



Biomolecules for research

MATERIAL SAFETY DATA SHEET

Section 1 : Substance Identification

Name: SIRT1 Fluorescent Activity Assay/Drug Discovery Kit

Catalog Number: AK-555

Company Identification: BIOMOL International L.P.
5120 Butler Pike
Plymouth Meeting PA 19462-1202 USA
(610) 941-0430 (9am-5pm ET)

Section 2 : Components

Vial #	Name:	Contents:	Quantity
SE-239	SIRT1 (Sirtuin 1, hSir2 ^{SIRT1}) (human, recombinant)	Enzyme dissolved in 50 mM Tris, pH 7.5, 100 mM NaCl, and 10% glycerol	100 U
KI-177	<i>Fluor de Lys</i> -SIRT1 Deacetylase Substrate	5 mM in 25 mM Tris/Cl, pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl ₂	100 µl
KI-176	<i>Fluor de Lys</i> TM Developer II Concentrate (5X)	5X Stock Solution	5 x 250 µl
KI-282	NAD ⁺ (Sirtuin Substrate)	50 mM in 25 mM Tris/Cl, pH 8.0 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl ₂	500 µl

***See Attached MSDS for this component**

KI-283	Nicotinamide (Sirtuin Inhibitor)	50 mM in 25 mM Tris/Cl, pH 8.0 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl ₂	500 µl
	*See Attached MSDS for this component		
KI-284	Resveratrol (Sirtuin Activator)	Solid	10 mg
	*See Attached MSDS for this component		
KI-285	Suramin sodium (Sirtuin Inhibitor)	Solid	10 mg
	*See Attached MSDS for this component		
KI-142	<i>Fluor de Lys</i> TM Deacetylated Standard	10 mM in DMSO	30µl
KI-286	SIRT1 Assay Buffer	25 mM Tris/Cl, ph 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl ₂ 1 mg/ml BSA	20ml
AK-555	Instruction Booklet		1 booklet
KI-101	½ Volume Microplate	½ Volume 96-well plate	1 plate
KI-110	½ Volume White Microplate	White ½ Volume 96-well plate	1 plate

Section 3 : Health Hazards

Please be advised that the physical, chemical and toxicological properties of many of these components have not yet been fully investigated. It is therefore advised that all laboratory personnel handling this product follow standard laboratory safety procedures. It is recommended that personnel wear safety goggles, gloves, and protective clothing at all times, and avoid direct contact with the reagents supplied in this kit.

Section 4 : First Aid

Eye Contact: Check for and remove contact lenses. Flush eyes with running water for at least 15 minutes separating eyelids. **Seek medical attention immediately**

Skin Contact: Wash with soap and water for 15 minutes. Remove contaminated clothing and shoes. If irritation or discomfort develops, seek medical attention.

Inhalation: Remove from exposure. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. Seek medical attention if patient feels unwell or develops any respiratory symptoms. Provide chemical label and MSDS if possible.

Ingestion: Remove dentures and clear mouth. If person is conscious, rinse mouth with water. **Call physician or poison control immediately.** Provide chemical label and MSDS information if possible.

Section 5 : Fire / Flammability Information

None of the components of this kit pose a significant risk in case of fire. Fire fighting media should be selected to suit other materials involved in the fire. It is recommended that firefighters wear protective gear and self contained breathing apparatus to limit exposure.

Section 6 : Spill or Leak Procedures.

Cleanup Procedures: Wearing appropriate protective gear as outlined under “Protective equipment” wipe up spill area and rinse residue down the drain with plenty of water. Wash spill site with soap and water.

Waste Disposal Method: Dilute waste solutions and reagents with water and dispose of in accordance with federal, state, and local regulations.

Section 7 : Storage and Handling Precautions

Protective Equipment: For spill clean up, wear suitable protective clothing, chemical resistant rubber gloves, rubber boots, and chemical safety goggles. Self contained breathing apparatus or NIOSH/MSHA approved respirator is recommended if the spill involves one of the kit reagents supplied in solid form. .

Storage and Handling: The components of this kit should be stored –70°C with the exception of the 96-well plates, and the instruction booklet which can be stored at room temperature. All components should be kept in tightly closed containers. This product should be handled only by qualified experienced professionals. Avoid raising dust when handling components supplied in solid form. Wash thoroughly after handling the materials included in this kit.

Section 8 : Stability and Reactivity Data

Stability: These materials are stable if stored as directed.

Conditions to Avoid: Avoid repeated freeze/thaw of Enzyme and Developer components.

