

# Material Safety Data Sheet - RNA

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

### Identification of the substance or mixture

**Product name:** Universal qPCR Master Mix

**Kit Name:** Tomato Mosaic Virus

### Company/undertaking identification

**Manufacturer/Supplier:** Bioingentech Ltd.

**Address:** Bernardo O'Higgins 1213. Concepción, Chile.

**Phone:** (56)-41-2790435

## SECTION 2: Hazards identification

### GHS - Classification

**Signal Word** None

**Health hazards** Not classified

**Physical hazards** Not classified

**Hazard Statements** Not Applicable

**Precautionary Statements** Not Applicable

### Principle Routes of Exposure

#### Potential Health Effects

**eyes:** May cause eye irritation with susceptible persons.

**Skin:** May cause skin irritation in susceptible persons.

**Inhalation:** May be harmful by inhalation.

**Ingestion:** May be harmful if swallowed.

### Specific effects

**Carcinogenic effects** None.

**Mutagenic effects** None.

**Reproductive toxicity** None.

**Sensitization** None.

**Target Organ Effects** None under normal use conditions.

### HMIS

**Health** 0

**Flammability** 0

**Reactivity** 0

## SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 10-30 )	56-81-5	200-289-5	10-30

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4: First aid measures

**Skin contact** Rinse cautiously with water for several minutes. If symptoms occur, obtain medical advice.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

**Ingestion** Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.

**inhalation** Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

**Most important symptoms and effects, both acute and delayed** Not Applicable

**Notes to Physician** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable extinguishing media** Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.

**Special protective equipment for firefighters** Wear self-contained breathing apparatus and protective suit.

**Specific hazards arising from the chemical** Not known

## SECTION 6: Accidental release measures

**Personal precautions** Use personal protection equipment.

**Methods for cleaning up** Soak up with inert absorbent material.

## Environmental precautions

Prevent further leakage or spillage if safe to do so.

See Section 12 for more information.

## SECTION 7: Handling and storage

**Handling** Always wear recommended Personal Protective Equipment. No special handling advices are necessary.

**Storage** Keep in a dry, cool and well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### Exposure Limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment** Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Skin and Body Protection** Lightweight protective clothing.

**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**Hand protection** Impervious gloves.

**Eye protection** Wear safety glasses with side shields (or goggles).

**Environmental exposure controls** No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### General information

**Form** Liquid

**Appearance** No information available

**Odor** No data available

**Odor Threshold** No data available

**Boiling point / boiling range** °C >100 °F >212

**Melting point / melting range** °C >0 °F >32

**flash point** °C >90 °F >160

**Autoignition Temperature** °C No data available °F No data available

Evaporation rate	No data available	Partition coefficient n-octanol/water	No data available
Flammability (solid, gas)	No data available	Vapor Pressure	No data available
Oxidizing properties	No information available	vapor density	No data available
Water solubility soluble	soluble	Viscosity	No data available
Upper explosion limit	No data available	pH value	6-8
Lower explosion limit	No data available		

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.	<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Materials to avoid</b>	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	<b>polymerization</b>	Hazardous polymerization does not occur.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported	<b>Conditions to avoid</b>	None under normal processing.

## SECTION 11: Toxicological information

### Acute Toxicity

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure Potential Health Effects

<b>eyes</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.
<b>Skin</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.
<b>Inhalation</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.
<b>Ingestion</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions
<b>Carcinogenic effects</b>	None.		

## SECTION 12: Ecological information

<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	<b>Chronic aquatic toxicity</b>	Not classified chronic.
<b>Acute aquatic toxicity</b>	Not classified for acute.	<b>Mobility</b>	Log Pow.
		<b>Biodegradation</b>	Inherently biodegradable.
		<b>Bioaccumulation</b>	Material does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol		Daphnia magna EC50>500 mg/L (24h)			logPow-1.76

## SECTION 13: Disposal considerations

Dispose of contents/containers in accordance with local regulations.

## SECTION 14: Transport information

### IATA

<b>Proper Shipping Name</b>	No dangerous good in sense of these transport regulations	<b>Packing group</b>	None
<b>Hazard Class</b>	None	<b>UN-No</b>	None
<b>Subsidiary class</b>	None	<b>Environmental hazards</b>	None

## SECTION 15: Regulatory information

Component	US TSCA
Glycerol 56-81-5 ( 10-30 )	Listed

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRENTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PUPOSE"

### US Federal Regulations

#### SARA 313

This product is not regulated by SARA.

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contains HAPs.

