Safety Data Sheet

Cat. # 786-216

Concanavalin A (Con A) Agarose

Size: 5ml resin
Concanavalin A (Con A) Agarose
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Revision date: 5/11/2017   Version: 1.2

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

1.1. Product identifier
Product form : Mixture
Product name : Concanavalin A (Con A) Agarose
Product code : 263C,133G
Product group : Blend

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number
Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre)</td>
<td>Grosvenor Road B12 6BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas' Poisons Unit</td>
<td>Avonley Road SE14 5ER London</td>
<td>0870 243 2241</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre)</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category  H319
2

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects
Causes serious eye irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP) : GHS07
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CLP Signal word : Warning
Hazard statements (CLP) : H319 - Causes serious eye irritation.
Precautionary statements (CLP) : P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>10 - 50</td>
<td>Not classified</td>
</tr>
<tr>
<td>manganese(II) chloride, tetrahydrate</td>
<td>(CAS-No.) 13446-34-9</td>
<td>10 - 50</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td>calcium chloride, dihydrate</td>
<td>(CAS-No.) 10035-04-8</td>
<td>10 - 50</td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>Magnesium chloride</td>
<td>(CAS-No.) 7791-18-6</td>
<td>5 - 10</td>
<td>Not classified</td>
</tr>
<tr>
<td>sodium chloride</td>
<td>(CAS-No.) 7647-14-5</td>
<td>5 - 10</td>
<td>Not classified</td>
</tr>
<tr>
<td>sodium acetate, trihydrate</td>
<td>(CAS-No.) 6131-90-4</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
<tr>
<td>concanavalin A</td>
<td>(CAS-No.) 11028-71-0</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
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 eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/effects after eye contact : Eye irritation.

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Fire hazard : Combustible liquid.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep cool.
Storage temperature: 4 °C

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>sodium acetate, trihydrate (6131-90-4)</th>
<th>United Kingdom</th>
<th>WEL TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 mg/m³</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>manganese(II) chloride, tetrahydrate (13446-34-9)</th>
<th>United Kingdom</th>
<th>WEL TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.5 mg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment
Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>suspension</td>
</tr>
<tr>
<td>Colour</td>
<td>White to off-white</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>65 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
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<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
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<tr>
<td>Relative density</td>
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<tr>
<td>Solubility</td>
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<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
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<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
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<tr>
<td>Explosive limits</td>
<td>No data available</td>
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</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Value</th>
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<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
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<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium acetate, trihydrate (6131-90-4)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 5200 mg/kg (Rat)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 10000 mg/kg (Rabbit)</td>
</tr>
</tbody>
</table>
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manganese(II) chloride, tetrahydrate (13446-34-9)

LD50 oral rat 1484 mg/kg (Rat)

sodium chloride (7647-14-5)

LD50 oral rat > 3980 mg/kg bodyweight (Rat, Experimental value)
LD50 dermal rabbit > 10000 mg/kg (Rabbit, Experimental value)
LC50 inhalation rat (mg/l) > 42 mg/l air (1 h, Rat, Male, Experimental value)
calcium chloride, dihydrate (10035-04-8)

LD50 oral rat 2301 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male/female, Experimental value)
LD50 dermal rabbit > 5000 mg/kg bodyweight (Other, 24 h, Rabbit, Male/female, Experimental value)
Manganese chloride (7791-18-6)

LD50 oral rat 8100 mg/kg (Rat)
Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

sodium acetate, trihydrate (6131-90-4)

LC50 fish 1 100 mg/l (964 h, Brachydanio rerio)
EC50 Daphnia 1 > 1000 mg/l (48 h, Daphnia magna)
manganese(II) chloride, tetrahydrate (13446-34-9)

LC50 fish 1 18.8 mg/l (168 h, Carassius auratus)
EC50 Daphnia 1 > 11 mg/l (48 h, Daphnia magna)
sodium chloride (7647-14-5)

LC50 fish 1 5840 mg/l (ASTM, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)
calcium chloride, dihydrate (10035-04-8)

LC50 fish 1 10650 mg/l (96 h, Lepomis macrochirus, Literature study)
EC50 Daphnia 1 144 mg/l (48 h, Daphnia magna, Literature study)
Magnesium chloride (7791-18-6)

