

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay IBMX Solution (1,000X)**

Page: 1

Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108

Printed: 09/28/2007  
Revision: 09/11/2007

Date Created: 09/11/2007

### 1. Product and Company Identification

**Product Code:** 10009948  
**Product Name:** Adipolysis Assay IBMX Solution (1,000X)  
**Manufacturer Information**  
**Company Name:** Cayman Chemical Company  
**Emergency Contact:** Cayman Chemical Company (800)364-9897  
**Information:** Cayman Chemical Company (734)971-3335  
**Chemical Family:** EIA - Other

### 2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Xanthine, 3-isobutyl-1-methyl-	28822-58-4	5.56 %	No data.	No data.	No data.
2. Dimethyl sulfoxide, anhydrous	67-68-5	94.44 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Xanthine, 3-isobutyl-1-methyl-	ZD8500000	No data.	No data.	No data.	No data.
2. Dimethyl sulfoxide, anhydrous	PV6210000	No data.	No data.	No data.	No data.

### 3. Hazards Identification

**Emergency Overview:** No data available.  
**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection  
**Potential Health Effects (Acute and Chronic):** The hazards identified with this product are those associated with the solvent(s). Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body.  
Irritating to the skin, eyes, nose, throat, and respiratory tract.  
Material may be irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.  
May cause eye, skin, or respiratory system irritation.  
The toxicological properties of this compound have not been fully evaluated.  
**LD 50 / LC 50:** Please refer to Section 11  
**Signs and Symptoms Of Exposure:** No data available.

### 4. First Aid Measures

**Emergency and First Aid Procedures:** If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.  
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.  
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.  
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

### 5. Fire Fighting Measures

**Flash Pt:** 87.00 C Method Used: CC  
**Explosive Limits:** LEL: 3.5% at 25.0 C UEL: 42% at 25.0 C

# MATERIAL SAFETY DATA SHEET

## Adipolysis Assay IBMX Solution (1,000X)

Page: 2  
Printed: 09/28/2007  
Revision: 09/11/2007

<b>Autoignition Pt:</b>	301.00 C
<b>Fire Fighting Instructions:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
<b>Flammable Properties and Hazards:</b>	Can release vapors that form explosive mixtures at temperatures at or above the flashpoint. Those vapors include formaldehyde, methyl mercaptan, and sulfur dioxide. Combustible liquid. Container explosion may occur under fire conditions. Emits toxic fumes under fire conditions. May cause exothermic reaction when combined with certain chemicals. On mixing with potassium permanganate it will flash instantaneously. Reacts violently with other acids. Vapors can travel to a source of ignition and flash back.
<b>Extinguishing Media:</b>	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
<b>Unsuitable Extinguishing Media:</b>	No data available.

### 6. Accidental Release Measures

<b>Steps To Be Taken In Case Material Is Released Or Spilled:</b>	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. After removal, ventilate contaminated area and flush thoroughly with water. Avoid release into the environment - very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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### 7. Handling and Storage

<b>Hazard Label Information:</b>	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
<b>Precautions To Be Taken in Handling:</b>	Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
<b>Precautions To Be Taken in Storing:</b>	Store at correct temperature.

### 8. Exposure Controls/Personal Protection

<b>Protective Equipment Summary - Hazard Label Information:</b>	Eye wash station in work area   Lab coat   Latex disposable gloves   Safety glasses   Safety shower in work area   Vent Hood
<b>Respiratory Equipment (Specify Type):</b>	No data available.
<b>Eye Protection:</b>	Safety glasses
<b>Protective Gloves:</b>	Latex disposable gloves
<b>Other Protective Clothing:</b>	Lab coat
<b>Engineering Controls (Ventilation etc.):</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>Work/Hygienic/Maintenance Practices:</b>	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

### 9. Physical and Chemical Properties

<b>Physical States:</b>	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
<b>Melting Point:</b>	No data.
<b>Boiling Point:</b>	No data.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay IBMX Solution (1,000X)**

Page: 3  
Printed: 09/28/2007  
Revision: 09/11/2007

<b>Autoignition Pt:</b>	301.00 C
<b>Flash Pt:</b>	87.00 C Method: CC
<b>Explosive Limits:</b>	LEL: 3.5% at 25.0 C UEL: 42% at 25.0 C
<b>Specific Gravity (Water = 1):</b>	No data.
<b>Vapor Pressure (vs. Air or mm Hg):</b>	0.42 MM_HG at 20.0 C
<b>Vapor Density (vs. Air = 1):</b>	No data.
<b>Evaporation Rate (vs Butyl Acetate=1):</b>	No data.
<b>Solubility in Water:</b>	No data.
<b>Percent Volatile:</b>	No data.
<b>Corrosion Rate:</b>	No data.
<b>pH:</b>	No data.
<b>Appearance and Odor:</b>	A clear, colorless solution

## 10. Stability and Reactivity

<b>Stability:</b>	Unstable [ ] Stable [ X ]
<b>Conditions To Avoid - Instability:</b>	protect from moisture
<b>Incompatibility - Materials To Avoid:</b>	acid chlorides acid halides cyanuric chloride diborane iodine pentafluoride magnesium perchlorate methyl bromide nitrogen periodate perchloric acid periodic acid phosphorus halides phosphorus trichloride phosphorus trioxide potassium permanganate silicon tetrachloride silver fluoride sodium hydride strong acids strong oxidizing agents strong reducing agents thionyl chloride
<b>Hazardous Decomposition Or Byproducts:</b>	carbon dioxide carbon monoxide formaldehyde methyl mercaptan sulfur dioxide sulfur oxides
<b>Hazardous Polymerization:</b>	Will occur [ ] Will not occur [ X ]
<b>Conditions To Avoid - Hazardous Polymerization:</b>	No data available.

