

Safety Data Sheet

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

Identification of the substance or mixture

Product code 31600034
Product name DMEM

Company/undertaking identification

Life Technologies Corporation
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Carlsbad, CA 92008
+1 760 603 7200

Life Technologies
5250 Mainway Drive
Burlington, ONT
CANADA L7L 6A4
800/263-6236

24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887
Outside the USA + Canada: 1-703-741-5970

Country Specific Emergency Number (if available):

For Research Use or Further Manufacturing. Not for diagnostic use or direct administration into humans or animals.

SECTION 2: Hazards identification

GHS Classification

Signal Word
WARNING

Hazard pictograms



Health hazards

| | |
|-----------------------------------|----------------|
| Serious eye damage/eye irritation | Category 2 |
| Skin sensitization | Subcategory 1B |

Physical hazards

Not Hazardous

Environmental hazards

Not Hazardous

Hazard Statements

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

Precautionary Statements**Prevention**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P264 - Wash hands thoroughly after handling

P272 - Contaminated work clothing should not be allowed out of the workplace

Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P337 + P313 - If eye irritation persists: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

Not Applicable

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards

Not Applicable

HMIS

| | |
|--------------|---|
| Health | 2 |
| Flammability | 0 |
| Reactivity | 0 |

SECTION 3: Composition/information on ingredients

| Chemical Name | CAS No. | Common name | EC No. | Weight-% |
|------------------------------------|-------------|----------------|-----------|----------|
| Sodium Pyruvate | 113-24-6 | Not applicable | 204-024-4 | 1-5 |
| L-Tyrosine disodium salt dihydrate | 122666-87-9 | Not applicable | - | <3 |
| Ferric Nitrate 9H ₂ O | 7782-61-8 | Not applicable | - | <0.01 |

We recommend handling all chemicals with caution.

SECTION 4: First aid measures

Description of first aid measures

| | |
|---------------------------|---|
| Skin contact | Rinse skin with water. Remove and wash contaminated clothing and gloves, including the inside, before re-use. |
| Eye contact | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. |
| Ingestion | Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical attention if symptoms occur. |
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a physician. |
| Notes to Physician | Treat symptomatically. |

Most important symptoms and effects, both acute and delayed

H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation

Indication of any immediate medical attention and special treatment needed

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/ attention.

SECTION 5: Firefighting measures

Extinguishing media

| | |
|---------------------------------------|---|
| Suitable extinguishing media | Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical. |
| Unsuitable extinguishing media | No information available. |

Special hazards arising from the substance or mixture

No data

| | |
|--------------------------------------|-----------------------------------|
| Hazardous Combustion Products | None under normal use conditions. |
|--------------------------------------|-----------------------------------|

| | |
|--------------------------------|--|
| Advice for firefighters | Standard procedure for chemical fires. |
|--------------------------------|--|

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation
Always wear recommended Personal Protective Equipment
Use personal protection equipment
See section 8 for more information

Environmental precautions

No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal.

Reference to other sections

See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For Research Use or Further Manufacturing. Not for diagnostic use or direct administration into humans or animals.

SECTION 8: Exposure controls/personal protection

Control parameters

| Chemical Name | OSHA PEL | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|------------------------------------|----------|--------------------|-----------------|------------------|
| Sodium Pyruvate | None | None | None | None |
| L-Tyrosine disodium salt dihydrate | None | None | None | None |
| Ferric Nitrate 9H ₂ O | None | None | None | None |

| Chemical Name | Brazil - OEL - TWAs (LTs) | Brazil - OEL - Ceilings | Brazil - OEL - Skin Designations |
|------------------------------------|---------------------------|-------------------------|----------------------------------|
| Sodium Pyruvate | None | None | None |
| L-Tyrosine disodium salt dihydrate | None | None | None |
| Ferric Nitrate 9H ₂ O | 1 mg/m ³ | None | None |

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal Protective Equipment

| | |
|---------------------------------|---|
| Respiratory protection | In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards. |
| Hand protection | Wear suitable gloves. Glove material: Compatible chemical-resistant gloves. |
| Eye protection | Tight sealing safety goggles. |
| Skin and Body Protection | Wear suitable protective clothing. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice |

Environmental exposure controls

No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

| | | |
|---|------------|------------|
| Physical state | powder | |
| Color | No data | |
| Odor | No data | |
| Molecular Weight | No data | |
| Melting point / melting range | °C No data | °F No data |
| Boiling point / boiling range | °C No data | °F No data |
| Flammability (solid, gas) | No data | |
| Lower explosion limit | No data | |
| Upper explosion limit | No data | |
| Flash point | °C No data | °F No data |
| Autoignition Temperature | °C No data | °F No data |
| Decomposition temperature | °C No data | °F No data |
| Evaporation rate | No data | |
| Viscosity | No data | |
| Solubility | No data | |
| Partition coefficient: n-octanol/water | No data | |
| Vapor Pressure | No data | |
| Specific gravity | No data | |
| Relative density | No data | |
| Vapor density | No data | |
| Explosive properties | No data | |
| Oxidizing properties | No data | |
| Particle characteristics | No data | |

Other information

Information with regard to physical hazard classes

No information available

Other safety characteristics

No information available

SECTION 10: Stability and reactivity

| | |
|---|---|
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous reaction has not been reported. |
| Conditions to avoid | No information available. |
| Incompatible materials | No dangerous reaction known under conditions of normal use. |
| Hazardous decomposition products | None under normal use conditions. |

SECTION 11: Toxicological information

Information on toxicological effects

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|------------------------------------|--------------------|-------------------|-------------------|
| Sodium Pyruvate | No data available | No data available | No data available |
| L-Tyrosine disodium salt dihydrate | No data available | No data available | No data available |
| Ferric Nitrate 9H ₂ O | = 3250 mg/kg (Rat) | No data available | No data available |

Principal Routes of Exposure

| | |
|--|--|
| Acute toxicity | Data are conclusive but insufficient for classification. |
| Skin corrosion/irritation | Data are conclusive but insufficient for classification |
| Serious eye damage/irritation | Causes serious eye irritation |
| Respiratory or skin sensitization | May cause an allergic skin reaction |
| Specific target organ toxicity (STOT) – single exposure | Data are conclusive but insufficient for classification |
| Specific target organ toxicity (STOT) – repeated exposure | Data are conclusive but insufficient for classification |
| Carcinogenicity | Data are conclusive but insufficient for classification |
| Germ cell mutagenicity | Data are conclusive but insufficient for classification |
| Reproductive toxicity | Data are conclusive but insufficient for classification |
| Aspiration hazard | Data are conclusive but insufficient for classification |

SECTION 12: Ecological information

Toxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish | Microtox Data | log Pow |
|------------------------------------|-------------------|---|-------------------|-------------------|-------------------|
| Sodium Pyruvate | No data available | No data available | No data available | No data available | No data available |
| L-Tyrosine disodium salt dihydrate | No data available | No data available | No data available | No data available | No data available |
| Ferric Nitrate 9H ₂ O | No data available | No data available | No data available | No data available | No data available |

Mobility in soil No information available.

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Results of PBT and vPvB assessment

No information available.

Other adverse effects No information available.

SECTION 13: Disposal considerations

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

| | |
|----------------------------|----------------|
| UN number or ID number | Not Applicable |
| UN proper shipping name | Not Applicable |
| Transport hazard class(es) | Not Applicable |
| Packing group | Not Applicable |

Environmental hazards

Not Applicable

Special precautions for user

Not Applicable

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 15: Regulatory information

| Component | US TSCA |
|--|---------|
| Sodium Pyruvate 113-24-6 (1-5) | Listed |
| L-Tyrosine disodium salt dihydrate 122666-87-9 (<3) | - |
| Ferric Nitrate 9H2O 7782-61-8 (<0.01) | - |

US Federal Regulations

SARA 313

This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain HAPs

US State Regulations

| Chemical Name | Massachusetts - RTK (Right-to-Know) | New Jersey - RTK (Right-to-Know) | Pennsylvania - RTK (Right-to-Know) |
|---------------------|--|-------------------------------------|---------------------------------------|
| Ferric Nitrate 9H2O | Listed | Listed | Listed |

California Proposition 65

This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class

D2B - Toxic materials

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

National Regulations - Brazil

| Chemical Name | CAS No. | Brazil - National Agency for Sanitary Surveillance (ANVISA) | Brazil - National List of Carcinogen Agents to Humans (LINACH) |
|---------------------------------------|-------------|---|--|
| Sodium Pyruvate | 113-24-6 | Not Listed | Not Listed |
| L-Tyrosine disodium salt dihydrate | 122666-87-9 | Not Listed | Not Listed |
| Ferric Nitrate 9H2O | 7782-61-8 | Not Listed | Not Listed |

SECTION 16: Other information

Reason for revision

SDS sections updated.

Revision date 05-Feb-2025
Product code 31600034

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Product name DMEM

Revision number 5
Revision date 05-Feb-2025

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References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCs - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet