

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS: King Abdullah University of Science and Technology (KAUST) Thuwal 23955, Saudi Arabia.

EMERGENCY TELEPHONE NUMBERS: (966) 59 121-4477

PRODUCT NAME : Lysis buffer

PRODUCT CODE : RE96011 – RE96051 – RE96251

PRODUCT USE : For research use only. Not intended for human or animal diagnostic uses.

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

INGREDIENTS: Guanidine Hydrochloride

CAS: 50-01-1

GHS CLASSIFICATION

Acute toxicity (Oral): Category 4

Skin irritant: Category 2

Eye irritant: Category 2



SIGNAL WORD: Warning

HAZARD STATEMENTS:

H302 + H332: Harmful if swallowed/ inhaled

H315: Causes skin irritation

H319: Causes serious eye irritation

PRECAUTIONARY STATEMENTS

P261: Avoid breathing dust/ fume / gas / mist / vapours / spray.

P264: Wash skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P280: Wear protective gloves and eye protection.

P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P302 + P352: IF ON SKIN: Wash with plenty of water.

P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313: If skin irritation occurs: Get medical advice/ attention.

P337 + P313: If eye irritation persists: Get medical advice/ attention.

P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS CLASSIFICATION

Health hazard: 2

Chronic health hazard: *

Flammability: 0

Physical hazards: 0

*Potential health effects

Inhalation: Toxic if inhaled. It causes respiratory tract irritation.

Skin: May be harmful if absorbed through skin. It causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: Toxic if swallowed.

SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	PERCENTAGE	CAS NUMBER	EC NUMBER
Guanidine Hydrochloride	undisclosed	50-01-1	200-002-3

SECTION 4 - FIRST AID MEASURES

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

IF SWALLOWED: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

IF ON SKIN: Wash off with soap and plenty of water. Consult a physician.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF INHALED: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5 - FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY: Not Flammable or Combustible

FLASHPOINT: Not determined

EXTICTION MEAN: Use water spray, alcohol-resistant foam, dry chemical or CO₂.

FIRE AND EXPLOSION HAZARD: Not sensitive to mechanical impact or static discharge

FIRE FIGHTING EQUIPMENT: Wear self-contained breathing apparatus for firefighting if necessary

HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: Carbon oxides, Nitrogen oxides (NO_x), Hydrogen chloride gas.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

PERSONAL PRECAUTIONS: Use personal protective equipment. Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS: Do not let products enter drains.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wear personal protective equipment. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

STORAGE: Keep container tightly closed in a dry and well-ventilated place.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: If exposure limits are exceeded or irritation is experienced, respiratory protection approved under NIOSH/MSHA must be worn. For high airborne contaminant concentration positive-pressure supplied air respirators may be required.

EYE PROTECTION: Wear safety glasses with side shields conforming to EN166. Avoid contact with the eyes.

SKIN AND BODY PROTECTION: Wear protective gloves and clothing.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice.

SPECIFIC ENGINEERING CONTROLS: Use appropriate mechanical exhaust or laboratory fume hood to avoid exposure.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Color: Clear

Odor: Characteristic

pH: Not available

Melting Point: Not available

Boiling Point: Not available

Flash Point: Not available

Evaporation Rate: Not available

Flammability: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Special gravity: 1.09 g/cm³

Solubility: Not available

Decomposition Temperature: Not available

Viscosity: Not available

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions

CONDITIONS TO AVOID: Not available.

INCOMPATIBLE MATERIALS: Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions : Carbon oxides, nitrogen oxides, hydrogen chloride gas

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity data from similar formulation

ACUTE TOXICITY:

PRODUCT:

Acute oral toxicity: Not available

Acute inhalation toxicity: Not available

Acute dermal toxicity: Not available

INGREDIENTS:

LD50 Guanidine HCl - Oral: (Rat) = 475 mg/kg

LD50 Guanidine HCl - Oral: (Mouse) = 571 mg/kg

LD50 Guanidine HCl - Inhalation: (Rat) = 3.181 mg/L, 4 h

SKIN CORROSION / IRRITATION:

Product: Corrosive and destructive to tissue. Causes skin burns.

SERIOUS EYE DAMAGE / EYE IRRITATION

Product: Respiratory or skin sensitization: May cause irreversible eye damage.