## 11. Toxicological Information

<b>Toxicological Information:</b>	The toxicological effects of this compound have not been thoroughly studied.
	DMSO - Toxicity Data: Inhalation (rat) LC50:40,250 ppm Oral (rat) LD50:3,300 mg/kg Skin (rat) LD50:40,000 mg/kg Subcutaneous (rat) LD50:12 g/kg Intravenous (rat) LD50:5,360 mg/kg

# MATERIAL SAFETY DATA SHEET

## Adipolysis Assay IBMX Solution (1,000X)

Page: 4  
Printed: 09/28/2007  
Revision: 09/11/2007

Skin (rabbit) LD50:>5,000 mg/kg  
Oral (mouse) LD50:7,920 mg/kg  
Subcutaneous (mouse) LD50:14 g/kg  
Skin (mouse) LD50:50,000 mg/kg  
Intraperitoneal (mouse) LD50:2,500 mg/kg  
Oral (dog) LD50:>10,000 mg/kg

**Chronic Toxicological Effects:**

DMSO - Target Organ Data:  
Effects on embryo or fetus (fetal death)  
Effects on embryo or fetus (fetotoxicity)  
Effects on fertility (abortion)  
Effects on fertility (litter size)  
Effects on fertility (pre-implantation mortality)  
Effects on fertility (post-implantation mortality)  
Specific developmental abnormalities (central nervous system)  
Specific developmental abnormalities (musculoskeletal system)  
Specific developmental abnormalities (craniofacial, including nose and tongue)  
Specific developmental abnormalities (other developmental abnormalities)

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.  
See actual entry in RTECS for complete information.  
DMSO RTECS Number: PV6210000

**Carcinogenicity/Other Information:**

No data available.

**Carcinogenicity:**

NTP? No    IARC Monographs? No    OSHA Regulated? No

### 12. Ecological Information

**Ecological Information:**

Avoid release into the environment - very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Runoff from fire control or dilution water may cause pollution.

### 13. Disposal Considerations

**Waste Disposal Method:**

Dispose in accordance with local, state and federal regulations.

### 14. Transport Information

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name:** Combustible liquid, n.o.s.  
**DOT Hazard Class:** Combustible liquid  
**DOT Hazard Label:** Combustible liquid, n.o.s.  
**UN/NA Number:** 1993  
**Packing Group:** III

**Additional Transport Information:**

Transport in accordance with local, state, and federal regulations.

### 15. Regulatory Information

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Xanthine, 3-isobutyl-1-methyl-	28822-58-4	No	No	No	No
2. Dimethyl sulfoxide, anhydrous	67-68-5	No	No	No	No

**US EPA CAA, CWA, TSCA**

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Xanthine, 3-isobutyl-1-methyl-	28822-58-4	No	No	No	No
2. Dimethyl sulfoxide, anhydrous	67-68-5	No	No	Inventory	No

## 16. Other Information

### Company Policy or Disclaimer

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Insulin Solution (1,000X)**

Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108

Printed: 09/28/2007  
Revision: 09/11/2007

Date Created: 09/11/2007

### 1. Product and Company Identification

**Product Code:** 10009949  
**Product Name:** Adipolysis Assay Insulin Solution (1,000X)  
**Manufacturer Information**  
**Company Name:** Cayman Chemical Company  
**Emergency Contact:** Cayman Chemical Company (800)364-9897  
**Information:** Cayman Chemical Company (734)971-3335  
**Chemical Family:** EIA - Other

### 2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Insulin from Bovine Pancreas Cell Culture Tested	11070-73-8	0.1 %	No data.	No data.	No data.
2. Water	7732-18-5	99.9 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Insulin from Bovine Pancreas Cell Culture Tested	NA	No data.	No data.	No data.	No data.
2. Water	ZC0110000	No data.	No data.	No data.	No data.

### 3. Hazards Identification

**Emergency Overview:** No data available.  
**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection  
**Potential Health Effects (Acute and Chronic):** Material may be irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.  
May cause eye, skin, or respiratory system irritation.  
The toxicological properties of this compound have not been fully evaluated.  
**Signs and Symptoms Of Exposure:** No data available.

### 4. First Aid Measures

**Emergency and First Aid Procedures:** If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.  
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.  
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.  
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

### 5. Fire Fighting Measures

**Flash Pt:** No data.  
**Explosive Limits:** LEL: No data. UEL: No data.  
**Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.  
**Flammable Properties and Hazards:** No data available.  
**Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Insulin Solution (1,000X)**

Page: 2  
Printed: 09/28/2007  
Revision: 09/11/2007

**Unsuitable Extinguishing Media:** No data available.

### 6. Accidental Release Measures

**Steps To Be Taken In Case Material Is Released Or Spilled:** Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).  
Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.  
After removal, ventilate contaminated area and flush thoroughly with water.

