



# SAFETY DATA SHEET

United States

## Section 1. Identification

Product name

**DME/F-12 (1:1), with 2.50 mM L-Glutamine,  
without HEPES**

Catalogue Number

**SH30271**



9 0 S H 3 0 2 7 1

Other means of identification Not available.

Product type Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

For Further Manufacturing or Research Use. Not for Diagnostic or Therapeutic Use.

Not available.

Supplier / Manufacturer

Cytiva Austria  
Krempstr. 5  
4061 Pasching  
AUSTRIA  
Tel. (+43) 7229 64865  
Fax (+43) 7229 64866

HyClone Laboratories  
925 West 1800 South  
Logan, Utah 84321  
Phone: (435) 792-8000

Cytiva Singapore  
1 Maritime Square #13-01  
Harbourfront Centre  
Singapore 099253

Cytiva  
Amersham Place  
Little Chalfont  
Buckinghamshire  
HP7 9NA United Kingdom  
+44 0800 515 313

Cytiva USA  
100 Results Way  
Marlborough, MA 01752  
1-800-526-3593

In case of emergency

INFOTRAC - 24 Hour number: 1-800-535-5053  
Outside of the United States, call 24 Hour number: 001-352-323-3500 (Call Collect)

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## Section 2. Hazards identification

OSHA/HCS status

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture

Not classified.

### GHS label elements

Signal word

No signal word.

Hazard statements

No known significant effects or critical hazards.

### Precautionary statements



|   |                 |
|---|-----------------|
| <b>Prevention</b>                       | Not applicable. |
| <b>Response</b>                         | Not applicable. |
| <b>Storage</b>                          | Not applicable. |
| <b>Disposal</b>                         | Not applicable. |
| <b>Hazards not otherwise classified</b> | None known.     |

### Section 3. Composition/information on ingredients

|  |                 |
|--|-----------------|
| <b>Substance/mixture</b>                   | Mixture         |
| <b>Other means of identification</b>       | Not available.  |
| <b><u>CAS number/other identifiers</u></b> |                 |
| <b>CAS number</b>                          | Not applicable. |

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First aid measures

#### Description of necessary first aid measures

|                     |  |
|---------------------|--|
| <b>Eye contact</b>  | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.  |
| <b>Inhalation</b>   | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.  |
| <b>Skin contact</b> | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.   |
| <b>Ingestion</b>    | Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

|                     |   |
|---------------------|---|
| <b>Eye contact</b>  | No known significant effects or critical hazards. |
| <b>Inhalation</b>   | No known significant effects or critical hazards. |
| <b>Skin contact</b> | No known significant effects or critical hazards. |
| <b>Ingestion</b>    | No known significant effects or critical hazards. |

##### Over-exposure signs/symptoms

|                     |                   |
|---------------------|-------------------|
| <b>Eye contact</b>  | No specific data. |
| <b>Inhalation</b>   | No specific data. |
| <b>Skin contact</b> | No specific data. |
| <b>Ingestion</b>    | No specific data. |

#### Indication of immediate medical attention and special treatment needed, if necessary

|                                   |   |
|-----------------------------------|---|
| <b>Notes to physician</b>         | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| <b>Specific treatments</b>        | No specific treatment.  |
| <b>Protection of first-aiders</b> | No action shall be taken involving any personal risk or without suitable training.  |

See toxicological information (Section 11)

### Section 5. Fire-fighting measures

#### Extinguishing media

|   |   |
|---|---|
| <b>Suitable extinguishing media</b>                   | Use an extinguishing agent suitable for the surrounding fire.   |
| <b>Unsuitable extinguishing media</b>                 | None known.   |
| <b>Specific hazards arising from the chemical</b>     | In a fire or if heated, a pressure increase will occur and the container may burst.   |
| <b>Hazardous thermal decomposition products</b>       | No specific data.   |
| <b>Special protective actions for fire-fighters</b>   | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| <b>Special protective equipment for fire-fighters</b> | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |



## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

|                                    |   |
|------------------------------------|---|
| <b>For non-emergency personnel</b> | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. |
| <b>For emergency responders</b>    | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".   |
| <b>Environmental precautions</b>   | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).   |

### Methods and materials for containment and cleaning up

|                    |  |
|--------------------|--|
| <b>Small spill</b> | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.  |
| <b>Large spill</b> | Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. |

## Section 7. Handling and storage

### Precautions for safe handling

|   |   |
|---|---|
| <b>Protective measures</b>  | Put on appropriate personal protective equipment (see Section 8).   |
| <b>Advice on general occupational hygiene</b>                       | Eating, drinking and smoking should be prohibited in areas where this material is handled and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.   |
| <b>Conditions for safe storage, including any incompatibilities</b> | Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

#### Biological exposure indices

No exposure indices known.

#### Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Skin protection

##### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

##### Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.



|                               |  |
|-------------------------------|--|
| <b>Respiratory protection</b> | Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. |
|-------------------------------|--|

## Section 9. Physical and chemical properties

### Appearance

|  |                 |
|--|-----------------|
| <b>Physical state</b>  | Liquid.         |
| <b>Color</b>   | Clear. Reddish  |
| <b>Odor</b>  | Not available.  |
| <b>Odor threshold</b>  | Not available.  |
| <b>pH</b>  | 6.9 to 7.3      |
| <b>Melting point/freezing point</b>                            | Not available.  |
| <b>Boiling point, initial boiling point, and boiling range</b> | Not available.  |
| <b>Flash point</b>   | Not available.  |
| <b>Burning time</b>  | Not applicable. |
| <b>Burning rate</b>  | Not applicable. |
| <b>Evaporation rate</b>  | Not available.  |
| <b>Flammability</b>  | Not available.  |
| <b>Lower and upper explosive (flammable) limits</b>            | Not available.  |
| <b>Vapor pressure</b>  | Not available.  |

### Vapor Pressure at 20°C

### Vapor pressure at 50°C

|  | Ingredient name | Vapor Pressure at 20°C |     |        | Vapor pressure at 50°C |     |        |
|--|-----------------|------------------------|-----|--------|------------------------|-----|--------|
|  |                 | mm Hg                  | kPa | Method | mm Hg                  | kPa | Method |
|  | water           | 23.8                   | 3.2 |        |                        |     |        |
| <b>Relative vapor density</b>                  | Not available.  |                        |     |        |                        |     |        |
| <b>Relative density</b>                        | Not available.  |                        |     |        |                        |     |        |
| <b>Solubility in water</b>                     | Not available.  |                        |     |        |                        |     |        |
| <b>Partition coefficient: n-octanol/ water</b> | Not applicable. |                        |     |        |                        |     |        |
| <b>Auto-ignition temperature</b>               | Not available.  |                        |     |        |                        |     |        |
| <b>Decomposition temperature</b>               | Not available.  |                        |     |        |                        |     |        |
| <b>SADT</b>                                    | Not available.  |                        |     |        |                        |     |        |
| <b>Viscosity</b>                               | Not available.  |                        |     |        |                        |     |        |
| <b>Flow time (ISO 2431)</b>                    | Not available.  |                        |     |        |                        |     |        |
| <b><u>Particle characteristics</u></b>         |                 |                        |     |        |                        |     |        |
| <b>Median particle size</b>                    | Not applicable. |                        |     |        |                        |     |        |

## Section 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactivity</b>                         | No specific test data related to reactivity available for this product or its ingredients.           |
| <b>Chemical stability</b>                 | The product is stable.   |
| <b>Possibility of hazardous reactions</b> | Under normal conditions of storage and use, hazardous reactions will not occur.                      |
| <b>Conditions to avoid</b>                | No specific data.  |
| <b>Incompatible materials</b>             | No specific data.  |
| <b>Hazardous decomposition products</b>   | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

## Section 11. Toxicological information

### Information on toxicological effects

#### **Acute toxicity**

Not available.

#### **Irritation/Corrosion**

Not available.

#### **Sensitization**

Not available.

#### **Mutagenicity**

Not available.



**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure**      Routes of entry anticipated: Oral, Dermal, Eyes.

**Potential acute health effects**

|                     |   |
|---------------------|---|
| <b>Eye contact</b>  | No known significant effects or critical hazards. |
| <b>Inhalation</b>   | No known significant effects or critical hazards. |
| <b>Skin contact</b> | No known significant effects or critical hazards. |
| <b>Ingestion</b>    | No known significant effects or critical hazards. |

**Symptoms related to the physical, chemical and toxicological characteristics**

|                     |                   |
|---------------------|-------------------|
| <b>Eye contact</b>  | No specific data. |
| <b>Inhalation</b>   | No specific data. |
| <b>Skin contact</b> | No specific data. |
| <b>Ingestion</b>    | No specific data. |

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

|                                    |                |
|------------------------------------|----------------|
| <b>Potential immediate effects</b> | Not available. |
| <b>Potential delayed effects</b>   | Not available. |

**Long term exposure**

|                                    |                |
|------------------------------------|----------------|
| <b>Potential immediate effects</b> | Not available. |
| <b>Potential delayed effects</b>   | Not available. |

**Potential chronic health effects**

Not available.

|                              |   |
|------------------------------|---|
| <b>General</b>               | No known significant effects or critical hazards. |
| <b>Carcinogenicity</b>       | No known significant effects or critical hazards. |
| <b>Mutagenicity</b>          | No known significant effects or critical hazards. |
| <b>Reproductive toxicity</b> | No known significant effects or critical hazards. |

**Numerical measures of toxicity****Acute toxicity estimates**

N/A

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**Section 12. Ecological information****Toxicity**

Not available.

**Persistence and degradability**

Not available.

**Bioaccumulative potential**

Not available.

**Mobility in soil**

|  |                |
|--|----------------|
| <b>Soil/water partition coefficient (K<sub>oc</sub>)</b> | Not available. |
|--|----------------|

|                              |   |
|------------------------------|---|
| <b>Other adverse effects</b> | No known significant effects or critical hazards. |
|------------------------------|---|

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## Section 13. Disposal considerations

|                         |  |
|-------------------------|--|
| <b>Disposal methods</b> | The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. |
|-------------------------|--|

## Section 14. Transport information

|   | DOT Classification  | TDG Classification | Mexico Classification |
|---|---|--------------------|-----------------------|
| <b>UN number</b>                                      | Not available.  | Not available.     | Not available.        |
| <b>UN proper shipping name</b>                        | Not available.  | Not available.     | Not available.        |
| <b>Transport hazard class(es)</b>                     | Not available.  | Not available.     | Not available.        |
| <b>Packing group</b>                                  | -   | -                  | -                     |
| <b>Environmental hazards</b>                          | No.   | No.                | No.                   |
| <b>Additional information</b>                         | -   | -                  | -                     |
|   | ADR/RID   | IMDG               | IATA                  |
| <b>UN number</b>                                      | Not available.  | Not available.     | Not available.        |
| <b>UN proper shipping name</b>                        | Not available.  | Not available.     | Not available.        |
| <b>Transport hazard class(es)</b>                     | Not available.  | Not available.     | Not available.        |
| <b>Packing group</b>                                  | -   | -                  | -                     |
| <b>Environmental hazards</b>                          | No.   | No.                | No.                   |
| <b>Additional information</b>                         | -   | -                  | -                     |
| <b>Special precautions for user</b>                   | <b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage. |                    |                       |
| <b>Transport in bulk according to IMO instruments</b> | Not available.  |                    |                       |
| <b>Proper shipping name</b>                           | Not available.  |                    |                       |

## Section 15. Regulatory information

|   |   |
|---|---|
| <b>U.S. Federal regulations</b>                                     | <b>TSCA 4(a) proposed test rules:</b> glycine<br><b>TSCA 8(a) CDR Exempt/Partial exemption:</b> Not determined<br><b>Clean Water Act (CWA) 307:</b> Sulfuric acid, zinc salt (1:1), heptahydrate; Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)<br><b>Clean Water Act (CWA) 311:</b> disodium hydrogenorthophosphate; iron (II) sulfate (1:1) heptahydrate; Sulfuric acid, zinc salt (1:1), heptahydrate; Nitric acid, iron(3+) salt, nonahydrate; Sulfuric acid copper (2+) salt (1:1), hydrate (1:5) |
| <b>Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)</b> | Not listed  |
| <b>Clean Air Act Section 602 Class I Substances</b>                 | Not listed  |
| <b>Clean Air Act Section 602 Class II Substances</b>                | Not listed  |
| <b>DEA List I Chemicals (Precursor Chemicals)</b>                   | Not listed  |
| <b>DEA List II Chemicals (Essential Chemicals)</b>                  | Not listed  |
| <b><u>SARA 302/304</u></b>  |   |
| <b><u>Composition/information on ingredients</u></b>                |   |
| No products were found.   |   |
| <b>SARA 304 RQ</b>  | Not applicable.   |
| <b><u>SARA 311/312</u></b>  |   |
| <b>Classification</b>   | Not applicable.   |



**Composition/information on ingredients**

No products were found.

**State regulations**

|                      |                                    |
|----------------------|------------------------------------|
| <b>Massachusetts</b> | None of the components are listed. |
| <b>New York</b>      | None of the components are listed. |
| <b>New Jersey</b>    | None of the components are listed. |
| <b>Pennsylvania</b>  | None of the components are listed. |

**California Prop. 65**

This product does not require a Safe Harbor warning under California Prop. 65.

**International regulations****Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**Inventory list**

|                         |                 |
|-------------------------|-----------------|
| <b>United States</b>    | Not determined. |
| <b>Canada inventory</b> | Not determined. |

**Section 16. Other information****National Fire Protection Association (U.S.A.)****Procedure used to derive the classification**

| Classification  | Justification |
|-----------------|---------------|
| Not classified. |               |

**History**

|                                       |           |
|---------------------------------------|-----------|
| <b>Date of printing</b>               | 7/7/2023  |
| <b>Date of issue/Date of revision</b> | 7/7/2023  |
| <b>Date of previous issue</b>         | 4/22/2020 |
| <b>Version</b>                        | 1.01      |

**Key to abbreviations**

sds\_author@cytiva.com  
 ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 UN = United Nations

**References**

▀ Indicates information that has changed from previously issued version.

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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