Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial Preparation Date: 03.11.2025

2X PCR Mix

SECTION 1: Identification

Product identifier

Product name: 2X PCR Mix

Product Code: A00899

Other means of identification: None

Additional information: None

Recommended use of the chemical and restrictions on use

Recommended use: For Research Use Only.

Restrictions on use: Not for Use in Diagnostic Procedures.

Manufacturer or supplier details

Manufacturer:

United States

Asuragen, Inc.
2150 Woodward Street
Austin, Texas 78744
+1 512-681-5200

Emergency telephone number:

United States

Asuragen, Inc.
Tel: +1 -512-681-5200 US, Toll-free Tel: 1-877-777-1874 (Normal business hours)

SECTION 2: Hazard(s) identification

Classification in accordance with paragraph (d) (1)(i) of §1910.1200, GHS Revision 7 and certain provision of GHS Revision 8:

Not a hazardous substance or mixture

Label elements

Pictogram(s): None

Signal Word: None

Hazard statements: None

Precautionary statements: None

Hazards not otherwise classified: None

Supplemental label elements: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS Number: 56-81-5	Glycerol	3-7
CAS Number: 77-86-1	Tris	1-5
CAS Number: 7783-20-2	Ammonium sulfate	0.1-1

Additional Information:
The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR§1910.1200).

SECTION 4: First-aid measures

Description of first-aid measures

General notes:
Show this Safety Data Sheet to the doctor in attendance.

After inhalation:
If inhaled, remove person to fresh air and place in a position comfortable for breathing. If respiratory symptoms develop or persist, seek medical advice/attention.

After skin contact:
Wash affected area with plenty of soap and water. Remove contaminated clothing and launder before reuse. If skin irritation develops or persists, seek medical advice/attention.

After eye contact:
Immediately rinse eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. If eye irritation develops or persists, seek medical advice/attention.

After ingestion:
If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

Most important symptoms/effects, acute and delayed

Acute symptoms and effects:
No significant acute effects/symptoms.

Delayed symptoms and effects:
No significant delayed effects/symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Immediate medical attention:
Not determined or not applicable.

Special treatment:
Not determined or not applicable.

Notes for the doctor:
Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:
Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:
Do not use water jet.

Specific hazards arising from the chemical:
Thermal decomposition may produce irritating/toxic fumes/gases.

Special protective equipment and precautions for fire-fighters

Special protective equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA).

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

Methods and material for containment and cleaning up:

Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure Limit Values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
OSHA	Glycerol	56-81-5	8-Hour TWA-PEL: 15 mg/m³ (Mist, total)
	Glycerol	56-81-5	8-Hour TWA-PEL: 5 mg/m³ (Mist, respirable fraction)
	Ammonium sulfate	7783-20-2	8-Hour TWA-PEL: 5 mg/m³ ((respirable fraction) -PNOR)
	Ammonium sulfate	7783-20-2	8-Hour TWA-PEL: 15 ppm ((total dust) - PNOR)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Glycerol	56-81-5	TLV-TWA: 10 mg/m³ (8 hr, Particles, insoluble or poorly soluble, not otherwise specified, inhalable)
	Glycerol	56-81-5	TLV-TWA: 3 mg/m³ (8 hr, Particles, insoluble or poorly soluble, not otherwise specified, respirable)
	Ammonium sulfate	7783-20-2	8-Hour TWA: 3 mg/m³ ((respirable particles) - PNOS)
	Ammonium sulfate	7783-20-2	8-Hour TWA: 10 mg/m³ ((inhalable particles) - PNOS)
United States (California)	Glycerol	56-81-5	8-Hour TWA-PEL: 10 mg/m³ (Particulates not otherwise regulated, total dust)
	Glycerol	56-81-5	8-Hour TWA-PEL: 5 mg/m³ (Particulates not otherwise regulated, respirable fraction)

Biological Limit Values:
No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:
Not determined or not applicable.

Appropriate engineering controls:
Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Individual protection measures, such as personal protective equipment

Eye and face protection:
Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin protection:
Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:
If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General hygiene measures:
When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Color	Not determined or not available.
Odor	Not determined or not available.
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	Not determined or not available.
Flammability	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Flash point (closed cup)	Not determined or not available.
Auto-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
pH	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Solubility	Not determined or not available.
Partition coefficient n-octanol/water (log value)	Not determined or not available.
Vapor pressure	Not determined or not available.
Density	Not determined or not available.
Relative density	Not determined or not available.
Relative vapor density	Not determined or not available.
Particle characteristics	Not determined or not available.

SECTION 10: Stability and reactivity

Reactivity:
Not reactive under recommended handling and storage conditions.

Chemical stability:
Stable under recommended handling and storage conditions.

Possibility of hazardous reactions, including those associated with foreseeable emergencies:
Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Conditions to avoid:
Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Incompatible materials:
None known.

Hazardous decomposition products:
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Acute toxicity
Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.

Substance data:

Name	Route	Result
Tris	oral	LD50 Rat: >5000 mg/kg
	dermal	LD50 Rat: >5000 mg/kg
Glycerol	oral	LD50 Rat: 27,200 mg/kg
	inhalation	LC50 Rat: > 5.85 mg/L (4 hr [Aerosol])
	dermal	LD50 Rat: 45000 mg/kg
Ammonium sulfate	oral	LD50 Rat: >2000 mg/kg
	dermal	LD50 Rat: >2000 mg/kg

Skin corrosion/irritation

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Serious eye damage/irritation

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

OSHA Carcinogens: Not applicable

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data:

Name	Result
Tris	May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Interactive effects:

No additional information.

Information on likely routes of exposure:

Inhalation; Ingestion; Skin contact; Eye contact

Symptoms related to the physical, chemical and toxicological characteristics:

Refer to Section 4 of this SDS.

Other information:

No additional information.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data:

Name	Result
Tris	Aquatic Invertebrates EC50 Daphnia magna: >980 mg/L (48 hr [mobility])
	Aquatic Plants EC50 Raphidocelis subcapitata: 473 mg/L (72 hr [growth rate])
Glycerol	Fish LC50 Oncorhynchus mykiss: 54000 mg/L (96 hr [mortality])
Ammonium sulfate	Fish LC50 Oncorhynchus mykiss: 53 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: 169 mg/L (48 hr [mobility])

Chronic (Long-Term) Toxicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data:

Name	Result
Tris	Aquatic Plants NOEC Raphidocelis subcapitata: 100 mg/L (72 hr [growth rate])
Ammonium sulfate	Fish EC10 Pimephales promelas: 19.7 mg/L (28 d [larvae survival and larvae abnormalities, Read-across substance data])
	Aquatic Invertebrates EC10 Daphnia magna: 4.81 mg/L (21 d [mortality and reproduction, Read-across substance data])

Persistence and Degradability

Product data: No data available.
Substance data:

Name	Result
Tris	The substance is readily biodegradable.100.7 % degradation in water, measured by O2 consumption, after 28 days.
Glycerol	The substance is readily biodegradable. 94% degradation in water, measured by TOC removal, after 1 day.
Ammonium sulfate	Persistence assessment based on biodegradability is not relevant for inorganic compounds such as this substance.

Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
Tris	The substance is not expected to bioaccumulate (log Pow: -2.31 at 20 °C).
Glycerol	The substance is not expected to bioaccumulate (log Kow <=3).
Ammonium sulfate	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for inorganic compounds such as this substance.

Mobility in soil

Product data: No data available.

Substance data:

Name	Result
Tris	The substance is mobile, therefore, there is low potential for adsorption to soil and sediment (log Koc: 1.54 - 1.87, QSAR substance data).
Ammonium sulfate	Mobility in soil assessment based on KOC/Kd values are not relevant for inorganic compounds such as this substance.

Results of PBT and vPvB assessment

Product data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

Tris	The substance is not PBT.
Glycerol	The substance is not PBT.
Ammonium sulfate	PBT assessment does not apply to inorganic compounds such as this substance.

vPvB assessment:

Tris	The substance is not vPvB.
Glycerol	The substance is not vPvB.
Ammonium sulfate	vPvB assessment does not apply to inorganic compounds such as this substance.

Other adverse effects: No other adverse effects anticipated.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory agencies. Dispose of in accordance with all applicable local, regional, state and federal regulations.

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport information

United States Transportation of Dangerous Goods (49 CFR DOT)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None

Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG) Code

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association (IATA) Dangerous Goods Regulations (DGR)

UN Number	Not regulated
UN Proper Shipping Name	Not regulated
UN Transport Hazard Class(es)	None
Packing Group	None
Environmental Hazards	None
Special Precautions for User	None

Transport in Bulk according to IMO Instruments

IMO hazard class	Not applicable
Environmental hazards	Not applicable
Material hazardous only in bulk	Not applicable

SECTION 15: Regulatory information

United States Regulations

Inventory Listing (TSCA): All ingredients are listed-active or exempt.
Significant New Use Rule (TSCA Section 5): None of the ingredients are listed.
Export Notification under TSCA Section 12(b): None of the ingredients are listed.
SARA Section 302 Extremely Hazardous Substances: None of the ingredients are listed.
SARA Section 313 Toxic Chemicals: None of the ingredients are listed.
CERCLA: None of the ingredients are listed.
RCRA: None of the ingredients are listed.
Section 112(r) of the Clean Air Act (CAA): None of the ingredients are listed.
Massachusetts Right to Know:

56-81-5	Glycerol	Listed
7783-20-2	Ammonium sulfate	Listed

New Jersey Right to Know:

56-81-5	Glycerol	Listed

New York Right to Know:

7783-20-2	Ammonium sulfate	Listed

Pennsylvania Right to Know:

56-81-5	Glycerol	Listed
7783-20-2	Ammonium sulfate	Listed

California Proposition 65: None of the ingredients are listed.

Additional information: No additional information.

SECTION 16: Other information

Disclaimer:

This product has been classified in accordance with paragraph (d) (1)(i) of 1910.1200, GHS Revision 7 and certain provision of GHS Revision 8. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

Initial Preparation Date: 03.11.2025

End of Safety Data Sheet