SAFETY DATA SHEET

Agilent Technologies

Seahorse XF Glycolysis Stress Test Kit, Part Number 103020-100

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

1.1 Product identifier

Product name : Seahorse XF Glycolysis Stress Test Kit, Part Number 103020-100

CAS number :

Glucose	50-99-7
2-deoxyglucose	154-17-6
Oligomycin	Not applicable.

Part no. (chemical kit) : 103020-100

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.

Glucose	6 x 54.048 mg
2-deoxyglucose	6 x 246.24 mg
Oligomycin	6 x 16.572 mg

Uses advised against : Not for use in diagnostic procedures (RUO).

1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.
5500 Lakeside Cheadle Royal Business Park,
Cheadle, Cheshire, SK8 3GR
United Kingdom
Tel: +44 (0) 345 712 5292

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.

Glucose	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
2-deoxyglucose	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
Oligomycin	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

Ingredients of unknown toxicity : Oligomycin — Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

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.

SECTION 2: Hazards identification

2.2 Label elements

Signal word :
Glucose — No signal word.
2-deoxyglucose — No signal word.
Oligomycin — No signal word.

Hazard statements :
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.

Precautionary statements

Prevention :
Glucose — Not applicable.
2-deoxyglucose — Not applicable.
Oligomycin — Not applicable.

Response :
Glucose — Not applicable.
2-deoxyglucose — Not applicable.
Oligomycin — Not applicable.

Storage :
Glucose — Not applicable.
2-deoxyglucose — Not applicable.
Oligomycin — Not applicable.

Disposal :
Glucose — Not applicable.
2-deoxyglucose — Not applicable.
Oligomycin — Not applicable.

Supplemental label elements :
Glucose — Not applicable.
2-deoxyglucose — Not applicable.
Oligomycin — Not applicable.

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.

Special packaging requirements

Containers to be fitted with child-resistant fastenings :
Glucose — Not applicable.
2-deoxyglucose — Not applicable.
Oligomycin — Not applicable.

Tactile warning of danger :
Glucose — Not applicable.
2-deoxyglucose — Not applicable.
Oligomycin — Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

PBT	P	B	T	vPvB	vP	vB
Glucose						
No	N/A	N/A	No	N/A	N/A	N/A
2-deoxyglucose						
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Oligomycin — This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification :
Glucose — May form combustible dust concentrations in air.
2-deoxyglucose — None known.
Oligomycin — None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : Glucose — Mono-constituent substance
2-deoxyglucose — Mono-constituent substance
Oligomycin — Mixture

Product/ingredient name	Identifiers	%	Classification	Type
Glucose Glucose	REACH #: Annex IV EC: 200-075-1 CAS: 50-99-7	100	Not classified.	[1]
2-deoxyglucose 2-deoxy-D-glucose	EC: 205-823-0 CAS: 154-17-6	100	Not classified. **See Section 16 for the full text of the H statements declared above.**	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

Glucose [1] Constituent
2-deoxyglucose [1] Constituent

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

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. 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. If material has been swallowed and the exposed person is conscious, give small quantities of

SECTION 4: First aid measures

		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. 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.
Protection of first-aiders :	Glucose	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

Over-exposure signs/symptoms

Eye contact :	Glucose	Adverse symptoms may include the following: irritation redness
	2-deoxyglucose	No specific data.
	Oligomycin	No specific data.
Inhalation :	Glucose	Adverse symptoms may include the following: respiratory tract irritation coughing
	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 dry chemical powder.
	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	Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
	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	May form explosible dust-air mixture if dispersed.
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: halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special protective actions 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
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.
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.
Oligomycin	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. 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.

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-

SECTION 6: Accidental release measures

		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. Use spark-proof tools and explosion-proof equipment. 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). Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.
	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

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.
Oligomycin	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.

7.2 Conditions for safe storage, including any incompatibilities

Storage	: Glucose	Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. 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. See Section 10 for incompatible materials before handling or use.
	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. See Section 10 for incompatible materials before handling or use.
	Oligomycin	Storage temperature: room temperature. 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. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations	: Glucose	Industrial applications, Professional applications.
	2-deoxyglucose	Industrial applications, Professional applications.
	Oligomycin	Industrial applications, Professional applications.
Industrial sector specific solutions	: Glucose	Not available.
	2-deoxyglucose	Not available.
	Oligomycin	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state :

Glucose	Solid.
2-deoxyglucose	Solid.
Oligomycin	Solid.