# Material Safety Data Sheet - RNA

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

### Identification of the substance or mixture

**Product name:** Primer, Probes and Internal Control Mix

**Kit Name:** Tomato Mosaic Virus

### Company/undertaking identification

**Manufacturer/Supplier:** Bioingentech Ltd.

**Address:** Bernardo O'Higgins 1213. Concepción, Chile.

**Phone:** (56)-41-2790435

## SECTION 2: Hazards identification

GHS - Classification		Principle Routes of Exposure		Specific effects		HMIS	
<b>Signal Word</b>	None	<b>Potential Health Effects</b>		<b>Carcinogenic effects</b>	None.	<b>Health</b>	0
<b>Health hazards</b>	Not classified	<b>eyes:</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.	<b>Flammability</b>	0
<b>Physical hazards</b>	Not classified	<b>Skin:</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.	<b>Reactivity</b>	0
<b>Hazard Statements</b>	Not Applicable	<b>Inhalation:</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.		
<b>Precautionary Statements</b>	Not Applicable	<b>Ingestion:</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions.		

## SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 10-30 )	56-81-5	200-289-5	10-30

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4: First aid measures

<b>Skin contact</b>	Rinse cautiously with water for several minutes. If symptoms occur, obtain medical advice.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
<b>inhalation</b>	Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
<b>Most important symptoms and effects, both acute and delayed</b>	Not Applicable
<b>Notes to Physician</b>	Treat symptomatically.

## SECTION 5: Firefighting measures

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus and protective suit.
<b>Specific hazards arising from the chemical</b>	Not known

## SECTION 6: Accidental release measures

<b>Personal precautions</b>	Use personal protection equipment.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material.

## Environmental precautions

Prevent further leakage or spillage if safe to do so.  
See Section 12 for more information.

## SECTION 7: Handling and storage

<b>Handling</b>	Always wear recommended Personal Protective Equipment. No special handling advices are necessary.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### Exposure Limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment** Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.	<b>Skin and Body Protection</b>	Lightweight protective clothing.
<b>Hand protection</b>	Impervious gloves.	<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Eye protection</b>	Wear safety glasses with side shields (or goggles).		

**Environmental exposure controls** No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### General information

<b>Form</b>	Liquid	<b>Boiling point / boiling range</b>	°C >100	°F >212
<b>Appearance</b>	No information available	<b>Melting point / melting range</b>	°C >0	°F >32
<b>Odor</b>	No data available	<b>flash point</b>	°C >90	°F >160
<b>Odor Threshold</b>	No data available	<b>Autoignition Temperature</b>	°C No data available	°F No data available

Evaporation rate	No data available	Partition coefficient n-octanol/water	No data available
Flammability (solid, gas)	No data available	Vapor Pressure	No data available
Oxidizing properties	No information available	vapor density	No data available
Water solubility soluble	soluble	Viscosity	No data available
Upper explosion limit	No data available	pH value	6-8
Lower explosion limit	No data available		

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.	<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Materials to avoid</b>	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	<b>polymerization</b>	Hazardous polymerization does not occur.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported	<b>Conditions to avoid</b>	None under normal processing.

## SECTION 11: Toxicological information

### Acute Toxicity

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure Potential Health Effects

<b>eyes</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.
<b>Skin</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.
<b>Inhalation</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.
<b>Ingestion</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions
<b>Carcinogenic effects</b>	None.		

## SECTION 12: Ecological information

<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	<b>Chronic aquatic toxicity</b>	Not classified chronic.
<b>Acute aquatic toxicity</b>	Not classified for acute.	<b>Mobility</b>	Log Pow.
		<b>Biodegradation</b>	Inherently biodegradable.
		<b>Bioaccumulation</b>	Material does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol		Daphnia magna EC50>500 mg/L (24h)			logPow-1.76

## SECTION 13: Disposal considerations

Dispose of contents/containers in accordance with local regulations.

## SECTION 14: Transport information

### IATA

<b>Proper Shipping Name</b>	No dangerous good in sense of these transport regulations	<b>Packing group</b>	None
<b>Hazard Class</b>	None	<b>UN-No</b>	None
<b>Subsidiary class</b>	None	<b>Environmental hazards</b>	None

## SECTION 15: Regulatory information

Component	US TSCA
Glycerol 56-81-5 ( 10-30 )	Listed

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PUPOSE"

### US Federal Regulations

#### SARA 313

This product is not regulated by SARA.

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contains HAPs.