Incompatibles: Not available

Section 10 : Ecological Data

Ecotoxicological Information: None Available

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

Emergency Contact:

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5120 Butler Pike
Plymouth Meeting, PA 19462 USA

(610) 941-0430

Last Revised : 1/8/04



Biomolecules for research

MATERIAL SAFETY DATA SHEET

Section 1 : Substance Identification

Name: Resveratrol

CAS Number: 501-36-0

Component Number: KI-284

Chemical Formula: C₁₄H₁₂O₃

Chemical Name: Trans 2,4',5-trihydroxy stilbene

Chemical Class: Stilbene derivative

Company Identification: BIOMOL International L.P.
5120 Butler Pike
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Section 2 : Health Hazard Data

Acute Health Effects: May be harmful if ingested, inhaled, or absorbed through the skin. May cause eye or skin irritation. To the best of our knowledge, the toxicological properties of this compound have not been fully investigated. All uncharacterized chemicals should be treated as suspected toxins.

Chronic Health Effects: unknown

Pharmacological Action: Antioxidant, Natural product found in grapes.

Section 3 : First Aid Measures

Eye Contact: Check for and remove contact lenses. Flush eyes with running water for at least 15 minutes separating eyelids. **Seek medical attention immediately.**

Skin Contact: Wash with soap and water for 15 minutes. Remove contaminated clothing and shoes. **Seek medical attention immediately.**

Inhalation: Remove from exposure. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. **Seek medical attention immediately.** Provide chemical label and MSDS if possible.

Ingestion: Remove dentures and clear mouth. Do NOT induce vomiting. If person is conscious, have

him/her rinse mouth with water and drink several glasses of water. **Call physician or poison control immediately.** Provide chemical label and MSDS information if possible.

Section 4 : Fire and Explosion Data

Flammability: Not Available

Flash Point: Not Available

Combustion Products: Carbon monoxide, Carbon dioxide

Extinguishing Media: Carbon Dioxide, Dry chemical powder, polymer foam, water spray

Special Firefighting Procedures: Use self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual Fire/Explosion Hazards: None known

Section 5 : Spill or Leak Procedures

Cleanup Procedures: Wearing appropriate protective gear as outlined under "Protective equipment" wipe up spill and place in sealed container and hold for disposal. Avoid raising dust. Ventilate the area and wash spill site after material has been removed.

Waste Disposal Method: Observe all Federal, State and Local regulations concerning the disposal of this product.

Section 6 : Storage and Handling Precautions

Protective Equipment: For spill clean up, wear suitable protective clothing, chemical resistant rubber gloves, rubber boots, and chemical safety goggles. Self contained breathing apparatus or NIOSH/MSHA approved respirator is required.

Storage and Handling: This product should be stored at -20°C or colder. It should be kept in a tightly closed container. This product should be handled only by qualified experienced professionals. Wash thoroughly after handling this material.

Section 7 : Physical Data

Appearance: White solid

Molecular Weight: 228.2

Boiling Point: Not Available

Solubility: DMSO

Specific Gravity: Not Available

Volatility: Not Available

Odor: Not Available

Taste: Not Available

Melting Point: $260-262^{\circ}\text{C}$

Vapor Density: Not Available

Vapor Pressure: Not Available

Section 8 : Stability and Reactivity Data

Stability: This material is stable if stored as directed

Conditions to Avoid: None known

Incompatibles: Not Available

Section 9 : Toxicity Data

RTECS#: Not Available

Section 10 : Ecological Data

Ecotoxicological Information: None Available

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Last Revised : 10/14/03



Biomolecules for research

MATERIAL SAFETY DATA SHEET

Section 1 : Substance Identification

Name: Suramin Sodium

CAS Number: 129-46-4

Component Number: KI-285

Chemical Formula: $C_{51}H_{34}N_6O_{23}S_6 \cdot Na_6$

Chemical Name: 8,8'-[carbonylbis[imino-3,1-Phenylenecarbonylimino(4-methyl-3,1-phenylene)carbonyl-imino]]-bis-1,3,5-Naphthalenetrisulfonic acid hexasodium salt

Synonyms: Germanin

Chemical Class: Naphthalene Derivative

Company Identification: BIOMOL International L.P.
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Plymouth Meeting PA 19462-1202 USA
(610) 941-0430 (9am-5pm ET)

Section 2 : Health Hazard Data

Acute Health Effects: To the best of our knowledge, the toxicological properties of this compound have not been fully investigated. Exercise appropriate precautions to prevent opportunities for inhalation, and to prevent direct contact with skin and eyes. All uncharacterized chemicals should be treated as suspected toxins.