### 7. Handling and Storage

**Hazard Label Information:** Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.  
Wash thoroughly after handling.

**Precautions To Be Taken in Handling:** Avoid breathing (dust, vapor, mist, gas).  
Avoid contact with eyes, skin, and clothing.  
Avoid prolonged or repeated exposure.  
Do not reuse this container.  
Use with adequate ventilation.  
Wash thoroughly after handling.

**Precautions To Be Taken in Storing:** Store at correct temperature.

### 8. Exposure Controls/Personal Protection

**Protective Equipment Summary - Hazard Label Information:** Eye wash station in work area   Lab coat   Latex disposable gloves   Safety glasses   Safety shower in work area   Vent Hood

**Respiratory Equipment (Specify Type):** No data available.

**Eye Protection:** Safety glasses

**Protective Gloves:** Latex disposable gloves

**Other Protective Clothing:** Lab coat

**Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

**Work/Hygienic/Maintenance Practices:** Do not take internally.  
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Wash thoroughly after handling.

### 9. Physical and Chemical Properties

**Physical States:** [ ] Gas   [ X ] Liquid   [ ] Solid

**Melting Point:** No data.

**Boiling Point:** No data.

**Autoignition Pt:** No data.

**Flash Pt:** No data. Method:

**Explosive Limits:** LEL: No data. UEL: No data.

**Specific Gravity (Water = 1):** No data.

**Vapor Pressure (vs. Air or mm Hg):** No data.

**Vapor Density (vs. Air = 1):** No data.

**Evaporation Rate (vs Butyl Acetate=1):** No data.

**Solubility in Water:** No data.

**Percent Volatile:** No data.

**Corrosion Rate:** No data.

**pH:** No data.

**Appearance and Odor:** A clear, colorless solution

### 10. Stability and Reactivity

**Stability:** Unstable [ ]   Stable [ X ]

**Conditions To Avoid - Instability:** No data available.

# MATERIAL SAFETY DATA SHEET

## Adipolysis Assay Insulin Solution (1,000X)

Page: 3  
Printed: 09/28/2007  
Revision: 09/11/2007

**Incompatibility - Materials To Avoid:** strong oxidizing agents  
**Hazardous Decomposition Or Byproducts:** No data available.  
**Hazardous Polymerization:** Will occur [ ] Will not occur [ X ]  
**Conditions To Avoid - Hazardous Polymerization:** No data available.

### 11. Toxicological Information

**Toxicological Information:** The toxicological effects of this compound have not been thoroughly studied.  
**Carcinogenicity/Other Information:** No data available.  
**Carcinogenicity:** NTP? No IARC Monographs? No OSHA Regulated? No

### 12. Ecological Information

**Ecological Information:** Runoff from fire control or dilution water may cause pollution.

### 13. Disposal Considerations

**Waste Disposal Method:** Dispose in accordance with local, state and federal regulations.

### 14. Transport Information

**LAND TRANSPORT (US DOT)**  
**DOT Proper Shipping Name:** No data available.  
**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

### 15. Regulatory Information

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Insulin from Bovine Pancreas Cell Culture Tested	11070-73-8	No	No	No	No
2. Water	7732-18-5	No	No	No	No

**US EPA CAA, CWA, TSCA**

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Insulin from Bovine Pancreas Cell Culture Tested	11070-73-8	No	No	No	No
2. Water	7732-18-5	No	No	Inventory	No

### 16. Other Information

**Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

Page: 1

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Dexamethasone Solution**  
**(1,000X)**

Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108

Printed: 09/28/2007  
Revision: 09/11/2007

Date Created: 09/11/2007

### 1. Product and Company Identification

**Product Code:** 10009950  
**Product Name:** Adipolysis Assay Dexamethasone Solution (1,000X)  
**Manufacturer Information**  
**Company Name:** Cayman Chemical Company  
**Emergency Contact:** Cayman Chemical Company (800)364-9897  
**Information:** Cayman Chemical Company (734)971-3335  
**Chemical Family:** EIA - Other

### 2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Dexamethasone solution	50-02-2	0.039 %	No data.	No data.	No data.
2. Dimethyl sulfoxide, anhydrous	67-68-5	99.961 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Dexamethasone solution	TU3980000	No data.	No data.	No data.	No data.
2. Dimethyl sulfoxide, anhydrous	PV6210000	No data.	No data.	No data.	No data.

### 3. Hazards Identification

**Emergency Overview:** No data available.  
**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection  
**Potential Health Effects (Acute and Chronic):** The hazards identified with this product are those associated with the solvent(s). Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body.  
Irritating to the skin, eyes, nose, throat, and respiratory tract.  
Material may be irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.  
May cause eye, skin, or respiratory system irritation.  
The toxicological properties of this compound have not been fully evaluated.  
**LD 50 / LC 50:** please refer to Section 11  
**Signs and Symptoms Of Exposure:** No data available.