# Material Safety Data Sheet - RNA

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

### Identification of the substance or mixture

**Product name:** One qRTPCR Enzyme Mix

**Kit Name:** Tomato Mosaic Virus

### Company/undertaking identification

**Manufacturer/Supplier:** Bioingentech Ltd.

**Address:** Bernardo O'Higgins 1213. Concepción, Chile.

**Phone:** (56)-41-2790435

## SECTION 2: Hazards identification

### GHS - Classification

**Signal Word** None  
**Health hazards** Not classified  
**Physical hazards** Not classified  
**Hazard Statements** Not Applicable  
**Precautionary Statements** Not Applicable

### Principle Routes of Exposure

#### Potential Health Effects

**eyes:** May cause eye irritation with susceptible persons.  
**Skin:** May cause skin irritation in susceptible persons.  
**Inhalation:** May be harmful by inhalation.  
**Ingestion:** May be harmful if swallowed.

### Specific effects

**Carcinogenic effects** None.  
**Mutagenic effects** None.  
**Reproductive toxicity** None.  
**Sensitization** None.  
**Target Organ Effects** None under normal use conditions.

### HMIS

**Health** 0  
**Flammability** 0  
**Reactivity** 0

## SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 10-30 )	56-81-5	200-289-5	10-30

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4: First aid measures

**Skin contact** Rinse cautiously with water for several minutes. If symptoms occur, obtain medical advice.  
**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.  
**Ingestion** Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.  
**inhalation** Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.  
**Most important symptoms and effects, both acute and delayed** Not Applicable  
**Notes to Physician** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable extinguishing media** Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.  
**Special protective equipment for firefighters** Wear self-contained breathing apparatus and protective suit.  
**Specific hazards arising from the chemical** Not known

## SECTION 6: Accidental release measures

**Personal precautions** Use personal protection equipment.  
**Methods for cleaning up** Soak up with inert absorbent material.

## Environmental precautions

Prevent further leakage or spillage if safe to do so.  
 See Section 12 for more information.

## SECTION 7: Handling and storage

**Handling** Always wear recommended Personal Protective Equipment. No special handling advices are necessary.  
**Storage** Keep in a dry, cool and well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### Exposure Limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment** Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.  
**Hand protection** Impervious gloves.  
**Eye protection** Wear safety glasses with side shields (or goggles).  
**Skin and Body Protection** Lightweight protective clothing.  
**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### General information

**Form** Liquid  
**Appearance** No information available  
**Odor** No data available  
**Odor Threshold** No data available  
**Boiling point / boiling range** °C >100 °F >212  
**Melting point / melting range** °C >0 °F >32  
**flash point** °C >90 °F >160  
**Autoignition Temperature** °C No data available °F No data available

Evaporation rate	No data available	Partition coefficient n-octanol/water	No data available
Flammability (solid, gas)	No data available	Vapor Pressure	No data available
Oxidizing properties	No information available	vapor density	No data available
Water solubility soluble	soluble	Viscosity	No data available
Upper explosion limit	No data available	pH value	6-8
Lower explosion limit	No data available		

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.	<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Materials to avoid</b>	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	<b>polymerization</b>	Hazardous polymerization does not occur.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported	<b>Conditions to avoid</b>	None under normal processing.

## SECTION 11: Toxicological information

### Acute Toxicity

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure Potential Health Effects

<b>eyes</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.
<b>Skin</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.
<b>Inhalation</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.
<b>Ingestion</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions
<b>Carcinogenic effects</b>	None.		

## SECTION 12: Ecological information

<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	<b>Chronic aquatic toxicity</b>	Not classified chronic.
<b>Acute aquatic toxicity</b>	Not classified for acute.	<b>Mobility</b>	Log Pow.
		<b>Biodegradation</b>	Inherently biodegradable.
		<b>Bioaccumulation</b>	Material does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol		Daphnia magna EC50>500 mg/L (24h)			logPow-1.76

## SECTION 13: Disposal considerations

Dispose of contents/containers in accordance with local regulations.

## SECTION 14: Transport information

### IATA

<b>Proper Shipping Name</b>	No dangerous good in sense of these transport regulations	<b>Packing group</b>	None
<b>Hazard Class</b>	None	<b>UN-No</b>	None
<b>Subsidiary class</b>	None	<b>Environmental hazards</b>	None

## SECTION 15: Regulatory information

Component	US TSCA
Glycerol 56-81-5 ( 10-30 )	Listed

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PUPOSE"

### US Federal Regulations

#### SARA 313

This product is not regulated by SARA.

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contains HAPs.

