SAFETY DATA SHEET

SeaKem® LE
Version 1.0
MSDS Number: 000000012738
Revision Date: 2015.05.28

SECTION 1. IDENTIFICATION

Product name: SeaKem® LE
Material number: 50001
Product code: 000000012738

Manufacturer or supplier's details
Company: Lonza Ltd
Muenchensteinerstrasse 38
CH-4002 Basel
Switzerland
Business Telephone +41 61 316 81 11

Lonza Inc. - Rockland
191 Thomaston Street
Rockland, ME 04841-2994
USA
Business Telephone: 1-207-594-3400

Lonza Inc. - Walkersville
8830 Biggs Ford Road
Walkersville, MD 21793-0127
USA
Business Telephone 1-301-898-7025

E-mail address: prodinfo@lonza.com
Emergency telephone number: +41 61 313 94 94 (24h )

Recommended use of the chemical and restrictions on use
Recommended use: Scientific research and development

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Combustible dust:

GHS Label element
Signal word: Warning
Hazard statements: May form combustible dust concentrations in air

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Hazardous components
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<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agarose</td>
<td>9012-36-6</td>
<td>&gt;= 90.00</td>
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</tbody>
</table>

SECTION 4. FIRST AID MEASURES

If inhaled : No special precautions required.
In case of skin contact : After contact with skin, wash immediately with plenty of soap and water.
If skin irritation persists, call a physician.
In case of eye contact : Immediately flush eye(s) with plenty of water.
If eye irritation persists, consult a specialist.
If swallowed : If swallowed, do not induce vomiting - seek medical advice.
Immediately give large quantities of water to drink.
Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed : No information available.
Notes to physician : No information available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Dry powder
Water spray
Foam
Specific hazards during firefighting : Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Heating or fire can release toxic gas.
Further information : Use water spray to cool unopened containers.
Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid dust formation.
Environmental precautions

General advice : Prevent product from entering drains.
Methods and materials for containment and cleaning up : Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Non-sparking tools should be used.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Conditions for safe storage : Keep container tightly closed. To maintain product quality, do not store in heat or direct sunlight. Keep in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Appropriate engineering controls

Engineering measures : It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment

Respiratory protection : Respirator must be worn if exposed to dust.

Hand protection

Remarks : Handle in accordance with good industrial hygiene and safety practice.

Eye protection : Handle in accordance with good industrial hygiene and safety practice.

Skin and body protection : Wear suitable protective clothing and gloves.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
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Appearance : powder
Colour : white
Odour : odourless
Odour Threshold : no data available
pH : no data available
Melting point/range : no data available
Boiling point/boiling range : no data available
Flash point : no data available
Evaporation rate : no data available
Upper explosion limit : no data available
Lower explosion limit : no data available
Vapour pressure : no data available
Relative vapour density : no data available
Relative density : no data available
Density : 1.49 g/cm³

Solubility(ies)
Water solubility : 10 g/l (80 °C)

Partition coefficient: n-octanol/water : no data available
Auto-ignition temperature : no data available
Decomposition temperature : no data available
Viscosity, dynamic : no data available
Viscosity, kinematic : no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : None known.
Conditions to avoid : Avoid dust formation.
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Incompatible materials: Strong acids and oxidizing agents
Hazardous decomposition products: Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Carcinogenicity

IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
Remarks: There is no data available for this product.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxicity to fish: Remarks: no data available

Persistence and degradability
Biodegradability: Remarks: no data available

Bioaccumulative potential
Bioaccumulation: Remarks: no data available

Mobility in soil
Distribution among environmental compartments: Remarks: no data available

Other adverse effects
Results of PBT and vPvB assessment: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

Ozone-Depletion Potential: Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B)
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information: There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: In accordance with local and national regulations. Contact waste disposal services.

SECTION 14. TRANSPORT INFORMATION

IATA
UN number: Not applicable
Proper shipping name: Not applicable
Transport hazard class: Not applicable
Packing group: Not applicable
Environmental hazards: no

IMDG
UN number: Not applicable
Proper shipping name: Not applicable
Transport hazard class: Not applicable
Packing group: Not applicable
Environmental hazards: Marine pollutant: no

ADR
UN number: Not applicable
Proper shipping name: Not applicable
Transport hazard class: Not applicable
Packing group: Not applicable
Environmental hazards: no

RID
UN number: Not applicable
Proper shipping name: Not applicable
Transport hazard class: Not applicable
Packing group: Not applicable
Environmental hazards: no

DOT
UN number: Not applicable
Proper shipping name: Not applicable
Transport hazard class: Not applicable
Packing group: Not applicable
Environmental hazards: no
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TDG

UN number: Not applicable
Proper shipping name: Not applicable
Transport hazard class: Not applicable
Packing group: Not applicable
Environmental hazards: no

Special precautions for user: none

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 311/312 Hazards: No SARA Hazards

SARA 302
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know
- Agarose: 9012-36-6, 90% %
- Water: 7732-18-5, 10% %

New Jersey Right To Know
- Agarose: 9012-36-6, 90% %
- Water: 7732-18-5, 10% %

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:
- DSL: All components of this product are on the Canadian DSL.
- NZIOIC: May be used as a single component chemical under an appropriate group standard.
- TSCA: Listed on TSCA.
- EINECS: This mixture contains only ingredients which have been registered according to Regulation (EC) No. 1907/2006 (REACH).

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECl (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

SeaKem is a registered trademark of FMC Corp
Revision Date: 2015.05.28

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and
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