GERM CELL MUTAGENICITY: Not available

CARCINOGENICITY: Not available

REPRODUCTIVE TOXICITY: Not available

STOT-SINGE EXPOSURE: Not available

STOT-REPEATED EXPOSURE: Not available

ASPIRATION TOXICITY: Not available

FURTHER INFORMATION: Not available

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY: Harmful to aquatic organisms.

TOXICITY TO FISH: Leuciscus idus (Golden orfe) – 1,759 mg/L

PERSISTENCE AND DEGRADABILITY: Not readily biodegradable

SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT: The product should not be allowed to enter drains, watercourses or the soil. Disposing should be performed in compliance with local and national regulation by a licensed waste management company.

CONTAMINATED PACKAGING: Dispose of as unused product. Do not reuse empty containers.

SECTION 14 - TRANSPORT INFORMATION

DOT (US): Not regulated as dangerous good.

UNRTG: Not regulated as dangerous good.

IATA: Not regulated as dangerous good.

IMDG: Not regulated as dangerous good.

SECTION 15 - REGULATORY INFORMATION

WHMIS CLASSIFICATION:

D1B: Toxic Material Causing Immediate and Serious Toxic Effects: Toxic by injection

D2B: Toxic Material Causing Other Toxic Effects: Moderate skin irritant - Moderate eye irritant

SECTION 16 - OTHER INFORMATION

The above information contained in this Material Safety Data Sheet is correct to the best of our knowledge and belief at the date of publication. The information provided is only designed as a guide for safe handling, handling, use, transportation, storage, disposal and release. This information is not to be considered a guarantee or a quality specification. The information relates only to the specific materials and may not be valid for such materials used with any other materials or in any process, unless stated so in the text.

END OF SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS: King Abdullah University of Science and Technology (KAUST) Thuwal 23955, Saudi Arabia.

EMERGENCY TELEPHONE NUMBERS: (966) 59 121-4477

PRODUCT NAME : Wash 1 buffer

PRODUCT CODE : RE96012 – RE96052 – RE96252

PRODUCT USE : For research use only. Not intended for human or animal diagnostic uses.

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

INGREDIENTS: Sodium acetate

CAS: 127-09-3

GHS CLASSIFICATION: Not Hazard

SIGNAL WORD: Warning

PRECAUTIONARY STATEMENTS

P270: Do not eat, drink or smoke when using this product.

P280: Wear protective gloves and eye protection.

P302 + P352: IF ON SKIN: Wash with plenty of water.

P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313: If skin irritation occurs: Get medical advice/ attention.

P337 + P313: If eye irritation persists: Get medical advice/ attention.

P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS CLASSIFICATION**Health hazard:** 0**Chronic health hazard:** 0**Flammability:** 0**Physical hazards:** 0**POTENTIAL HEALTH EFFECTS:** May cause skin / eye irritation**SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS**

COMPONENT	PERCENTAGE	CAS NUMBER	EC NUMBER
Sodium acetate	undisclosed	127-09-3	204-823-8

SECTION 4 - FIRST AID MEASURES

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

IF SWALLOWED: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

IF ON SKIN: Wash off with soap and plenty of water. Consult a physician.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF INHALED: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Have a product container or label with you when calling a poison control center or doctor or going for treatment.

SECTION 5 - FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY: Not Flammable or Combustible

FLASHPOINT: Not determined

EXTICTION MEAN: Use water spray, alcohol-resistant foam, dry chemical or CO₂.

FIRE AND EXPLOSION HAZARD: Not sensitive to mechanical impact or static discharge

FIRE FIGHTING EQUIPMENT: Wear self-contained breathing apparatus for firefighting if necessary

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Contain spillage and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

PERSONAL PRECAUTIONS: Use personal protective equipment. Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS: Do not let products enter drains.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wear personal protective equipment. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

STORAGE: Keep container tightly closed in a dry and well-ventilated place.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: If exposure limits are exceeded or irritation is experienced, respiratory protection approved under NIOSH/MSHA must be worn. For high airborne contaminant concentration positive-pressure supplied air respirators may be required.

EYE PROTECTION: Wear safety glasses with side shields conforming to EN166. Avoid contact with the eyes.

SKIN AND BODY PROTECTION: Wear protective gloves and clothing.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice.

SPECIFIC ENGINEERING CONTROLS: Use appropriate mechanical exhaust or laboratory fume hood to avoid exposure.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Color: Clear

Odor: Not available

pH: Not available

Melting Point: Not available

Boiling Point: Not available

Flash Point: Not available

Evaporation Rate: Not available

Flammability: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Special gravity: Not available

Solubility: Not available

Decomposition Temperature: Not available

Viscosity: Not available

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions

CONDITIONS TO AVOID: Not available.

INCOMPATIBLE MATERIALS: Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions: Carbon oxides, nitrogen oxides, hydrogen chloride gas

SECTION 11 - TOXICOLOGICAL INFORMATION**ACUTE TOXICITY:****PRODUCT:**

Acute oral toxicity: 14342.6 mg/kg (estimated ATE value)

Acute inhalation toxicity: Not available

Acute dermal toxicity: Not available

GERM CELL MUTAGENICITY: Not available

CARCINOGENICITY: Not available

REPRODUCTIVE TOXICITY: Not available

STOT-SINGE EXPOSURE: Not available

STOT-REPEATED EXPOSURE: Not available

ASPIRATION TOXICITY: Not available

FURTHER INFORMATION: Not available

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY: Not available

PERSISTENCE AND DEGRADABILITY: Not available

SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT: The product should not be allowed to enter drains, watercourses or the soil. Disposing should be performed in compliance with local and national regulation by a licensed waste management company.

CONTAMINATED PACKAGING: Dispose of as unused product. Do not reuse empty containers.

SECTION 14 - TRANSPORT INFORMATION

DOT (US): Not regulated as dangerous good.

UNRTG: Not regulated as dangerous good.

IATA: Not regulated as dangerous good.

IMDG: Not regulated as dangerous good.

SECTION 15 - REGULATORY INFORMATION

Not controlled or listed

SECTION 16 - OTHER INFORMATION

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END OF SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS: King Abdullah University of Science and Technology (KAUST) Thuwal 23955, Saudi Arabia.

EMERGENCY TELEPHONE NUMBERS: (966) 59 121-4477

PRODUCT NAME : Wash 2 buffer

PRODUCT CODE : RE96013 – RE96053 – RE96253

PRODUCT USE : For research use only. Not intended for human or animal diagnostic uses.

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

GHS CLASSIFICATION: Not Hazard

SIGNAL WORD: No Single word

HMIS CLASSIFICATION

Health hazard: 0

Chronic health hazard: 0

Flammability: 0

Physical hazards: 0

SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS

Substance / Mixture	Name	Hazardous ingredients
Mixture	Wash 2 buffer	No

SECTION 4 - FIRST AID MEASURES

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

IF SWALLOWED: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

IF ON SKIN: Wash off with soap and plenty of water. Consult a physician.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF INHALED: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Have a product container or label with you when calling a poison control center or doctor or going for treatment.

SECTION 5 - FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY: Not Flammable or Combustible

FLASHPOINT: Not determined

EXTICTION MEAN: Use water spray, alcohol-resistant foam, dry chemical or CO₂.

FIRE AND EXPLOSION HAZARD: Not sensitive to mechanical impact or static discharge

FIRE FIGHTING EQUIPMENT: Wear self-contained breathing apparatus for firefighting if necessary

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Contain spillage and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

PERSONAL PRECAUTIONS: Use personal protective equipment. Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS: Do not let products enter drains.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wear personal protective equipment. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

STORAGE: Keep container tightly closed in a dry and well-ventilated place.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: If exposure limits are exceeded or irritation is experienced, respiratory protection approved under NIOSH/MSHA must be worn. For high airborne contaminant concentration positive-pressure supplied air respirators may be required.

EYE PROTECTION: Wear safety glasses with side shields conforming to EN166. Avoid contact with the eyes.

SKIN AND BODY PROTECTION: Wear protective gloves and clothing.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice.

SPECIFIC ENGINEERING CONTROLS: Use appropriate mechanical exhaust or laboratory fume hood to avoid exposure.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Color: Clear

Odor: Not available

pH: 7.5

Melting Point: Not available

Boiling Point: Not available

Flash Point: Not available

Evaporation Rate: Not available

Flammability: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Special gravity: 1

Solubility: Not available

Decomposition Temperature: Not available

Viscosity: Not available

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions

CONDITIONS TO AVOID: Not available.

INCOMPATIBLE MATERIALS: Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions: Carbon oxides, nitrogen oxides, hydrogen chloride gas

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

PRODUCT:

Acute oral toxicity: Not available

Acute inhalation toxicity: Not available

Acute dermal toxicity: Not available

GERM CELL MUTAGENICITY: Not available

CARCINOGENICITY: Not available

REPRODUCTIVE TOXICITY: Not available

STOT-SINGE EXPOSURE: Not available

STOT-REPEATED EXPOSURE: Not available

ASPIRATION TOXICITY: Not available

FURTHER INFORMATION: Not available

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY: Not available

PERSISTENCE AND DEGRADABILITY: Not available

SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT: The product should not be allowed to enter drains, watercourses or the soil. Disposing should be performed in compliance with local and national regulation by a licensed waste management company.

CONTAMINATED PACKAGING: Dispose of as unused product. Do not reuse empty containers.

SECTION 14 - TRANSPORT INFORMATION

DOT (US): Not regulated as dangerous good.

UNRTG: Not regulated as dangerous good.

IATA: Not regulated as dangerous good.

IMDG: Not regulated as dangerous good.

SECTION 15 - REGULATORY INFORMATION

Not controlled or listed

SECTION 16 - OTHER INFORMATION

The above information contained in this Material Safety Data Sheet is correct to the best of our knowledge and belief at the date of publication. The information provided is only designed as a guide for safe handling, handling, use, transportation, storage, disposal and release. This information is not to be considered a guarantee or a quality specification. The information relates only to the specific materials and may not be valid for such materials used with any other materials or in any process, unless stated so in the text.

END OF SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS: King Abdullah University of Science and Technology (KAUST) Thuwal 23955, Saudi Arabia.

EMERGENCY TELEPHONE NUMBERS: (966) 59 121-4477

PRODUCT NAME : Elution Buffer

PRODUCT CODE : RE96014 – RE96054 – RE96254

PRODUCT USE : For research use only. Not intended for human or animal diagnostic uses.

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

GHS CLASSIFICATION: Not Hazard

SIGNAL WORD: No signal word

HMIS CLASSIFICATION

Health hazard: 0

Chronic health hazard: 0

Flammability: 0

Physical hazards: 0

SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS

Substance / Mixture	Name	Hazardous ingredients
Mixture	Elution Buffer	None

SECTION 4 - FIRST AID MEASURES

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

IF SWALLOWED: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

IF ON SKIN: Wash off with soap and plenty of water. Consult a physician.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF INHALED: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Have a product container or label with you when calling a poison control center or doctor or going for treatment.

SECTION 5 - FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY: Not Flammable or Combustible

FLASHPOINT: Not determined

EXTICTION MEAN: Use water spray, alcohol-resistant foam, dry chemical or CO₂.

FIRE AND EXPLOSION HAZARD: Not sensitive to mechanical impact or static discharge

FIRE FIGHTING EQUIPMENT: Wear self-contained breathing apparatus for firefighting if necessary

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Contain spillage and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

PERSONAL PRECAUTIONS: Use personal protective equipment. Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS: Do not let products enter drains.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wear personal protective equipment. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

STORAGE: Keep container tightly closed in a dry and well-ventilated place.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: If exposure limits are exceeded or irritation is experienced, respiratory protection approved under NIOSH/MSHA must be worn. For high airborne contaminant concentration positive-pressure supplied air respirators may be required.

EYE PROTECTION: Wear safety glasses with side shields conforming to EN166. Avoid contact with the eyes.

SKIN AND BODY PROTECTION: Wear protective gloves and clothing.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice.

SPECIFIC ENGINEERING CONTROLS: Use appropriate mechanical exhaust or laboratory fume hood to avoid exposure.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Color: Clear

Odor: Not available

pH: 7

Melting Point: Not available

Boiling Point: Not available

Flash Point: Not available

Evaporation Rate: Not available

Flammability: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Special gravity: Not available

Solubility: Not available

Decomposition Temperature: Not available

Viscosity: Not available

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions

CONDITIONS TO AVOID: Not available.

INCOMPATIBLE MATERIALS: Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions: Carbon oxides, nitrogen oxides, hydrogen chloride gas

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

PRODUCT:

Acute oral toxicity: Not available

Acute inhalation toxicity: Not available

Acute dermal toxicity: Not available

GERM CELL MUTAGENICITY: Not available

CARCINOGENICITY: Not available

REPRODUCTIVE TOXICITY: Not available

STOT-SINGE EXPOSURE: Not available

STOT-REPEATED EXPOSURE: Not available

ASPIRATION TOXICITY: Not available

FURTHER INFORMATION: Not available

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY: Not available

PERSISTENCE AND DEGRADABILITY: Not available

SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT: The product should not be allowed to enter drains, watercourses or the soil. Disposing should be performed in compliance with local and national regulation by a licensed waste management company.

CONTAMINATED PACKAGING: Dispose of as unused product. Do not reuse empty containers.

SECTION 14 - TRANSPORT INFORMATION

DOT (US): Not regulated as dangerous good.

UNRTG: Not regulated as dangerous good.

IATA: Not regulated as dangerous good.

IMDG: Not regulated as dangerous good.

SECTION 15 - REGULATORY INFORMATION

Not controlled or listed

SECTION 16 - OTHER INFORMATION

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END OF SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS: King Abdullah University of Science and Technology (KAUST) Thuwal 23955, Saudi Arabia.

EMERGENCY TELEPHONE NUMBERS: (966) 59 121-4477

PRODUCT NAME : Proteinase K (20mg/mL)

PRODUCT CODE : RE96018 – RE96058 – RE96258

PRODUCT USE : For research use only. Not intended for human or animal diagnostic uses.

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY**GHS CLASSIFICATION**

SIGNAL WORD: Warning

HAZARD STATEMENTS:

H334: May cause allergies or asthma symptoms or breathing difficulties if inhaled

PRECAUTIONARY STATEMENTS

P261: Avoid breathing dust/ fume / gas / mist / vapors / spray.

P284: In case of inadequate ventilation wear respiratory protection.

P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS CLASSIFICATION

Health hazard: 4

Chronic health hazard: *

Flammability: 0

Physical hazards: 0

***Potential health effects**

Inhalation: Toxic if inhaled. It causes respiratory tract irritation.

Skin: May be harmful if absorbed through skin. It causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: Toxic if swallowed.

SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	PERCENTAGE	CAS NUMBER	EC NUMBER
Proteinase K	undisclosed	39450-01-6	254-457-8
Glycerol	undisclosed	56-81-5	200-289-5

SECTION 4 - FIRST AID MEASURES

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

IF SWALLOWED: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

IF ON SKIN: Wash off with soap and plenty of water. Consult a physician.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF INHALED: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Have a product container or label with you when calling a poison control center or doctor or going for treatment.

SECTION 5 - FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY: Not Flammable or Combustible

FLASHPOINT: Not determined

EXTICTION MEAN: Use water spray, alcohol-resistant foam, dry chemical or CO₂.

FIRE AND EXPLOSION HAZARD: Not sensitive to mechanical impact or static discharge

FIRE FIGHTING EQUIPMENT: Wear self-contained breathing apparatus for firefighting if necessary

HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: Carbon oxides, Nitrogen oxides (NO_x), Hydrogen chloride gas.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Contain spillage and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

PERSONAL PRECAUTIONS: Use personal protective equipment. Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS: Do not let products enter drains.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wear personal protective equipment. No special handling advice are necessary.

STORAGE: Keep container tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: If exposure limits are exceeded or irritation is experienced, respiratory protection approved under NIOSH/MSHA must be worn. For high airborne contaminant concentration positive-pressure supplied air respirators may be required.

EYE PROTECTION: Wear safety glasses with side shields conforming to EN166. Avoid contact with the eyes.

SKIN AND BODY PROTECTION: Wear protective gloves and clothing.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice.

SPECIFIC ENGINEERING CONTROLS: Use appropriate mechanical exhaust or laboratory fume hood to avoid exposure.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid
Color: Clear
Odor: Not available
pH: Not available
Melting Point: Not available
Boiling Point: Not available
Flash Point: Not available
Evaporation Rate: Not available
Flammability: Not available
Vapor Pressure: Not available
Vapor Density: Not available
Special gravity: Not available
Solubility: Not available
Decomposition Temperature: Not available
Viscosity: Not available

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions

CONDITIONS TO AVOID: Not available.

INCOMPATIBLE MATERIALS: Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions: Carbon oxides, nitrogen oxides, hydrogen chloride gas

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity data from similar formulation

ACUTE TOXICITY: Data are conclusive but insufficient for classification

INGREDIENTS: Not available

SKIN CORROSION / IRRITATION: Data are conclusive but insufficient for classification

SERIOUS EYE DAMAGE / EYE IRRITATION: Data are conclusive but insufficient for classification

GERM CELL MUTAGENICITY: Not available

CARCINOGENICITY: Not available

REPRODUCTIVE TOXICITY: Not available

STOT-SINGE EXPOSURE: Not available

STOT-REPEATED EXPOSURE: Not available

ASPIRATION TOXICITY: Not available

FURTHER INFORMATION: Not available

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY: No special environmental precautions required.

TOXICITY TO FISH: Not available

PERSISTENCE AND DEGRADABILITY: Not readily biodegradable

SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT: The product should not be allowed to enter drains, watercourses or the soil. Disposing should be performed in compliance with local and national regulation by a licensed waste management company.

CONTAMINATED PACKAGING: Dispose of as unused product. Do not reuse empty containers.

SECTION 14 - TRANSPORT INFORMATION

DOT (US): Not regulated as dangerous good.

UNRTG: Not regulated as dangerous good.

IATA: Not regulated as dangerous good.

IMDG: Not regulated as dangerous good.

SECTION 15 - REGULATORY INFORMATION

WHMIS CLASSIFICATION:

D2A: Very toxic materials

SECTION 16 - OTHER INFORMATION

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END OF SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS: King Abdullah University of Science and Technology (KAUST) Thuwal 23955, Saudi Arabia.

EMERGENCY TELEPHONE NUMBERS: (966) 59 121-4477

PRODUCT NAME : WBC Pelleting Solution

PRODUCT CODE : RE96016 – RE96056 – RE96256

PRODUCT USE : For research use only. Not intended for human or animal diagnostic uses.

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

GHS CLASSIFICATION: Not Hazard

SIGNAL WORD: No Single word

HMIS CLASSIFICATION

Health hazard: 0

Chronic health hazard: 0

Flammability: 0

Physical hazards: 0

SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS

Substance / Mixture	Name	Hazardous ingredients
Mixture	WBC Pelleting Solution	No

SECTION 4 - FIRST AID MEASURES

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

IF SWALLOWED: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

IF ON SKIN: Wash off with soap and plenty of water. Consult a physician.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF INHALED: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5 - FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY: Not Flammable or Combustible

FLASHPOINT: Not determined

EXTICTION MEAN: Use water spray, alcohol-resistant foam, dry chemical or CO₂.

FIRE AND EXPLOSION HAZARD: Not sensitive to mechanical impact or static discharge

FIRE FIGHTING EQUIPMENT: Wear self-contained breathing apparatus for firefighting if necessary

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

PERSONAL PRECAUTIONS: Use personal protective equipment. Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS: Do not let products enter drains.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wear personal protective equipment. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

STORAGE: Keep container tightly closed in a dry and well-ventilated place.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: If exposure limits are exceeded or irritation is experienced, respiratory protection approved under NIOSH/MSHA must be worn. For high airborne contaminant concentration positive-pressure supplied air respirators may be required.

EYE PROTECTION: Wear safety glasses with side shields conforming to EN166. Avoid contact with the eyes.

SKIN AND BODY PROTECTION: Wear protective gloves and clothing.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice.

SPECIFIC ENGINEERING CONTROLS: Use appropriate mechanical exhaust or laboratory fume hood to avoid exposure.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Color: Clear

Odor: Not available

pH: Not available

Melting Point: Not available

Boiling Point: Not available

Flash Point: Not available

Evaporation Rate: Not available

Flammability: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Special gravity: 1

Solubility: Not available

Decomposition Temperature: Not available

Viscosity: Not available

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions

CONDITIONS TO AVOID: Not available.

INCOMPATIBLE MATERIALS: Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions: Carbon oxides, nitrogen oxides, hydrogen chloride gas

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

PRODUCT:

Acute oral toxicity: Not available

Acute inhalation toxicity: Not available

Acute dermal toxicity: Not available

GERM CELL MUTAGENICITY: Not available

CARCINOGENICITY: Not available

REPRODUCTIVE TOXICITY: Not available

STOT-SINGE EXPOSURE: Not available

STOT-REPEATED EXPOSURE: Not available

ASPIRATION TOXICITY: Not available

FURTHER INFORMATION: Not available

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY: Not available

PERSISTENCE AND DEGRADABILITY: Not available

SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT: The product should not be allowed to enter drains, watercourses or the soil. Disposing should be performed in compliance with local and national regulation by a licensed waste management company.

CONTAMINATED PACKAGING: Dispose of as unused product. Do not reuse empty containers.

SECTION 14 - TRANSPORT INFORMATION

DOT (US): Not regulated as dangerous good.

UNRTG: Not regulated as dangerous good.

IATA: Not regulated as dangerous good.

IMDG: Not regulated as dangerous good.

SECTION 15 - REGULATORY INFORMATION

Not controlled or listed

SECTION 16 - OTHER INFORMATION

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END OF SAFETY DATA SHEET