# Material Safety Data Sheet - RNA

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

### Identification of the substance or mixture

**Product name:** ToMV Positive Control

**Kit Name:** Tomato Mosaic Virus

### Company/undertaking identification

**Manufacturer/Supplier:** Bioingentech Ltd.

**Address:** Bernardo O'Higgins 1213. Concepción, Chile.

**Phone:** (56)-41-2790435

## SECTION 2: Hazards identification

### GHS - Classification

**Signal Word** None  
**Health hazards** Not classified  
**Physical hazards** Not classified  
**Hazard Statements** Not Applicable  
**Precautionary Statements** Not Applicable

### Principle Routes of Exposure

#### Potential Health Effects

**eyes:** May cause eye irritation with susceptible persons.  
**Skin:** May cause skin irritation in susceptible persons.  
**Inhalation:** May be harmful by inhalation.  
**Ingestion:** May be harmful if swallowed.

### Specific effects

**Carcinogenic effects** None.  
**Mutagenic effects** None.  
**Reproductive toxicity** None.  
**Sensitization** None.  
**Target Organ Effects** None under normal use conditions.

### HMIS

**Health** 0  
**Flammability** 0  
**Reactivity** 0

## SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 10-30 )	56-81-5	200-289-5	10-30

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4: First aid measures

**Skin contact** Rinse cautiously with water for several minutes. If symptoms occur, obtain medical advice.  
**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.  
**Ingestion** Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.  
**inhalation** Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.  
**Most important symptoms and effects, both acute and delayed** Not Applicable  
**Notes to Physician** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable extinguishing media** Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.  
**Special protective equipment for firefighters** Wear self-contained breathing apparatus and protective suit.  
**Specific hazards arising from the chemical** Not known

## SECTION 6: Accidental release measures

**Personal precautions** Use personal protection equipment.  
**Methods for cleaning up** Soak up with inert absorbent material.

## Environmental precautions

Prevent further leakage or spillage if safe to do so.  
 See Section 12 for more information.

## SECTION 7: Handling and storage

**Handling** Always wear recommended Personal Protective Equipment. No special handling advices are necessary.  
**Storage** Keep in a dry, cool and well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### Exposure Limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment** Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.  
**Hand protection** Impervious gloves.  
**Eye protection** Wear safety glasses with side shields (or goggles).  
**Skin and Body Protection** Lightweight protective clothing.  
**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### General information

**Form** Liquid  
**Appearance** No information available  
**Odor** No data available  
**Odor Threshold** No data available  
**Boiling point / boiling range** °C >100 °F >212  
**Melting point / melting range** °C >0 °F >32  
**flash point** °C >90 °F >160  
**Autoignition Temperature** °C No data available °F No data available

Evaporation rate	No data available	Partition coefficient n-octanol/water	No data available
Flammability (solid, gas)	No data available	Vapor Pressure	No data available
Oxidizing properties	No information available	vapor density	No data available
Water solubility soluble	soluble	Viscosity	No data available
Upper explosion limit	No data available	pH value	6-8
Lower explosion limit	No data available		

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.	<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Materials to avoid</b>	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	<b>polymerization</b>	Hazardous polymerization does not occur.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported	<b>Conditions to avoid</b>	None under normal processing.

## SECTION 11: Toxicological information

### Acute Toxicity

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure Potential Health Effects

<b>eyes</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.
<b>Skin</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.
<b>Inhalation</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.
<b>Ingestion</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions
<b>Carcinogenic effects</b>	None.		

## SECTION 12: Ecological information

<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	<b>Chronic aquatic toxicity</b>	Not classified chronic.
<b>Acute aquatic toxicity</b>	Not classified for acute.	<b>Mobility</b>	Log Pow.
		<b>Biodegradation</b>	Inherently biodegradable.
		<b>Bioaccumulation</b>	Material does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol		Daphnia magna EC50>500 mg/L (24h)			logPow-1.76

## SECTION 13: Disposal considerations

Dispose of contents/containers in accordance with local regulations.

## SECTION 14: Transport information

### IATA

<b>Proper Shipping Name</b>	No dangerous good in sense of these transport regulations	<b>Packing group</b>	None
<b>Hazard Class</b>	None	<b>UN-No</b>	None
<b>Subsidiary class</b>	None	<b>Environmental hazards</b>	None

## SECTION 15: Regulatory information

Component	US TSCA
Glycerol 56-81-5 ( 10-30 )	Listed

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRENTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PUPOSE"

### US Federal Regulations

#### SARA 313

This product is not regulated by SARA.

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contains HAPs.

