

SAFETY DATA SHEET

Seahorse XFp Glycolysis Stress Test Kit, Part Number 103017-100

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

1.1 Product identifier

Product name	: Seahorse XFp Glycolysis Stress Test Kit, Part Number 103017-100	
Part No. (Kit)	: 103017-100	
Part No.	: Glucose	Not available.
	: 2-deoxyglucose	Not available.
	: Oligomycin	Not available.

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

Identified uses	
For research use only. Not for use in diagnostic procedures (RUO).	
Glucose	6 x 5.405 mg
2-deoxyglucose	6 x 24.624 mg
Oligomycin	6 x 1.141 mg

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	: Glucose	Mono-constituent substance
	: 2-deoxyglucose	Mono-constituent substance
	: Oligomycin	Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

Ingredients of unknown toxicity : Glucose Not applicable.
2-deoxyglucose Not applicable.
Oligomycin Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 95.7%

Ingredients of unknown ecotoxicity : Glucose Not applicable.
2-deoxyglucose Not applicable.
Oligomycin Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 95.7%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Date of issue/Date of revision : 12/05/2016

SECTION 2: Hazards identification

Signal word	: Glucose 2-deoxyglucose Oligomycin	No signal word. No signal word. No signal word.
Hazard statements	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<u>Precautionary statements</u>		
Prevention	: Glucose 2-deoxyglucose Oligomycin	Not applicable. Not applicable. Not applicable.
Response	: Glucose 2-deoxyglucose Oligomycin	Not applicable. Not applicable. Not applicable.
Storage	: Glucose 2-deoxyglucose Oligomycin	Not applicable. Not applicable. Not applicable.
Disposal	: Glucose 2-deoxyglucose Oligomycin	Not applicable. Not applicable. Not applicable.
Hazardous ingredients	: No hazardous ingredient	
Supplemental label elements	: Glucose 2-deoxyglucose Oligomycin	Not applicable. Not applicable. Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Glucose 2-deoxyglucose Oligomycin	Not applicable. Not applicable. Not applicable.
<u>Special packaging requirements</u>		
Tactile warning of danger	: Glucose 2-deoxyglucose Oligomycin	Not applicable. Not applicable. Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	: Glucose 2-deoxyglucose Oligomycin	None known. None known. None known.
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SECTION 3: Composition/information on ingredients

3.2 Mixtures	: Glucose 2-deoxyglucose Oligomycin	Mono-constituent substance Mono-constituent substance Mixture
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Product/ingredient name	Identifiers	%	Classification	Type
Glucose Glucose	50-99-7	100	Not classified.	[A]
2-deoxyglucose 2-deoxy-D-glucose	154-17-6	100	Not classified.	[A]
Oligomycin Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
			See Section 16 for the full text of the H statements declared above.	

SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[A] Constituent

[B] Impurity

[C] Stabilising additive

SECTION 4: First aid measures**4.1 Description of first aid measures**

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

SECTION 4: First aid measures

Protection of first-aiders	: Glucose	personnel. Get medical attention if symptoms occur. No action shall be taken involving any personal risk or without suitable training.
	2-deoxyglucose	No action shall be taken involving any personal risk or without suitable training.
	Oligomycin	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: Glucose	No known significant effects or critical hazards.
	2-deoxyglucose	No known significant effects or critical hazards.
	Oligomycin	No known significant effects or critical hazards.
Inhalation	: Glucose	No known significant effects or critical hazards.
	2-deoxyglucose	No known significant effects or critical hazards.
	Oligomycin	No known significant effects or critical hazards.
Skin contact	: Glucose	No known significant effects or critical hazards.
	2-deoxyglucose	No known significant effects or critical hazards.
	Oligomycin	No known significant effects or critical hazards.
Ingestion	: Glucose	No known significant effects or critical hazards.
	2-deoxyglucose	No known significant effects or critical hazards.
	Oligomycin	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: Glucose	No specific data.
	2-deoxyglucose	No specific data.
	Oligomycin	No specific data.
Inhalation	: Glucose	No specific data.
	2-deoxyglucose	No specific data.
	Oligomycin	No specific data.
Skin contact	: Glucose	No specific data.
	2-deoxyglucose	No specific data.
	Oligomycin	No specific data.
Ingestion	: Glucose	No specific data.
	2-deoxyglucose	No specific data.
	Oligomycin	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: Glucose	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	2-deoxyglucose	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Oligomycin	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Glucose	No specific treatment.
	2-deoxyglucose	No specific treatment.
	Oligomycin	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: Glucose	Use an extinguishing agent suitable for the surrounding fire.
	2-deoxyglucose	Use an extinguishing agent suitable for the surrounding fire.
	Oligomycin	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Glucose	None known.
	2-deoxyglucose	None known.
	Oligomycin	None known.