Chronic Health Effects: unknown

Section 3 : First Aid Measures

Eye Contact: Check for and remove contact lenses. Flush eyes with running water for at least 15 minutes separating eyelids. **Seek medical attention immediately.**

Skin Contact: Wash with soap and water for 15 minutes. Remove contaminated clothing and shoes. **Seek medical attention immediately.**

Inhalation: Remove from exposure. If breathing is difficult, administer oxygen. If breathing stops,

administer artificial respiration. **Seek medical attention immediately.** Provide chemical label and MSDS if possible.

Ingestion: Remove dentures and clear mouth. If person is conscious, rinse mouth with water. **Call physician or poison control immediately.** Provide chemical label and MSDS information if possible.

Section 4 : Fire and Explosion Data

Flammability: Flammable

Flash Point: Not Available

Combustion Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides

Extinguishing Media: Carbon Dioxide, Dry chemical powder, polymer foam, water spray

Special Firefighting Procedures: Use self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual Fire/Explosion Hazards: None known

Section 5 : Spill or Leak Procedures

Cleanup Procedures: **EVACUATE AREA** Wearing appropriate protective gear as outlined under "Protective equipment" wipe up spill and place in sealed container and hold for disposal. Avoid raising dust. Ventilate the area and wash spill site after material has been removed.

Waste Disposal Method: Observe all Federal, State and Local regulations concerning the disposal of this product.

Section 6 : Storage and Handling Precautions

Protective Equipment: For spill clean up, wear suitable protective clothing, chemical resistant rubber gloves, rubber boots, and chemical safety goggles. Self contained breathing apparatus or NIOSH/MSHA approved respirator is required.

Storage and Handling: This product should be stored at room temperature or colder. It should be kept in a tightly closed container. This product should be handled only by qualified experienced professionals. Wash thoroughly after handling this material.

Section 7 : Physical Data

Appearance: White or off-white solid

Molecular Weight: 1429.2

Boiling Point: Not Available

Solubility: Water 1

Specific Gravity: Not Available

Volatility: Not Available

Odor: Negligible

Taste: Not Available

Melting Point: >320°C

Vapor Density: Not Available

Vapor Pressure: Not Available

Section 8 : Stability and Reactivity Data

Stability: This material is stable if stored as directed

Conditions to Avoid: None known

Incompatibles: None known

Section 9 : Toxicity Data

RTECS#: Not Available

I.V. LD50: Mouse : 620mg/kg

Section 10 : Ecological Data

Ecotoxicological Information: None Available

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Section 1 : Substance Identification

Name: Nicotinamide

CAS Number: 98-92-0

Component Number: KI-283

Chemical Formula: C₆H₆N₂O

Chemical Name: 3-Pyridinecarboxamide

Chemical Class: Pyridine derivative

Company Identification: BIOMOL International L.P.
5120 Butler Pike
Plymouth Meeting PA 19462-1202 USA
(610) 941-0430 (9am-5pm ET)

Section 2 : Health Hazard Data

Acute Health Effects: May be harmful if ingested, inhaled, or absorbed through the skin. May cause irritation of the eyes, skin, or respiratory system. Other symptoms of exposure may include anorexia, excessive salivation, constriction of the pupils, bronchoconstriction, respiratory failure, tightness of the chest, coma, pulmonary, ureter, and bladder effects. Compound may also be mutagenic. To the best of our knowledge, the toxicological properties of this compound have not been fully investigated. All uncharacterized chemicals should be treated as suspected toxins.

Chronic Health Effects: unknown

Target Organs: Eyes, Kidneys, Liver

Section 3 : First Aid Measures

Eye Contact: Check for and remove contact lenses. Flush eyes with running water for at least 15 minutes separating eyelids. **Seek medical attention immediately.**

Skin Contact: Wash with soap and water for 15 minutes. Remove contaminated clothing and shoes. **Seek medical attention immediately.**

Inhalation: Remove from exposure. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. **Seek medical attention immediately.** Provide chemical label and MSDS if possible.

Ingestion: Remove dentures and clear mouth. Do NOT induce vomiting. If person is conscious, have

him/her rinse mouth with water. **Call physician or poison control immediately.** Provide chemical label and MSDS information if possible.

Section 4 : Fire and Explosion Data

Flammability: Not Available

Flash Point: Not Available

Combustion Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides

Extinguishing Media: Carbon Dioxide, Dry chemical powder, polymer foam, water spray

Special Firefighting Procedures: Use self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual Fire/Explosion Hazards: None known

Section 5 : Spill or Leak Procedures

Cleanup Procedures: Wearing appropriate protective gear as outlined under "Protective equipment" wipe up spill and place in sealed container and hold for disposal. Ventilate the area and wash spill site after material has been removed.