# Material Safety Data Sheet - RNA

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

### Identification of the substance or mixture

**Product name:** ToMV Negative Control

**Kit Name:** Tomato Mosaic Virus

### Company/undertaking identification

**Manufacturer/Supplier:** Bioingentech Ltd.

**Address:** Bernardo O'Higgins 1213. Concepción, Chile.

**Phone:** (56)-41-2790435

## SECTION 2: Hazards identification

### GHS - Classification

**Signal Word** None  
**Health hazards** Not classified  
**Physical hazards** Not classified  
**Hazard Statements** Not Applicable  
**Precautionary Statements** Not Applicable

### Principle Routes of Exposure

#### Potential Health Effects

**eyes:** May cause eye irritation with susceptible persons.  
**Skin:** May cause skin irritation in susceptible persons.  
**Inhalation:** May be harmful by inhalation.  
**Ingestion:** May be harmful if swallowed.

### Specific effects

**Carcinogenic effects** None.  
**Mutagenic effects** None.  
**Reproductive toxicity** None.  
**Sensitization** None.  
**Target Organ Effects** None under normal use conditions.

### HMIS

**Health** 0  
**Flammability** 0  
**Reactivity** 0

## SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 10-30 )	56-81-5	200-289-5	10-30

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4: First aid measures

**Skin contact** Rinse cautiously with water for several minutes. If symptoms occur, obtain medical advice.  
**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.  
**Ingestion** Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.  
**inhalation** Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.  
**Most important symptoms and effects, both acute and delayed** Not Applicable  
**Notes to Physician** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable extinguishing media** Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.  
**Special protective equipment for firefighters** Wear self-contained breathing apparatus and protective suit.  
**Specific hazards arising from the chemical** Not known

## SECTION 6: Accidental release measures

**Personal precautions** Use personal protection equipment.  
**Methods for cleaning up** Soak up with inert absorbent material.

## Environmental precautions

Prevent further leakage or spillage if safe to do so.  
 See Section 12 for more information.

## SECTION 7: Handling and storage

**Handling** Always wear recommended Personal Protective Equipment. No special handling advices are necessary.  
**Storage** Keep in a dry, cool and well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### Exposure Limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment** Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.  
**Hand protection** Impervious gloves.  
**Eye protection** Wear safety glasses with side shields (or goggles).  
**Skin and Body Protection** Lightweight protective clothing.  
**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### General information

**Form** Liquid  
**Appearance** No information available  
**Odor** No data available  
**Odor Threshold** No data available  
**Boiling point / boiling range** °C >100 °F >212  
**Melting point / melting range** °C >0 °F >32  
**flash point** °C >90 °F >160  
**Autoignition Temperature** °C No data available °F No data available

Evaporation rate	No data available	Partition coefficient n-octanol/water	No data available
Flammability (solid, gas)	No data available	Vapor Pressure	No data available
Oxidizing properties	No information available	vapor density	No data available
Water solubility	soluble	Viscosity	No data available
Upper explosion limit	No data available	pH value	6-8
Lower explosion limit	No data available		

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.	<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Materials to avoid</b>	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	<b>polymerization</b>	Hazardous polymerization does not occur.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported	<b>Conditions to avoid</b>	None under normal processing.

## SECTION 11: Toxicological information

### Acute Toxicity

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure Potential Health Effects

<b>eyes</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.
<b>Skin</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.
<b>Inhalation</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.
<b>Ingestion</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions
<b>Carcinogenic effects</b>	None.		

## SECTION 12: Ecological information

<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	<b>Chronic aquatic toxicity</b>	Not classified chronic.
<b>Acute aquatic toxicity</b>	Not classified for acute.	<b>Mobility</b>	Log Pow.
		<b>Biodegradation</b>	Inherently biodegradable.
		<b>Bioaccumulation</b>	Material does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol		Daphnia magna EC50>500 mg/L (24h)			logPow-1.76

## SECTION 13: Disposal considerations

Dispose of contents/containers in accordance with local regulations.

## SECTION 14: Transport information

### IATA

<b>Proper Shipping Name</b>	No dangerous good in sense of these transport regulations	<b>Packing group</b>	None
<b>Hazard Class</b>	None	<b>UN-No</b>	None
<b>Subsidiary class</b>	None	<b>Environmental hazards</b>	None

## SECTION 15: Regulatory information

Component	US TSCA
Glycerol 56-81-5 ( 10-30 )	Listed

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PUPOSE"

### US Federal Regulations

#### SARA 313

This product is not regulated by SARA.

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contains HAPs.