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

Hazards from the substance or mixture	: Glucose	No specific fire or explosion hazard.
	2-deoxyglucose	No specific fire or explosion hazard.
	Oligomycin	No specific fire or explosion hazard.
Hazardous combustion products	: Glucose	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	2-deoxyglucose	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Oligomycin	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters	: Glucose	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	2-deoxyglucose	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Oligomycin	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Glucose	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	2-deoxyglucose	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Oligomycin	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Glucose	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	2-deoxyglucose	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Oligomycin	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

SECTION 6: Accidental release measures

For emergency responders	: Glucose	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	2-deoxyglucose	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Oligomycin	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions	: Glucose	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	2-deoxyglucose	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Oligomycin	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
6.3 Methods and material for containment and cleaning up		
Methods for cleaning up	: Glucose	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
	2-deoxyglucose	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
	Oligomycin	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
6.4 Reference to other sections	: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	: Glucose	Put on appropriate personal protective equipment (see Section 8).
	2-deoxyglucose	Put on appropriate personal protective equipment (see Section 8).
	Oligomycin	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: Glucose	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	2-deoxyglucose	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Oligomycin	Eating, drinking and smoking should be prohibited in areas

SECTION 7: Handling and storage

where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

: Glucose

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

2-deoxyglucose

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Oligomycin

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)**Recommendations**: Glucose
2-deoxyglucose
OligomycinIndustrial applications, Professional applications.
Industrial applications, Professional applications.
Industrial applications, Professional applications.**Industrial sector specific solutions**: Glucose
2-deoxyglucose
OligomycinNot applicable.
Not applicable.
Not applicable.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational exposure limits**

No exposure limit value known.

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

Date of issue/Date of revision

: 12/05/2016

SECTION 8: Exposure controls/personal protection**PNECs**

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

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

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

Skin protection

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

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

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

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

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

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	: Glucose 2-deoxyglucose Oligomycin	Solid. Solid. Solid.
Colour	: Glucose 2-deoxyglucose Oligomycin	Not available. Not available. White.
Odour	: Glucose 2-deoxyglucose Oligomycin	Not available. Not available. Odourless.
Odour threshold	: Glucose 2-deoxyglucose Oligomycin	Not available. Not available. Not available.
pH	: Glucose 2-deoxyglucose Oligomycin	Not available. Not available. Not available.
Melting point/freezing point	: Glucose 2-deoxyglucose Oligomycin	146°C 146 to 147°C Not available.

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Flash point	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Evaporation rate	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Flammability (solid, gas)	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Upper/lower flammability or explosive limits	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Vapour pressure	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Vapour density	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Relative density	: Glucose	1.56
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Solubility(ies)	: Glucose	Easily soluble in the following materials: cold water and hot water.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Partition coefficient: n-octanol/water	: Glucose	-3.24
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Auto-ignition temperature	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Decomposition temperature	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Viscosity	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Explosive properties	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.
Oxidising properties	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: Glucose	No specific test data related to reactivity available for this product or its ingredients.
	2-deoxyglucose	No specific test data related to reactivity available for this product or its ingredients.
	Oligomycin	No specific test data related to reactivity available for this product or its ingredients.

SECTION 10: Stability and reactivity

10.2 Chemical stability	: Glucose 2-deoxyglucose Oligomycin	The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: Glucose 2-deoxyglucose Oligomycin	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Glucose 2-deoxyglucose Oligomycin	No specific data. No specific data. No specific data.
10.5 Incompatible materials	: Glucose 2-deoxyglucose Oligomycin	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
10.6 Hazardous decomposition products	: Glucose 2-deoxyglucose Oligomycin	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Glucose Glucose	LD50 Oral	Rat	25800 mg/kg	-
Oligomycin Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Oligomycin Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitiser**Conclusion/Summary** : Not available.Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

SECTION 11: Toxicological information

Not available.

Information on likely routes of exposure	: Glucose 2-deoxyglucose Oligomycin	Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation.
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Potential acute health effects

Inhalation	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Eye contact	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: Glucose 2-deoxyglucose Oligomycin	No specific data. No specific data. No specific data.
Ingestion	: Glucose 2-deoxyglucose Oligomycin	No specific data. No specific data. No specific data.
Skin contact	: Glucose 2-deoxyglucose Oligomycin	No specific data. No specific data. No specific data.
Eye contact	: Glucose 2-deoxyglucose Oligomycin	No specific data. No specific data. No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Short term exposure**

Potential immediate effects	: Not available.
Potential delayed effects	: Not available.

Long term exposure

Potential immediate effects	: Not available.
Potential delayed effects	: Not available.

Potential chronic health effects

General	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: Glucose 2-deoxyglucose Oligomycin	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

SECTION 11: Toxicological information

Developmental effects	: Glucose	No known significant effects or critical hazards.
	: 2-deoxyglucose	No known significant effects or critical hazards.
	: Oligomycin	No known significant effects or critical hazards.
Fertility effects	: Glucose	No known significant effects or critical hazards.
	: 2-deoxyglucose	No known significant effects or critical hazards.
	: Oligomycin	No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Oligomycin Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 28.85 mg/dm ³ Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Glucose Glucose	-3.24	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

SECTION 13: Disposal considerations

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Glucose	Not applicable.
	2-deoxyglucose	Not applicable.
	Oligomycin	Not applicable.

Other EU regulations

Europe inventory : Not determined.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

SECTION 15: Regulatory information

Not listed.

International lists

National inventory

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Japan	: Japan inventory (ENCS) : Not determined. Japan inventory (ISHL) : Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Turkey	: Not determined.
United States	: Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Full text of abbreviated H statements : **Oligomycin**
 H319 Causes serious eye irritation.

Full text of classifications [CLP/GHS] : **Oligomycin**
 Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

Date of issue/ Date of revision : 12/05/2016

Date of previous issue : No previous validation.

Version : 1

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