAC-3:

7778-77-0	Potassium Phosphate Monobasic Anhydrous	630 mg/m ³
471-34-1	Calcium Carbonate, ACS	1,300 mg/m ³
12167-74-7	Calcium Phosphate Tribasic	7,900 mg/m ³
10034-99-8	Magnesium Sulfate Heptahydrate	2,300 mg/m ³
10045-86-0	Ferric Phosphate	530 mg/m ³
10034-96-5	Manganese Sulfate Monohydrate	90 mg/m ³
7788-99-0	Chromium Potassium Sulfate Dodecahydrate	950 mg/m ³
7646-85-7	Zinc Chloride	4,800 mg/m ³
7681-49-4	Sodium Fluoride	1,100 mg/m ³
7758-99-8	Cupric Sulfate Pentahydrate	190 mg/m ³
150-13-0	p-Aminobenzoic Acid	410 mg/m ³

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7784-24-9	Aluminum Potassium Sulfate Dodecahydrate	6,900 mg/m ³
7681-11-0	Potassium Iodide	87 mg/m ³
10102-18-8	Sodium Selenite	3.1 mg/m ³

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.
- **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:**

57-50-1 Sucrose

PEL	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV	Long-term value: 10 mg/m ³

9004-34-6 Alphacel

PEL	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV	Long-term value: 10 mg/m ³

- **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.

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- **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:

Form:	Pellets
Color:	According to product specification
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.

· **Ignition temperature:** 340 °C (644 °F)

· **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 Water:** Not Determined
Insoluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity:

Dynamic:	Not applicable.
Kinematic:	Not applicable.

· Solvent content:

Organic solvents:	0.0 %
VOC content:	0.0 g/l / 0.00 lb/gl

Solids content: 100.0 %

· **Other information** No further relevant information available.

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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:**
- **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)**

7681-49-4	Sodium Fluoride	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.

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· **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.

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
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50-14-6	ergocalciferol
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· Section 313 (Specific toxic chemical listings):

10034-96-5	Manganese Sulfate Monohydrate
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7646-85-7	Zinc Chloride
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10102-18-8	Sodium Selenite
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· TSCA (Toxic Substances Control Act):

57-50-1	Sucrose
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9000-71-9	Casein
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9004-34-6	Alphacel
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7778-77-0	Potassium Phosphate Monobasic Anhydrous
471-34-1	Calcium Carbonate, ACS
7447-40-7	Potassium Chloride
7647-14-5	Sodium Chloride
50-81-7	L-Ascorbic Acid
10045-86-0	Ferric Phosphate
7695-91-2	DL-alpha-Tocopherol Acetate
7646-85-7	Zinc Chloride
7681-49-4	Sodium Fluoride
87-89-8	D-myo-Inositol, cell culture reagent
58-27-5	Menadione
150-13-0	p-Aminobenzoic Acid
59-67-6	nicotinic acid
137-08-6	D-Pantothenic Acid Calcium Salt
127-47-9	Vitamin A Acetate
69-65-8	D-mannitol
7681-11-0	Potassium Iodide
83-88-5	riboflavin
58-56-0	Pyridoxine Hydrochloride
67-03-8	Thiamine Hydrochloride
10102-18-8	Sodium Selenite
59-30-3	Folic Acid
50-14-6	ergocalciferol
58-85-5	D-Biotin
68-19-9	Vitamin B12

· 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)

10034-96-5	Manganese Sulfate Monohydrate	D
7646-85-7	Zinc Chloride	D, I, II
10102-18-8	Sodium Selenite	D

· TLV (Threshold Limit Value established by ACGIH)

57-50-1	Sucrose	A4
7681-49-4	Sodium Fluoride	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** 03/20/2017 / -

· **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