# Material Safety Data Sheet - RNA

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

### Identification of the substance or mixture

**Product name:** PCR grade Water  
**Kit Name:** Tomato Mosaic Virus

### Company/undertaking identification

**Manufacturer/Supplier:** Bioingentech Ltd.

**Address:** Bernardo O'Higgins 1213. Concepción, Chile.

**Phone:** (56)-41-2790435

## SECTION 2: Hazards identification

GHS - Classification		Principle Routes of Exposure		Specific effects		HMIS	
<b>Signal Word</b>	None	<b>Potential Health Effects</b>		<b>Carcinogenic effects</b>	None.	<b>Health</b>	0
<b>Health hazards</b>	Not classified	<b>eyes:</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.	<b>Flammability</b>	0
<b>Physical hazards</b>	Not classified	<b>Skin:</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.	<b>Reactivity</b>	0
<b>Hazard Statements</b>	Not Applicable	<b>Inhalation:</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.		
<b>Precautionary Statements</b>	Not Applicable	<b>Ingestion:</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions.		

## SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 10-30 )	56-81-5	200-289-5	10-30

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4: First aid measures

<b>Skin contact</b>	Rinse cautiously with water for several minutes. If symptoms occur, obtain medical advice.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
<b>inhalation</b>	Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
<b>Most important symptoms and effects, both acute and delayed</b>	Not Applicable
<b>Notes to Physician</b>	Treat symptomatically.

## SECTION 5: Firefighting measures

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical.
<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus and protective suit.
<b>Specific hazards arising from the chemical</b>	Not known

## SECTION 6: Accidental release measures

<b>Personal precautions</b>	Use personal protection equipment.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material.

## Environmental precautions

Prevent further leakage or spillage if safe to do so.  
 See Section 12 for more information.

## SECTION 7: Handling and storage

<b>Handling</b>	Always wear recommended Personal Protective Equipment. No special handling advices are necessary.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### Exposure Limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment** Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.	<b>Skin and Body Protection</b>	Lightweight protective clothing.
<b>Hand protection</b>	Impervious gloves.	<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Eye protection</b>	Wear safety glasses with side shields (or goggles).		

**Environmental exposure controls** No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### General information

<b>Form</b>	Liquid	<b>Boiling point / boiling range</b>	°C >100	°F >212
<b>Appearance</b>	No information available	<b>Melting point / melting range</b>	°C >0	°F >32
<b>Odor</b>	No data available	<b>flash point</b>	°C >90	°F >160
<b>Odor Threshold</b>	No data available	<b>Autoignition Temperature</b>	°C No data available	°F No data available

Evaporation rate	No data available	Partition coefficient n-octanol/water	No data available
Flammability (solid, gas)	No data available	Vapor Pressure	No data available
Oxidizing properties	No information available	vapor density	No data available
Water solubility	soluble	Viscosity	No data available
Upper explosion limit	No data available	pH value	6-8
Lower explosion limit	No data available		

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.	<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Materials to avoid</b>	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	<b>polymerization</b>	Hazardous polymerization does not occur.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported	<b>Conditions to avoid</b>	None under normal processing.

## SECTION 11: Toxicological information

### Acute Toxicity

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure Potential Health Effects

<b>eyes</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.
<b>Skin</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.
<b>Inhalation</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.
<b>Ingestion</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions
<b>Carcinogenic effects</b>	None.		

## SECTION 12: Ecological information

<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	<b>Chronic aquatic toxicity</b>	Not classified chronic.
<b>Acute aquatic toxicity</b>	Not classified for acute.	<b>Mobility</b>	Log Pow.
		<b>Biodegradation</b>	Inherently biodegradable.
		<b>Bioaccumulation</b>	Material does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol		Daphnia magna EC50>500 mg/L (24h)			logPow-1.76

## SECTION 13: Disposal considerations

Dispose of contents/containers in accordance with local regulations.

## SECTION 14: Transport information

### IATA

<b>Proper Shipping Name</b>	No dangerous good in sense of these transport regulations	<b>Packing group</b>	None
<b>Hazard Class</b>	None	<b>UN-No</b>	None
<b>Subsidiary class</b>	None	<b>Environmental hazards</b>	None

## SECTION 15: Regulatory information

Component	US TSCA
Glycerol 56-81-5 ( 10-30 )	Listed

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PUPOSE"

### US Federal Regulations

#### SARA 313

This product is not regulated by SARA.

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contains HAPs.

