Material Safety Data Sheet - RNA

BioinGentech Biotechnology

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: Potato virus Y

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 (CO2). 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 reccommended 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^3 5 mg/m^3	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	**Boiling point / boiling range**	°C >100 °F >212
Appearance	No information available	**Melting point / melting range**	°C >0 °F >32
Odor	No data available	**flash point**	°C >90 °F >160
Odor Threshold	No data available	**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		
Oxidizing properties	No information available	**Vapor Pressure**	No data available
Water solubility soluble	soluble	**vapor density**	No data available
Upper explosion limit	No data available	**Viscosity**	No data available
Lower explosion limit	No data available	**pH value**	6-8

SECTION 10: Stability and reactivity

Stability	Stable under normal conditions.	**Hazardous decomposition products**	Carbon oxides.
Materials to avoid	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	**polymerization**	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Hazardous reaction has not been reported	**Conditions to avoid**	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^3 (Rat)

Principle Routes of Exposure Potential Health Effects

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

SECTION 12: Ecological information

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

Proper Shipping Name	No dangerous good in sense of these transport regulations	**Packing group**	None
Hazard Class	None	**UN-No**	None
Subsidiary class	None	**Environmental hazards**	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.

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.

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"

Material Safety Data Sheet - RNA

BioinGentech Biotechnology

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: Potato virus Y

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 (CO2). 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 reccommended 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^3 5 mg/m^3	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	**Boiling point / boiling range**	°C >100 °F >212
Appearance	No information available	**Melting point / melting range**	°C >0 °F >32
Odor	No data available	**flash point**	°C >90 °F >160
Odor Threshold	No data available	**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		
Oxidizing properties	No information available	**Vapor Pressure**	No data available
Water solubility soluble	soluble	**vapor density**	No data available
Upper explosion limit	No data available	**Viscosity**	No data available
Lower explosion limit	No data available	**pH value**	6-8

SECTION 10: Stability and reactivity

Stability	Stable under normal conditions.	**Hazardous decomposition products**	Carbon oxides.
Materials to avoid	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	**polymerization**	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Hazardous reaction has not been reported	**Conditions to avoid**	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^3 (Rat)

Principle Routes of Exposure Potential Health Effects

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

SECTION 12: Ecological information

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

Proper Shipping Name	No dangerous good in sense of these transport regulations	**Packing group**	None
Hazard Class	None	**UN-No**	None
Subsidiary class	None	**Environmental hazards**	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.

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.

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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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: Potato virus Y

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 (CO2). 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 reccommended 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^3 5 mg/m^3	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	**Boiling point / boiling range**	°C >100 °F >212
Appearance	No information available	**Melting point / melting range**	°C >0 °F >32
Odor	No data available	**flash point**	°C >90 °F >160
Odor Threshold	No data available	**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		
Oxidizing properties	No information available	**Vapor Pressure**	No data available
Water solubility soluble	soluble	**vapor density**	No data available
Upper explosion limit	No data available	**Viscosity**	No data available
Lower explosion limit	No data available	**pH value**	6-8

SECTION 10: Stability and reactivity

Stability	Stable under normal conditions.	**Hazardous decomposition products**	Carbon oxides.
Materials to avoid	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	**polymerization**	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Hazardous reaction has not been reported	**Conditions to avoid**	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^3 (Rat)

Principle Routes of Exposure Potential Health Effects

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

SECTION 12: Ecological information

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

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

SECTION 15: Regulatory information

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

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.

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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Material Safety Data Sheet - RNA

BioinGentech Biotechnology

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

Identification of the substance or mixture

Product name: PVY Positive Control
Kit Name: Potato virus Y

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 (CO2). 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 reccommended 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^3 5 mg/m^3	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	**Boiling point / boiling range**	°C >100	°F >212
Appearance	No information available	**Melting point / melting range**	°C >0	°F >32
Odor	No data available	**flash point**	°C >90	°F >160
Odor Threshold	No data available	**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		
Oxidizing properties	No information available	**Vapor Pressure**	No data available
Water solubility soluble	soluble	**vapor density**	No data available
Upper explosion limit	No data available	**Viscosity**	No data available
Lower explosion limit	No data available	**pH value**	6-8

SECTION 10: Stability and reactivity

Stability	Stable under normal conditions.	**Hazardous decomposition products**	Carbon oxides.
Materials to avoid	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	**polymerization**	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Hazardous reaction has not been reported	**Conditions to avoid**	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 ^{3} (Rat)

Principle Routes of Exposure Potential Health Effects

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

SECTION 12: Ecological information

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

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

SECTION 15: Regulatory information

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

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.