### 4. First Aid Measures

**Emergency and First Aid Procedures:** If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.  
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.  
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.  
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

### 5. Fire Fighting Measures

**Flash Pt:** 87.00 C Method Used: CC  
**Explosive Limits:** LEL: 3.5% at 25.0 C UEL: 42% at 25.0 C

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Dexamethasone Solution**  
**(1,000X)**

Page: 2  
Printed: 09/28/2007  
Revision: 09/11/2007

<b>Autoignition Pt:</b>	301.00 C
<b>Fire Fighting Instructions:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
<b>Flammable Properties and Hazards:</b>	Can release vapors that form explosive mixtures at temperatures at or above the flashpoint. Those vapors include formaldehyde, methyl mercaptan, and sulfur dioxide. Combustible liquid. Container explosion may occur under fire conditions. Emits toxic fumes under fire conditions. May cause exothermic reaction when combined with certain chemicals. On mixing with potassium permanganate it will flash instantaneously. Reacts violently with other acids. Vapors can travel to a source of ignition and flash back.
<b>Extinguishing Media:</b>	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
<b>Unsuitable Extinguishing Media:</b>	No data available.

### 6. Accidental Release Measures

<b>Steps To Be Taken In Case Material Is Released Or Spilled:</b>	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. After removal, ventilate contaminated area and flush thoroughly with water. Avoid release into the environment - very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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### 7. Handling and Storage

<b>Hazard Label Information:</b>	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
<b>Precautions To Be Taken in Handling:</b>	Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
<b>Precautions To Be Taken in Storing:</b>	Store at correct temperature.

### 8. Exposure Controls/Personal Protection

<b>Protective Equipment Summary - Hazard Label Information:</b>	Eye wash station in work area   Lab coat   Latex disposable gloves   Safety glasses   Safety shower in work area   Vent Hood
<b>Respiratory Equipment (Specify Type):</b>	No data available.
<b>Eye Protection:</b>	Safety glasses
<b>Protective Gloves:</b>	Latex disposable gloves
<b>Other Protective Clothing:</b>	Lab coat
<b>Engineering Controls (Ventilation etc.):</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>Work/Hygienic/Maintenance Practices:</b>	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

### 9. Physical and Chemical Properties

<b>Physical States:</b>	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
<b>Melting Point:</b>	No data.
<b>Boiling Point:</b>	No data.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Dexamethasone Solution**  
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Page: 3  
Printed: 09/28/2007  
Revision: 09/11/2007

<b>Autoignition Pt:</b>	301.00 C
<b>Flash Pt:</b>	87.00 C Method: CC
<b>Explosive Limits:</b>	LEL: 3.5% at 25.0 C UEL: 42% at 25.0 C
<b>Specific Gravity (Water = 1):</b>	No data.
<b>Vapor Pressure (vs. Air or mm Hg):</b>	0.42 MM_HG at 20.0 C
<b>Vapor Density (vs. Air = 1):</b>	No data.
<b>Evaporation Rate (vs Butyl Acetate=1):</b>	No data.
<b>Solubility in Water:</b>	No data.
<b>Percent Volatile:</b>	No data.
<b>Corrosion Rate:</b>	No data.
<b>pH:</b>	No data.
<b>Appearance and Odor:</b>	A clear, colorless solution

## 10. Stability and Reactivity

<b>Stability:</b>	Unstable [ ] Stable [ X ]
<b>Conditions To Avoid - Instability:</b>	protect from moisture
<b>Incompatibility - Materials To Avoid:</b>	acid chlorides acid halides cyanuric chloride diborane iodine pentafluoride magnesium perchlorate methyl bromide nitrogen periodate perchloric acid periodic acid phosphorus halides phosphorus trichloride phosphorus trioxide potassium permanganate silicon tetrachloride silver fluoride sodium hydride strong acids strong oxidizing agents strong reducing agents thionyl chloride
<b>Hazardous Decomposition Or Byproducts:</b>	carbon dioxide carbon monoxide formaldehyde methyl mercaptan sulfur dioxide sulfur oxides
<b>Hazardous Polymerization:</b>	Will occur [ ] Will not occur [ X ]
<b>Conditions To Avoid - Hazardous Polymerization:</b>	No data available.

## 11. Toxicological Information

<b>Toxicological Information:</b>	The toxicological effects of this compound have not been thoroughly studied.
	DMSO - Toxicity Data: Inhalation (rat) LC50:40,250 ppm Oral (rat) LD50:3,300 mg/kg Skin (rat) LD50:40,000 mg/kg Subcutaneous (rat) LD50:12 g/kg Intravenous (rat) LD50:5,360 mg/kg

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Page: 4  
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Skin (rabbit) LD50:>5,000 mg/kg  
 Oral (mouse) LD50:7,920 mg/kg  
 Subcutaneous (mouse) LD50:14 g/kg  
 Skin (mouse) LD50:50,000 mg/kg  
 Intraperitoneal (mouse) LD50:2,500 mg/kg  
 Oral (dog) LD50:>10,000 mg/kg

**Chronic Toxicological Effects:**

DMSO - Target Organ Data:  
 Effects on embryo or fetus (fetal death)  
 Effects on embryo or fetus (fetotoxicity)  
 Effects on fertility (abortion)  
 Effects on fertility (litter size)  
 Effects on fertility (pre-implantation mortality)  
 Effects on fertility (post-implantation mortality)  
 Specific developmental abnormalities (central nervous system)  
 Specific developmental abnormalities (musculoskeletal system)  
 Specific developmental abnormalities (craniofacial, including nose and tongue)  
 Specific developmental abnormalities (other developmental abnormalities)

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.  
 See actual entry in RTECS for complete information.  
 DMSO RTECS Number: PV6210000

**Carcinogenicity/Other Information:**

No data available.

**Carcinogenicity:**

NTP? No    IARC Monographs? No    OSHA Regulated? No

**12. Ecological Information**

**Ecological Information:**

Avoid release into the environment - very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 Runoff from fire control or dilution water may cause pollution.

**13. Disposal Considerations**

**Waste Disposal Method:**

Dispose in accordance with local, state and federal regulations.

**14. Transport Information**

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name:** Combustible liquid, n.o.s.  
**DOT Hazard Class:** Combustible liquid  
**DOT Hazard Label:** Combustible liquid, n.o.s.  
**UN/NA Number:** 1993  
**Packing Group:** III

**Additional Transport Information:**

Transport in accordance with local, state, and federal regulations.

**15. Regulatory Information**

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Dexamethasone solution	50-02-2	No	No	No	No
2. Dimethyl sulfoxide, anhydrous	67-68-5	No	No	No	No

**US EPA CAA, CWA, TSCA**

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Dexamethasone solution	50-02-2	No	No	Inventory	No
2. Dimethyl sulfoxide, anhydrous	67-68-5	No	No	Inventory	No

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Dexamethasone Solution**  
**(1,000X)**

Page: 5  
Printed: 09/28/2007  
Revision: 09/11/2007

**16. Other Information**

**Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

# MATERIAL SAFETY DATA SHEET

## Adipolysis Assay Isoproterenol Solution

Page: 1

Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108

Printed: 09/28/2007  
Revision: 09/11/2007

Date Created: 09/11/2007

### 1. Product and Company Identification

**Product Code:** 10009951  
**Product Name:** Adipolysis Assay Isoproterenol Solution  
**Manufacturer Information**  
**Company Name:** Cayman Chemical Company  
**Emergency Contact:** Cayman Chemical Company (800)364-9897  
**Information:** Cayman Chemical Company (734)971-3335

### 2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. (+)-Isoproterenol hydrochloride	51-30-9	0.248 %	No data.	No data.	No data.
2. Dimethyl sulfoxide, anhydrous	67-68-5	99.752 %	No data.	No data.	No data.

  

Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. (+)-Isoproterenol hydrochloride	DO1925000	No data.	No data.	No data.	No data.
2. Dimethyl sulfoxide, anhydrous	PV6210000	No data.	No data.	No data.	No data.

### 3. Hazards Identification

**Emergency Overview:** No data available.  
**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection  
**Potential Health Effects (Acute and Chronic):** The hazards identified with this product are those associated with the solvent(s). Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body.  
Irritating to the skin, eyes, nose, throat, and respiratory tract.  
Material may be irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.  
May cause eye, skin, or respiratory system irritation.  
The toxicological properties of this compound have not been fully evaluated.  
**LD 50 / LC 50:** Please refer to Section 11  
**Signs and Symptoms Of Exposure:** No data available.

### 4. First Aid Measures

**Emergency and First Aid Procedures:** If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.  
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.  
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.  
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

### 5. Fire Fighting Measures

**Flash Pt:** 87.00 C Method Used: CC  
**Explosive Limits:** LEL: 3.5% at 25.0 C UEL: 42% at 25.0 C  
**Autoignition Pt:** 301.00 C

# MATERIAL SAFETY DATA SHEET

## Adipolysis Assay Isoproterenol Solution

Page: 2  
Printed: 09/28/2007  
Revision: 09/11/2007

<b>Fire Fighting Instructions:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: combustible as diluted in dimethyl sulfoxide
<b>Flammable Properties and Hazards:</b>	Can release vapors that form explosive mixtures at temperatures at or above the flashpoint. Those vapors include formaldehyde, methyl mercaptan, and sulfur dioxide. Combustible liquid. Container explosion may occur under fire conditions. Emits toxic fumes under fire conditions. May cause exothermic reaction when combined with certain chemicals. On mixing with potassium permanganate it will flash instantaneously. Reacts violently with other acids. Vapors can travel to a source of ignition and flash back.
<b>Extinguishing Media:</b>	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
<b>Unsuitable Extinguishing Media:</b>	No data available.

### 6. Accidental Release Measures

<b>Steps To Be Taken In Case Material Is Released Or Spilled:</b>	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. After removal, ventilate contaminated area and flush thoroughly with water. Avoid release into the environment - very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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### 7. Handling and Storage

<b>Hazard Label Information:</b>	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
<b>Precautions To Be Taken in Handling:</b>	Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Hygroscopic. Keep away from sources of ignition. Use with adequate ventilation. Wash thoroughly after handling.
<b>Precautions To Be Taken in Storing:</b>	Keep tightly closed. Store at correct temperature.

### 8. Exposure Controls/Personal Protection

<b>Protective Equipment Summary - Hazard Label Information:</b>	Eye wash station in work area   Lab coat   Latex disposable gloves   Safety glasses   Safety shower in work area   Vent Hood
<b>Respiratory Equipment (Specify Type):</b>	No data available.
<b>Eye Protection:</b>	Safety glasses
<b>Protective Gloves:</b>	Latex disposable gloves
<b>Other Protective Clothing:</b>	Lab coat
<b>Engineering Controls (Ventilation etc.):</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>Work/Hygienic/Maintenance Practices:</b>	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Isoproterenol Solution**

Page: 3  
Printed: 09/28/2007  
Revision: 09/11/2007

**9. Physical and Chemical Properties**

**Physical States:** [ ] Gas [ X ] Liquid [ ] Solid  
**Melting Point:** No data.  
**Boiling Point:** No data.  
**Autoignition Pt:** 301.00 C  
**Flash Pt:** 87.00 C Method: CC  
**Explosive Limits:** LEL: 3.5% at 25.0 C UEL: 42% at 25.0 C  
**Specific Gravity (Water = 1):** No data.  
**Vapor Pressure (vs. Air or mm Hg):** 0.42 MM\_HG at 20.0 C  
**Vapor Density (vs. Air = 1):** No data.  
**Evaporation Rate (vs Butyl Acetate=1):** No data.  
**Solubility in Water:** No data.  
**Percent Volatile:** No data.  
**Corrosion Rate:** No data.  
**pH:** No data.  
**Appearance and Odor:** A clear, colorless solution

**10. Stability and Reactivity**

**Stability:** Unstable [ ] Stable [ X ]  
**Conditions To Avoid - Instability:** protect from moisture  
**Incompatibility - Materials To Avoid:** acid chlorides  
acid halides  
cyanuric chloride  
diborane  
iodine pentafluoride  
magnesium perchlorate  
methyl bromide  
nitrogen periodate  
perchloric acid  
periodic acid  
phosphorus halides  
phosphorus trichloride  
phosphorus trioxide  
potassium permanganate  
silicon tetrachloride  
silver fluoride  
sodium hydride  
strong acids  
strong oxidizing agents  
strong reducing agents  
thionyl chloride  
**Hazardous Decomposition Or Byproducts:** carbon dioxide  
carbon monoxide  
formaldehyde  
methyl mercaptan  
sulfur dioxide  
sulfur oxides  
**Hazardous Polymerization:** Will occur [ ] Will not occur [ X ]  
**Conditions To Avoid - Hazardous Polymerization:** No data available.

### 11. Toxicological Information

**Toxicological Information:**

The toxicological effects of this compound have not been thoroughly studied.

DMSO - Toxicity Data:

- Inhalation (rat) LC50:40,250 ppm
- Oral (rat) LD50:3,300 mg/kg
- Skin (rat) LD50:40,000 mg/kg
- Subcutaneous (rat) LD50:12 g/kg
- Intravenous (rat) LD50:5,360 mg/kg
- Skin (rabbit) LD50:>5,000 mg/kg
- Oral (mouse) LD50:7,920 mg/kg
- Subcutaneous (mouse) LD50:14 g/kg
- Skin (mouse) LD50:50,000 mg/kg
- Intraperitoneal (mouse) LD50:2,500 mg/kg
- Oral (dog) LD50:>10,000 mg/kg

**Chronic Toxicological Effects:**

DMSO - Target Organ Data:

- Effects on embryo or fetus (fetal death)
- Effects on embryo or fetus (fetotoxicity)
- Effects on fertility (abortion)
- Effects on fertility (litter size)
- Effects on fertility (pre-implantation mortality)
- Effects on fertility (post-implantation mortality)
- Specific developmental abnormalities (central nervous system)
- Specific developmental abnormalities (musculoskeletal system)
- Specific developmental abnormalities (craniofacial, including nose and tongue)
- Specific developmental abnormalities (other developmental abnormalities)

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.

See actual entry in RTECS for complete information.

DMSO RTECS Number: PV6210000

**Carcinogenicity/Other Information:**

No data available.

**Carcinogenicity:**

NTP? No    IARC Monographs? No    OSHA Regulated? No

### 12. Ecological Information

**Ecological Information:**

Avoid release into the environment - very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 Runoff from fire control or dilution water may cause pollution.

### 13. Disposal Considerations

**Waste Disposal Method:**

Dispose in accordance with local, state and federal regulations.

### 14. Transport Information

**LAND TRANSPORT (US DOT)**

- DOT Proper Shipping Name**                      Combustible liquid, n.o.s.
- DOT Hazard Class:**                              Combustible liquid
- DOT Hazard Label:**                              Combustible liquid, n.o.s.
- UN/NA Number:**                                  1993
- Packing Group:**                                    III

**Additional Transport Information:**

Transport in accordance with local, state, and federal regulations.

### 15. Regulatory Information

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. (+)-Isoproterenol hydrochloride	51-30-9	No	No	No	No

# MATERIAL SAFETY DATA SHEET

## Adipolysis Assay Isoproterenol Solution

Page: 5  
Printed: 09/28/2007  
Revision: 09/11/2007

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
2. Dimethyl sulfoxide, anhydrous	67-68-5	No	No	No	No

**US EPA CAA, CWA, TSCA**

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. (+)-Isoproterenol hydrochloride	51-30-9	No	No	No	No
2. Dimethyl sulfoxide, anhydrous	67-68-5	No	No	Inventory	No

### 16. Other Information

#### Company Policy or Disclaimer

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Glycerol Standard Solution**

Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108

Printed: 09/28/2007  
Revision: 09/11/2007

Date Created: 09/11/2007

### 1. Product and Company Identification

**Product Code:** 10009952  
**Product Name:** Adipolysis Assay Glycerol Standard Solution  
**Manufacturer Information**  
**Company Name:** Cayman Chemical Company  
**Emergency Contact:** Cayman Chemical Company (800)364-9897  
**Information:** Cayman Chemical Company (734)971-3335  
**Chemical Family:** EIA - Other

### 2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Glycerol	56-81-5	0.025 %	No data.	10 mg/m3	No data.
2. Water	7732-18-5	99.975 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Glycerol	MA8050000	No data.	No data.	No data.	No data.
2. Water	ZC0110000	No data.	No data.	No data.	No data.

### 3. Hazards Identification

**Emergency Overview:** No data available.  
**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection  
**Potential Health Effects (Acute and Chronic):** Material may be irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.  
May cause eye, skin, or respiratory system irritation.  
The toxicological properties of this compound have not been fully evaluated.  
**Signs and Symptoms Of Exposure:** No data available.

### 4. First Aid Measures

**Emergency and First Aid Procedures:** If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.  
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.  
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.  
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

### 5. Fire Fighting Measures

**Flash Pt:** No data.  
**Explosive Limits:** LEL: No data. UEL: No data.  
**Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.  
**Flammable Properties and Hazards:** No data available.  
**Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.  
**Unsuitable Extinguishing Media:** No data available.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Glycerol Standard Solution**

Page: 2  
Printed: 09/28/2007  
Revision: 09/11/2007

**6. Accidental Release Measures**

**Steps To Be Taken In Case Material Is Released Or Spilled:** Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).  
Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.  
After removal, ventilate contaminated area and flush thoroughly with water.

**7. Handling and Storage**

**Hazard Label Information:** Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.  
Wash thoroughly after handling.

**Precautions To Be Taken in Handling:** Avoid breathing (dust, vapor, mist, gas).  
Avoid contact with eyes, skin, and clothing.  
Avoid prolonged or repeated exposure.  
Do not reuse this container.  
Use with adequate ventilation.  
Wash thoroughly after handling.

**Precautions To Be Taken in Storing:** Store at correct temperature.

**8. Exposure Controls/Personal Protection**

**Protective Equipment Summary - Hazard Label Information:** Eye wash station in work area   Lab coat   Latex disposable gloves   Safety glasses   Safety shower in work area   Vent Hood

**Respiratory Equipment (Specify Type):** No data available.

**Eye Protection:** Safety glasses

**Protective Gloves:** Latex disposable gloves

**Other Protective Clothing:** Lab coat

**Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

**Work/Hygienic/Maintenance Practices:** Do not take internally.  
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Wash thoroughly after handling.

**9. Physical and Chemical Properties**

**Physical States:** [ ] Gas   [ X ] Liquid   [ ] Solid

**Melting Point:** No data.

**Boiling Point:** No data.

**Autoignition Pt:** No data.

**Flash Pt:** No data. Method:

**Explosive Limits:** LEL: No data. UEL: No data.

**Specific Gravity (Water = 1):** No data.

**Vapor Pressure (vs. Air or mm Hg):** No data.

**Vapor Density (vs. Air = 1):** No data.

**Evaporation Rate (vs Butyl Acetate=1):** No data.

**Solubility in Water:** No data.

**Percent Volatile:** No data.

**Corrosion Rate:** No data.

**pH:** No data.

**Appearance and Odor:** A clear, colorless solution

**10. Stability and Reactivity**

**Stability:** Unstable [ ]   Stable [ X ]

**Conditions To Avoid - Instability:** No data available.

**Incompatibility - Materials To Avoid:** No data available.

# MATERIAL SAFETY DATA SHEET

## Adipolysis Assay Glycerol Standard Solution

Page: 3  
 Printed: 09/28/2007  
 Revision: 09/11/2007

**Hazardous Decomposition Or Byproducts:** No data available.

**Hazardous Polymerization:** Will occur [  ] Will not occur [  ]

**Conditions To Avoid - Hazardous Polymerization:** No data available.

### 11. Toxicological Information

**Toxicological Information:** The toxicological effects of this compound have not been thoroughly studied.

**Carcinogenicity/Other Information:** No data available.

**Carcinogenicity:** NTP? No IARC Monographs? No OSHA Regulated? No

### 12. Ecological Information

**Ecological Information:** Runoff from fire control or dilution water may cause pollution.

### 13. Disposal Considerations

**Waste Disposal Method:** Dispose in accordance with local, state and federal regulations.

### 14. Transport Information

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name:** No data available.

**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

### 15. Regulatory Information

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Glycerol	56-81-5	No	No	No	No
2. Water	7732-18-5	No	No	No	No

**US EPA CAA, CWA, TSCA**

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Glycerol	56-81-5	No	No	Inventory	No
2. Water	7732-18-5	No	No	Inventory	No

### 16. Other Information

**Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

Page: 1

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Free Glycerol Assay Reagent**  
**(10X)**

Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108

Printed: 09/28/2007  
Revision: 09/11/2007

Date Created: 09/11/2007

### 1. Product and Company Identification

**Product Code:** 10009953  
**Product Name:** Adipolysis Assay Free Glycerol Assay Reagent (10X)  
**Manufacturer Information**  
**Company Name:** Cayman Chemical Company  
**Emergency Contact:** Cayman Chemical Company (800)364-9897  
**Information:** Cayman Chemical Company (734)971-3335  
**Chemical Family:** EIA - Other

### 2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. glycerol assay reagent	NA	0.0 -100.0 %	No data.	10 mg/m3	No data.
2. Water	7732-18-5	0.0 -100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. glycerol assay reagent	NA	No data.	No data.	No data.	No data.
2. Water	ZC0110000	No data.	No data.	No data.	No data.

### 3. Hazards Identification

**Emergency Overview:** No data available.  
**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection  
**Potential Health Effects (Acute and Chronic):** Material may be irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.  
May cause eye, skin, or respiratory system irritation.  
The toxicological properties of this compound have not been fully evaluated.  
**Signs and Symptoms Of Exposure:** No data available.

### 4. First Aid Measures

**Emergency and First Aid Procedures:** If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.  
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.  
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.  
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

### 5. Fire Fighting Measures

**Flash Pt:** No data.  
**Explosive Limits:** LEL: No data. UEL: No data.  
**Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.  
**Flammable Properties and Hazards:** No data available.  
**Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.  
**Unsuitable Extinguishing Media:** No data available.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Free Glycerol Assay Reagent**  
**(10X)**

Page: 2  
Printed: 09/28/2007  
Revision: 09/11/2007

**6. Accidental Release Measures**

**Steps To Be Taken In Case Material Is Released Or Spilled:** Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).  
Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.  
After removal, ventilate contaminated area and flush thoroughly with water.

**7. Handling and Storage**

**Hazard Label Information:** Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.  
Wash thoroughly after handling.

**Precautions To Be Taken in Handling:** Avoid breathing (dust, vapor, mist, gas).  
Avoid contact with eyes, skin, and clothing.  
Avoid prolonged or repeated exposure.  
Do not reuse this container.  
Use with adequate ventilation.  
Wash thoroughly after handling.

**Precautions To Be Taken in Storing:** Store at correct temperature.

**8. Exposure Controls/Personal Protection**

**Protective Equipment Summary - Hazard Label Information:** Eye wash station in work area   Lab coat   Latex disposable gloves   Safety glasses   Safety shower in work area   Vent Hood

**Respiratory Equipment (Specify Type):** No data available.

**Eye Protection:** Safety glasses

**Protective Gloves:** Latex disposable gloves

**Other Protective Clothing:** Lab coat

**Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

**Work/Hygienic/Maintenance Practices:** Do not take internally.  
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Wash thoroughly after handling.

**9. Physical and Chemical Properties**

**Physical States:** [ ] Gas   [ X ] Liquid   [ ] Solid

**Melting Point:** No data.

**Boiling Point:** No data.

**Autoignition Pt:** No data.

**Flash Pt:** No data. Method:

**Explosive Limits:** LEL: No data. UEL: No data.

**Specific Gravity (Water = 1):** No data.

**Vapor Pressure (vs. Air or mm Hg):** No data.

**Vapor Density (vs. Air = 1):** No data.

**Evaporation Rate (vs Butyl Acetate=1):** No data.

**Solubility in Water:** No data.

**Percent Volatile:** No data.

**Corrosion Rate:** No data.

**pH:** No data.

**Appearance and Odor:** A clear, colorless solution

**10. Stability and Reactivity**

**Stability:** Unstable [ ]   Stable [ X ]

**Conditions To Avoid - Instability:** protect from light

**Incompatibility - Materials To Avoid:** No data available.

**MATERIAL SAFETY DATA SHEET**  
**Adipolysis Assay Free Glycerol Assay Reagent**  
**(10X)**

Page: 3  
 Printed: 09/28/2007  
 Revision: 09/11/2007

**Hazardous Decomposition Or Byproducts:** No data available.  
**Hazardous Polymerization:** Will occur [ ] Will not occur [ X ]  
**Conditions To Avoid - Hazardous Polymerization:** No data available.

**11. Toxicological Information**

**Toxicological Information:** The toxicological effects of this compound have not been thoroughly studied.  
**Carcinogenicity/Other Information:** No data available.  
**Carcinogenicity:** NTP? No IARC Monographs? No OSHA Regulated? No

**12. Ecological Information**

**Ecological Information:** Runoff from fire control or dilution water may cause pollution.

**13. Disposal Considerations**

**Waste Disposal Method:** Dispose in accordance with local, state and federal regulations.

**14. Transport Information**

**LAND TRANSPORT (US DOT)**  
**DOT Proper Shipping Name:** No data available.  
**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

**15. Regulatory Information**

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. glycerol assay reagent	NA	No	No	No	No
2. Water	7732-18-5	No	No	No	No

**US EPA CAA, CWA, TSCA**

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. glycerol assay reagent	NA	No	No	No	No
2. Water	7732-18-5	No	No	Inventory	No

**16. Other Information**

**Company Policy or Disclaimer**  
 For research use only, not for human or veterinary clinical use.  
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