# Material Safety Data Sheet - RNA

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

### Identification of the substance or mixture

**Product name:** Exogenous RNA control

**Kit Name:** Tomato Mosaic Virus

### Company/undertaking identification

**Manufacturer/Supplier:** Bioingentech Ltd.

**Address:** Bernardo O'Higgins 1213. Concepción, Chile.

**Phone:** (56)-41-2790435

## SECTION 2: Hazards identification

### GHS - Classification

**Signal Word** None

**Health hazards** Not classified

**Physical hazards** Not classified

**Hazard Statements** Not Applicable

**Precautionary Statements** Not Applicable

### Principle Routes of Exposure

#### Potential Health Effects

**eyes:** May cause eye irritation with susceptible persons.

**Skin:** May cause skin irritation in susceptible persons.

**Inhalation:** May be harmful by inhalation.

**Ingestion:** May be harmful if swallowed.

### Specific effects

**Carcinogenic effects** None.

**Mutagenic effects** None.

**Reproductive toxicity** None.

**Sensitization** None.

**Target Organ Effects** None under normal use conditions.

### HMIS

**Health** 0

**Flammability** 0

**Reactivity** 0

## SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 10-30 )	56-81-5	200-289-5	10-30

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4: First aid measures

**Skin contact** Rinse cautiously with water for several minutes. If symptoms occur, obtain medical advice.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

**Ingestion** Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.

**inhalation** Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

**Most important symptoms and effects, both acute and delayed** Not Applicable

**Notes to Physician** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable extinguishing media** Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.

**Special protective equipment for firefighters** Wear self-contained breathing apparatus and protective suit.

**Specific hazards arising from the chemical** Not known

## SECTION 6: Accidental release measures

**Personal precautions** Use personal protection equipment.

**Methods for cleaning up** Soak up with inert absorbent material.

## Environmental precautions

Prevent further leakage or spillage if safe to do so.

See Section 12 for more information.

## SECTION 7: Handling and storage

**Handling** Always wear recommended Personal Protective Equipment. No special handling advices are necessary.

**Storage** Keep in a dry, cool and well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### Exposure Limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment** Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Skin and Body Protection** Lightweight protective clothing.

**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**Hand protection** Impervious gloves.

**Eye protection** Wear safety glasses with side shields (or goggles).

**Environmental exposure controls** No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### General information

**Form** Liquid

**Appearance** No information available

**Odor** No data available

**Odor Threshold** No data available

**Boiling point / boiling range** °C >100 °F >212

**Melting point / melting range** °C >0 °F >32

**flash point** °C >90 °F >160

**Autoignition Temperature** °C No data available °F No data available

Evaporation rate	No data available	Partition coefficient n-octanol/water	No data available
Flammability (solid, gas)	No data available	Vapor Pressure	No data available
Oxidizing properties	No information available	vapor density	No data available
Water solubility soluble	soluble	Viscosity	No data available
Upper explosion limit	No data available	pH value	6-8
Lower explosion limit	No data available		

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.	<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Materials to avoid</b>	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	<b>polymerization</b>	Hazardous polymerization does not occur.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported	<b>Conditions to avoid</b>	None under normal processing.

## SECTION 11: Toxicological information

### Acute Toxicity

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure Potential Health Effects

<b>eyes</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.
<b>Skin</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.
<b>Inhalation</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.
<b>Ingestion</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions
<b>Carcinogenic effects</b>	None.		

## SECTION 12: Ecological information

<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	<b>Chronic aquatic toxicity</b>	Not classified chronic.
<b>Acute aquatic toxicity</b>	Not classified for acute.	<b>Mobility</b>	Log Pow.
		<b>Biodegradation</b>	Inherently biodegradable.
		<b>Bioaccumulation</b>	Material does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol		Daphnia magna EC50>500 mg/L (24h)			logPow-1.76

## SECTION 13: Disposal considerations

Dispose of contents/containers in accordance with local regulations.

## SECTION 14: Transport information

### IATA

<b>Proper Shipping Name</b>	No dangerous good in sense of these transport regulations	<b>Packing group</b>	None
<b>Hazard Class</b>	None	<b>UN-No</b>	None
<b>Subsidiary class</b>	None	<b>Environmental hazards</b>	None

## SECTION 15: Regulatory information

Component	US TSCA
Glycerol 56-81-5 ( 10-30 )	Listed

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

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### US Federal Regulations

#### SARA 313

This product is not regulated by SARA.

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contains HAPs.