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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Material Safety Data Sheet - RNA

BioinGentech Biotechnology

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

Identification of the substance or mixture

Product name: PVY Negative Control
Kit Name: Potato virus Y

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 (CO2). 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 reccommended 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^3 5 mg/m^3	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	**Boiling point / boiling range**	°C >100 °F >212
Appearance	No information available	**Melting point / melting range**	°C >0 °F >32
Odor	No data available	**flash point**	°C >90 °F >160
Odor Threshold	No data available	**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		
Oxidizing properties	No information available	**Vapor Pressure**	No data available
Water solubility soluble	soluble	**vapor density**	No data available
Upper explosion limit	No data available	**Viscosity**	No data available
Lower explosion limit	No data available	**pH value**	6-8

SECTION 10: Stability and reactivity

Stability	Stable under normal conditions.	**Hazardous decomposition products**	Carbon oxides.
Materials to avoid	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	**polymerization**	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Hazardous reaction has not been reported	**Conditions to avoid**	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^3 (Rat)

Principle Routes of Exposure Potential Health Effects

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

SECTION 12: Ecological information

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

Proper Shipping Name	No dangerous good in sense of these transport regulations	**Packing group**	None
Hazard Class	None	**UN-No**	None
Subsidiary class	None	**Environmental hazards**	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.

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.

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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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: Potato virus Y

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 (CO2). 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 reccommended 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^3 5 mg/m^3	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	**Boiling point / boiling range**	°C >100 °F >212
Appearance	No information available	**Melting point / melting range**	°C >0 °F >32
Odor	No data available	**flash point**	°C >90 °F >160
Odor Threshold	No data available	**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		
Oxidizing properties	No information available	**Vapor Pressure**	No data available
Water solubility soluble	soluble	**vapor density**	No data available
Upper explosion limit	No data available	**Viscosity**	No data available
Lower explosion limit	No data available	**pH value**	6-8

SECTION 10: Stability and reactivity

Stability	Stable under normal conditions.	**Hazardous decomposition products**	Carbon oxides.
Materials to avoid	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	**polymerization**	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Hazardous reaction has not been reported	**Conditions to avoid**	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^3 (Rat)

Principle Routes of Exposure Potential Health Effects

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

SECTION 12: Ecological information

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

Proper Shipping Name	No dangerous good in sense of these transport regulations	**Packing group**	None
Hazard Class	None	**UN-No**	None
Subsidiary class	None	**Environmental hazards**	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.

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.

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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Material Safety Data Sheet - RNA

BioinGentech Biotechnology

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: Potato virus Y

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 (CO2). 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 reccommended 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^3 5 mg/m^3	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	**Boiling point / boiling range**	°C >100	°F >212
Appearance	No information available	**Melting point / melting range**	°C >0	°F >32
Odor	No data available	**flash point**	°C >90	°F >160
Odor Threshold	No data available	**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		
Oxidizing properties	No information available	**Vapor Pressure**	No data available
Water solubility soluble	soluble	**vapor density**	No data available
Upper explosion limit	No data available	**Viscosity**	No data available
Lower explosion limit	No data available	**pH value**	6-8

SECTION 10: Stability and reactivity

Stability	Stable under normal conditions.	**Hazardous decomposition products**	Carbon oxides.
Materials to avoid	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	**polymerization**	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Hazardous reaction has not been reported	**Conditions to avoid**	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 ^{3} (Rat)

Principle Routes of Exposure Potential Health Effects

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

SECTION 12: Ecological information

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

Proper Shipping Name	No dangerous good in sense of these transport regulations	**Packing group**	None
Hazard Class	None	**UN-No**	None
Subsidiary class	None	**Environmental hazards**	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.

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.

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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Material Safety Data Sheet - RNA

BioinGentech Biotechnology

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: Potato virus Y

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 (CO2). 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 reccommended 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^3 5 mg/m^3	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	**Boiling point / boiling range**	°C >100 °F >212
Appearance	No information available	**Melting point / melting range**	°C >0 °F >32
Odor	No data available	**flash point**	°C >90 °F >160
Odor Threshold	No data available	**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		
Oxidizing properties	No information available	**Vapor Pressure**	No data available
Water solubility soluble	soluble	**vapor density**	No data available
Upper explosion limit	No data available	**Viscosity**	No data available
Lower explosion limit	No data available	**pH value**	6-8

SECTION 10: Stability and reactivity

Stability	Stable under normal conditions.	**Hazardous decomposition products**	Carbon oxides.
Materials to avoid	Strong acids and oxidizing agents. Acetic anhydride. Isocyanates. Ammonia. Bases.	**polymerization**	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Hazardous reaction has not been reported	**Conditions to avoid**	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^3 (Rat)

Principle Routes of Exposure Potential Health Effects

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

SECTION 12: Ecological information

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

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

SECTION 15: Regulatory information

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

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.

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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