LC50 fish 1 16500 mg/l (96 h, Gambusia affinis)
EC50 Daphnia 1 3190 mg/l (24 h, Daphnia magna)
EC50 72h algae (1) 2200 mg/l (Scenedesmus subspicatus)

12.2. Persistence and degradability

concanavalin A (11028-71-0)
Persistence and degradability: Biodegradability in water: no data available.
sodium acetate, trihydrate (6131-90-4)
Persistence and degradability: Readily biodegradable in water.
manganese(II) chloride, tetrahydrate (13446-34-9)
Persistence and degradability: Biodegradability: not applicable.
Biochemical oxygen demand (BOD): Not applicable
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manganese(II) chloride, tetrahydrate (13446-34-9)
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

sodium chloride (7647-14-5)
| Persistence and degradability | Biodegradability: not applicable. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

calcium chloride, dihydrate (10035-04-8)
| Persistence and degradability | Biodegradability: not applicable. |
| Biochemical oxygen demand (BOD) | Not applicable (inorganic) |
| Chemical oxygen demand (COD) | Not applicable (inorganic) |
| ThOD | Not applicable (inorganic) |

Magnesium chloride (7791-18-6)
| Persistence and degradability | Biodegradability: not applicable. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

12.3. Bioaccumulative potential

concanavalin A (11028-71-0)
| Bioaccumulative potential | No bioaccumulation data available. |

sodium acetate, trihydrate (6131-90-4)
| BCF other aquatic organisms 1 | 3.162 (BCFWIN, Calculated value, Anhydrous form) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

manganese(II) chloride, tetrahydrate (13446-34-9)
| Bioaccumulative potential | Not bioaccumulative. |

sodium chloride (7647-14-5)
| Log Pow | -3 (Calculated) |
| Bioaccumulative potential | Not bioaccumulative. |

calcium chloride, dihydrate (10035-04-8)
| Bioaccumulative potential | Not bioaccumulative. |

Magnesium chloride (7791-18-6)
| Bioaccumulative potential | No bioaccumulation data available. |

12.4. Mobility in soil

sodium chloride (7647-14-5)
| Surface tension | 73.03 mN/m (23 °C, 14.5 g/l) |
| Ecology - soil | No (test)data on mobility of the substance available. |

calcium chloride, dihydrate (10035-04-8)
| Ecology - soil | No (test)data on mobility of the substance available. |

12.5. Results of PBT and vPvB assessment

Component

sodium chloride (7647-14-5)
| This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII |
| This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

calcium chloride, dihydrate (10035-04-8)
| This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII |
| This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

12.6. Other adverse effects

No additional information available
Concanavalin A (Con A) Agarose
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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 13: Disposal considerations

13.1. Waste treatment methods

SECTION 14: Transport information

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

14.1. UN number
UN-No. (ADR): Not regulated
UN-No. (IMDG): Not regulated
UN-No. (IATA): Not regulated
UN-No. (ADN): Not regulated
UN-No. (RID): Not regulated

14.2. UN proper shipping name
Proper Shipping Name (ADR): Not regulated
Proper Shipping Name (IMDG): Not regulated
Proper Shipping Name (IATA): Not regulated
Proper Shipping Name (ADN): Not regulated
Proper Shipping Name (RID): Not regulated

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR): Not regulated

IMDG
Transport hazard class(es) (IMDG): Not regulated

IATA
Transport hazard class(es) (IATA): Not regulated

ADN
Transport hazard class(es) (ADN): Not regulated

RID
Transport hazard class(es) (RID): Not regulated

14.4. Packing group
Packing group (ADR): Not regulated
Packing group (IMDG): Not regulated
Packing group (IATA): Not regulated
Packing group (ADN): Not regulated
Packing group (RID): Not regulated

14.5. Environmental hazards
Dangerous for the environment: No
Marine pollutant: No
Other information: No supplementary information available

14.6. Special precautions for user
- Overland transport
Not regulated
- Transport by sea
Not regulated
- Air transport
Not regulated
- Inland waterway transport
Not regulated
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- Rail transport
Not regulated

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 REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral), Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

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.