SECTION 9: Physical and chemical properties

Colour	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	White.
Odour	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	Odourless.
Odour threshold	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	Not available.
Melting point/freezing point	:	Glucose	146°C
		2-deoxyglucose	146 to 147°C
		Oligomycin	Not available.
Initial boiling point and boiling range	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	Not available.
Flammability	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	Not available.
Upper/lower flammability or explosive limits	:	Glucose	Not applicable.
		2-deoxyglucose	Not applicable.
		Oligomycin	Not applicable.
Flash point	:	Glucose	Not applicable.
		2-deoxyglucose	Not applicable.
		Oligomycin	Not applicable.
Auto-ignition temperature	:	Glucose	500°C
		2-deoxyglucose	Not applicable.
		Oligomycin	Not applicable.
Decomposition temperature	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	Not available.
pH	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	Not available.
Viscosity	:	Glucose	Not applicable.
		2-deoxyglucose	Not applicable.
		Oligomycin	Not applicable.

Solubility(ies) :

Media	Result
Glucose	
water	Soluble
2-deoxyglucose	
water	Soluble

Partition coefficient: n-octanol/water	:	Glucose	-3.24
		2-deoxyglucose	Not available.
		Oligomycin	Not applicable.
Vapour pressure	:	Not available.	
Evaporation rate	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	Not available.
Relative density	:	Glucose	1.56
		2-deoxyglucose	Not available.
		Oligomycin	Not available.
Vapour density	:	Glucose	Not applicable.
		2-deoxyglucose	Not applicable.
		Oligomycin	Not applicable.
Explosive properties	:	Glucose	Not available.
		2-deoxyglucose	Not available.
		Oligomycin	Not available.

SECTION 9: Physical and chemical properties

Oxidising properties :

Glucose	Not available.
2-deoxyglucose	Not available.
Oligomycin	Not available.

Particle characteristics

Median particle size :

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.

10.2 Chemical stability :

Glucose	The product is stable.
2-deoxyglucose	The product is stable.
Oligomycin	The product is stable.

10.3 Possibility of hazardous reactions :

Glucose	Under normal conditions of storage and use, hazardous reactions will not occur.
2-deoxyglucose	Under normal conditions of storage and use, hazardous reactions will not occur.
Oligomycin	Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid :

Glucose	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.
2-deoxyglucose	No specific data.
Oligomycin	No specific data.

10.5 Incompatible materials :

Glucose	Reactive or incompatible with the following materials: oxidising materials
2-deoxyglucose	May react or be incompatible with oxidising materials.
Oligomycin	May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products :

Glucose	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
2-deoxyglucose	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Oligomycin	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	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Glucose Glucose	25800	N/A	N/A	N/A	N/A

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure :

Glucose	Not available.
2-deoxyglucose	Not available.
Oligomycin	Not available.

Potential acute health effects

Inhalation :

Glucose	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
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.

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.

Eye contact :

Glucose	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
2-deoxyglucose	No known significant effects or critical hazards.
Oligomycin	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

SECTION 11: Toxicological information

Inhalation	:	Glucose	Adverse symptoms may include the following: respiratory tract irritation coughing
		2-deoxyglucose	No specific data.
		Oligomycin	No specific data.
Ingestion	:	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.
Eye contact	:	Glucose	Adverse symptoms may include the following: irritation redness
		2-deoxyglucose	No specific data.
		Oligomycin	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

Conclusion/Summary : Not available.

General	:	Glucose	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
		2-deoxyglucose	No known significant effects or critical hazards.
		Oligomycin	No known significant effects or critical hazards.
Carcinogenicity	:	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.
Mutagenicity	:	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.
Reproductive toxicity	:	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

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Glucose Glucose	-3.24	-	Low

SECTION 12: Ecological information

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Glucose Glucose	No	N/A	N/A	No	N/A	N/A	N/A
2-deoxyglucose 2-deoxy-D-glucose	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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.

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

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

SECTION 14: Transport information

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 IMO instruments : Not available.

SECTION 15: Regulatory information

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

UK (GB)/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.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

No listed substance

Label :

Glucose	Not applicable.
2-deoxyglucose	Not applicable.
Oligomycin	Not applicable.

Seveso Directive

This product is not controlled under the Seveso Directive.

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

SECTION 15: Regulatory information

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

United States : Not determined.

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]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Not classified.	

Full text of abbreviated H statements

Not applicable.

Full text of classifications

Not applicable.

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Notice to reader

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