# Material Safety Data Sheet - RNA

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

### Identification of the substance or mixture

**Product name:** Exogenous RNA control Primer and Probes Mix

**Kit Name:** Tomato Mosaic Virus

### Company/undertaking identification

**Manufacturer/Supplier:** Bioingentech Ltd.

**Address:** Bernardo O'Higgins 1213. Concepción, Chile.

**Phone:** (56)-41-2790435

## SECTION 2: Hazards identification

### GHS - Classification

**Signal Word** None  
**Health hazards** Not classified  
**Physical hazards** Not classified  
**Hazard Statements** Not Applicable  
**Precautionary Statements** Not Applicable

### Principle Routes of Exposure

#### Potential Health Effects

**eyes:** May cause eye irritation with susceptible persons.  
**Skin:** May cause skin irritation in susceptible persons.  
**Inhalation:** May be harmful by inhalation.  
**Ingestion:** May be harmful if swallowed.

### Specific effects

**Carcinogenic effects** None.  
**Mutagenic effects** None.  
**Reproductive toxicity** None.  
**Sensitization** None.  
**Target Organ Effects** None under normal use conditions.

### HMIS

**Health** 0  
**Flammability** 0  
**Reactivity** 0

## SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 10-30 )	56-81-5	200-289-5	10-30

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4: First aid measures

**Skin contact** Rinse cautiously with water for several minutes. If symptoms occur, obtain medical advice.  
**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.  
**Ingestion** Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.  
**inhalation** Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

**Most important symptoms and effects, both acute and delayed** Not Applicable

**Notes to Physician** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable extinguishing media** Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.  
**Special protective equipment for firefighters** Wear self-contained breathing apparatus and protective suit.  
**Specific hazards arising from the chemical** Not known

## SECTION 6: Accidental release measures

**Personal precautions** Use personal protection equipment.  
**Methods for cleaning up** Soak up with inert absorbent material.

## Environmental precautions

Prevent further leakage or spillage if safe to do so.  
 See Section 12 for more information.

## SECTION 7: Handling and storage

**Handling** Always wear recommended Personal Protective Equipment. No special handling advices are necessary.  
**Storage** Keep in a dry, cool and well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### Exposure Limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment** Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.  
**Hand protection** Impervious gloves.  
**Eye protection** Wear safety glasses with side shields (or goggles).  
**Skin and Body Protection** Lightweight protective clothing.  
**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### General information

**Form** Liquid  
**Appearance** No information available  
**Odor** No data available  
**Odor Threshold** No data available  
**Boiling point / boiling range** °C >100 °F >212  
**Melting point / melting range** °C >0 °F >32  
**flash point** °C >90 °F >160  
**Autoignition Temperature** °C No data available °F No data available

Evaporation rate	No data available	Partition coefficient n-octanol/water	No data available
Flammability (solid, gas)	No data available	Vapor Pressure	No data available
Oxidizing properties	No information available	vapor density	No data available
Water solubility	soluble	Viscosity	No data available
Upper explosion limit	No data available	pH value	6-8
Lower explosion limit	No data available		

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.	<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Materials to avoid</b>	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	<b>polymerization</b>	Hazardous polymerization does not occur.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported	<b>Conditions to avoid</b>	None under normal processing.

## SECTION 11: Toxicological information

### Acute Toxicity

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure Potential Health Effects

<b>eyes</b>	May cause eye irritation with susceptible persons.	<b>Mutagenic effects</b>	None.
<b>Skin</b>	May cause skin irritation in susceptible persons.	<b>Reproductive toxicity</b>	None.
<b>Inhalation</b>	May be harmful by inhalation.	<b>Sensitization</b>	None.
<b>Ingestion</b>	May be harmful if swallowed.	<b>Target Organ Effects</b>	None under normal use conditions
<b>Carcinogenic effects</b>	None.		

## SECTION 12: Ecological information

<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	<b>Chronic aquatic toxicity</b>	Not classified chronic.
<b>Acute aquatic toxicity</b>	Not classified for acute.	<b>Mobility</b>	Log Pow.
		<b>Biodegradation</b>	Inherently biodegradable.
		<b>Bioaccumulation</b>	Material does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol		Daphnia magna EC50>500 mg/L (24h)			logPow-1.76

## SECTION 13: Disposal considerations

Dispose of contents/containers in accordance with local regulations.

## SECTION 14: Transport information

### IATA

<b>Proper Shipping Name</b>	No dangerous good in sense of these transport regulations	<b>Packing group</b>	None
<b>Hazard Class</b>	None	<b>UN-No</b>	None
<b>Subsidiary class</b>	None	<b>Environmental hazards</b>	None

## SECTION 15: Regulatory information

Component	US TSCA
Glycerol 56-81-5 ( 10-30 )	Listed

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

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