Waste Disposal Method: Observe all Federal, State and Local regulations concerning the disposal of this product.

Section 6 : Storage and Handling Precautions

Protective Equipment: For spill clean up, wear suitable protective clothing, chemical resistant rubber gloves, rubber boots, and chemical safety goggles.

Storage and Handling: This product should be stored at -20°C or colder. It should be kept in a tightly closed container. This product should be handled only by qualified experienced professionals. Wash thoroughly after handling this material.

Section 7 : Physical Data

Appearance: Clear Solution

Molecular Weight: 122.1

Boiling Point: Not Applicable

Solubility: Supplied dissolved in Assay Buffer

Specific Gravity: Not Available

Volatility: Not Available

Odor: Not Available

Taste: Not Available

Melting Point: Not applicable

Vapor Density: Not Available

Vapor Pressure: Not Available

Section 8 : Stability and Reactivity Data

Stability: This material is stable if stored as directed

Conditions to Avoid: None known

Incompatibles: Strong oxidizing agents

Section 9 : Toxicity Data

RTECS#: QS3675000

Oral LD50: Mouse : 2500 mg/kg Rat : 3500 mg/kg

S.C. LD50: Mouse : 2 g/kg Rat : 1680 mg/kg

I.P. LD50: Mouse : 2050 mg/kg

Section 10 : Ecological Data

Ecotoxicological Information: None Available

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Section 1 : Substance Identification

Name: NAD⁺

CAS Number: 53-84-9

Component Number: KI-282

Chemical Formula: C₂₁H₂₇N₇O₁₄P₂

Chemical Name: β-Nicotinamide adenine dinucleotide

Chemical Class: Nucleotide

Company Identification: BIOMOL International L.P.
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Section 2 : Health Hazard Data

Acute Health Effects: May be harmful if ingested, inhaled, or absorbed through the skin. May cause irritation of the eyes, skin, or respiratory system. To the best of our knowledge, the toxicological properties of this compound have not been fully investigated. All uncharacterized chemicals should be treated as suspected toxins.

Chronic Health Effects: unknown

Section 3 : First Aid Measures

Eye Contact: Check for and remove contact lenses. Flush eyes with running water for at least 15 minutes separating eyelids. **Seek medical attention immediately.**

Skin Contact: Wash with soap and water for 15 minutes. Remove contaminated clothing and shoes. **Seek medical attention immediately.**

Inhalation: Remove from exposure. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. **Seek medical attention immediately.** Provide chemical label and MSDS if possible.

Ingestion: Remove dentures and clear mouth. Do NOT induce vomiting. If person is conscious, have him/her rinse mouth with water and drink several glasses of water. **Call physician or poison control immediately.** Provide chemical label and MSDS information if possible.

Section 4 : Fire and Explosion Data

Flammability: Not Available

Flash Point: Not Available

Combustion Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides

Extinguishing Media: Carbon Dioxide, Dry chemical powder, polymer foam, water spray

Special Firefighting Procedures: Use self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual Fire/Explosion Hazards: None known

Section 5 : Spill or Leak Procedures

Cleanup Procedures: Wearing appropriate protective gear as outlined under "Protective equipment" wipe up spill and place in sealed container and hold for disposal. Ventilate the area and wash spill site after material has been removed.

Waste Disposal Method: Observe all Federal, State and Local regulations concerning the disposal of this product.

Section 6 : Storage and Handling Precautions

Protective Equipment: For spill clean up, wear suitable protective clothing, chemical resistant rubber gloves, rubber boots, and chemical safety goggles.

Storage and Handling: This product should be stored at -20°C or colder. It should be kept in a tightly closed container. This product should be handled only by qualified experienced professionals. Wash thoroughly after handling this material.

Section 7 : Physical Data

Appearance: Solution

Molecular Weight: 663.4

Boiling Point: Not Applicable

Solubility: Supplied dissolved in Assay Buffer

Specific Gravity: Not Available

Volatility: Not Available

Odor: Not Available

Taste: Not Available

Melting Point: Not Applicable

Vapor Density: Not Available

Vapor Pressure: Not Available

Section 8 : Stability and Reactivity Data

Stability: This material is stable if stored as directed

Conditions to Avoid: None known
Incompatibles: Strong oxidizing agents

Section 9 : Toxicity Data

RTECS#: UU3450000

I.P. LD50: Mouse : 4333 mg/kg

Section 10 : Ecological Data

Ecotoxicological Information: None Available

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Last Revised : 10/14/03