1 Identification

- **Product identifier**
- **Trade name:** DMSO Assay Reagent
- **Article number:** 700001
- **CAS Number:** 67-68-5
- **EC number:** 200-664-3
- **Application of the substance / the mixture**
  This product is for research use - Not for human or veterinary diagnostic or therapeutic use.

2 Hazard(s) identification

- **Classification of the substance or mixture**
  Flammable Liquids 4 H227 Combustible liquid.
- **Label elements**
- **GHS label elements**
  The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** None
- **Signal word** Warning
- **Hazard statements**
  H227 Combustible liquid.
- **Precautionary statements**
  P210 Keep away from flames and hot surfaces. – No smoking.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.
  P403+P235 Store in a well-ventilated place. Keep cool.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Trade name: DMSO Assay Reagent

- **Classification system:**
  - NFPA ratings (scale 0 - 4)
    - Health = 0
    - Fire = 2
    - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  - Health = 0
  - Fire = 2
  - Reactivity = 0

- **Other hazards**
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
  - CAS No. Description
    - 67-68-5 Dimethyl sulfoxide
  - **Identification number(s)**
    - EC number: 200-664-3
  - **Dangerous components:**
    - CAS: 67-68-5
    - RTECS: PV6210000
    - Dimethyl sulfoxide 100.0%

### 4 First-aid measures

- **Description of first aid measures**
  - **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:** Rinse opened eye for several minutes under running water.
  - **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:**
    - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  - **Special hazards arising from the substance or mixture**
    - Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.
    - Container explosion may occur under fire conditions.
    - Emits toxic fumes under fire conditions.
    - Sensitive to static discharge.
6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
- Environmental precautions:
  Do not allow to enter sewers/surface or ground water.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
- 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.
- Protective Action Criteria for Chemicals

  | PAC-1: | 150 ppm |
  | PAC-2: | 290 ppm |
  | PAC-3: | 1,800 ppm |

7 Handling and storage

- Handling:
  - Precautions for safe handling
    - No special precautions are necessary if used correctly.
    - Avoid breathing dust/fume/gas/mist/vapours/spray.
    - Avoid prolonged or repeated exposure.
    - Keep away from sources of ignition.
    - Take precautionary measures against static discharge.
  - Information about protection against explosions and fires:
    - Keep ignition sources away - Do not smoke.

- Conditions for safe storage, including any incompatibilities
  - Storage: Store in accordance with information listed on the product insert.
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep receptacle tightly sealed.
  - 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 item 7.
Trade name: DMSO Assay Reagent

· Control parameters

· Components with limit values that require monitoring at the workplace:
  67-68-5 Dimethyl sulfoxide
  WEEL | Long-term value: 250 ppm

· Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls
  · Personal protective equipment:
  · General protective and hygienic measures: Wash hands before breaks and at the end of work.
  · Breathing equipment: Not required.
  · Protection of hands:

  Protective gloves

  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.

· 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: Goggles recommended during refilling.

* 9 Physical and chemical properties

· Information on basic physical and chemical properties
  · General Information
  · Appearance:
    Form: Liquid
    Color: Colorless
    Odor: Odorless
    Odor threshold: Not determined.
  · pH-value: Not determined.

· Change in condition
  Melting point/Melting range: 18.45 °C (65.2 °F)
  Boiling point/Boiling range: 189 °C (372.2 °F)

· Flash point: 89 °C (192.2 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 270 °C (518 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Not determined.

(Contd. on page 5)
### 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**
- **LD/LC50 values that are relevant for classification**

<table>
<thead>
<tr>
<th>67-68-5 Dimethyl sulfoxide</th>
<th>Oral LD50</th>
<th>7,200 mg/kg (mouse)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intraperitoneal LD50</td>
<td>2,500 mg/kg (mouse)</td>
</tr>
<tr>
<td></td>
<td>Subcutaneous LD50</td>
<td>14,000 mg/kg (mouse)</td>
</tr>
<tr>
<td></td>
<td>Intravenous LD50</td>
<td>3,100 mg/kg (mouse)</td>
</tr>
</tbody>
</table>
Trade name: DMSO Assay Reagent

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
  - Additional toxicological information:

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    Substance is not listed.
  - NTP (National Toxicology Program)
    Substance is not listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    Substance is not 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 (Assessment by list): 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.
    - Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
  - NA1993
- DOT
  - NA1993
- IMDG, IATA
  - not regulated
# Safety Data Sheet

**acc. to OSHA HCS**

Printing date 01/03/2023  
Revision date 01/03/2023

## Trade name: DMSO Assay Reagent

<table>
<thead>
<tr>
<th>· UN proper shipping name</th>
<th>COMBUSTIBLE LIQUID, N.O.S</th>
</tr>
</thead>
<tbody>
<tr>
<td>· DOT</td>
<td></td>
</tr>
<tr>
<td>· IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td><strong>Transport hazard class(es)</strong></td>
<td></td>
</tr>
<tr>
<td>· DOT</td>
<td></td>
</tr>
<tr>
<td><img src="Image" alt="Combustible Liquid" /></td>
<td></td>
</tr>
<tr>
<td>· Class</td>
<td>3 Combustible liquids</td>
</tr>
<tr>
<td>· Label</td>
<td>3</td>
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<tr>
<td>· ADN/R Class:</td>
<td>not regulated</td>
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<tr>
<td><strong>Packing group</strong></td>
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</tr>
<tr>
<td>· DOT</td>
<td>III</td>
</tr>
<tr>
<td>· IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td><strong>Environmental hazards:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Special precautions for user</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport/Additional information:</strong></td>
<td></td>
</tr>
<tr>
<td>· DOT</td>
<td></td>
</tr>
<tr>
<td>· Quantity limitations</td>
<td>On passenger aircraft/rail: 60 L</td>
</tr>
<tr>
<td></td>
<td>On cargo aircraft only: 220 L</td>
</tr>
<tr>
<td><strong>IATA</strong></td>
<td></td>
</tr>
<tr>
<td>· Remarks:</td>
<td>When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.</td>
</tr>
<tr>
<td><strong>UN &quot;Model Regulation&quot;:</strong></td>
<td>not regulated</td>
</tr>
</tbody>
</table>

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**  
  No further relevant information available.
- **Sara**
  - **Section 355 (extremely hazardous substances):**  
    Substance is not listed.
  - **Section 313 (Specific toxic chemical listings):**  
    Substance is not listed.
- **TSCA (Toxic Substances Control Act):**  
  ACTIVE
### 56.0 Hazardous Air Pollutants
Substance is not listed.

### 57.0 Proposition 65
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.

### 58.0 Carcinogenic categories
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.

### Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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### 16.0 Other information
All chemicals may pose unknown hazards and should be used with caution. This SDS applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. Cayman Chemical Company assumes no responsibility for incidental or consequential damages, including lost profits, arising from the use of these data. It shall be the user’s responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Cayman Chemical Company assumes no responsibility for the completeness or accuracy of the information contained herein.

- **Department issuing SDS:** Environment protection department.
- **Contact:** -
- **Date of preparation / last revision** 01/03/2023
- **Abbreviations and acronyms:**
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - 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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - 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

(Contd. on page 9)
Trade name: DMSO Assay Reagent

Flammable Liquids 4: Flammable liquids – Category 4
· * Data compared to the previous version altered.