# Elabscience Biotechnology Co., Ltd

# *MATERIAL SAFETY DATA SHEET*

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

| | |
|---|---|
| Product name: | 10×ACK Lysis Buffer |
| Cat. No. | E-CK-A105 |
| Application | For research use only |
| Company: | Elabscience Biotechnology Co., Ltd |
| Address: | Building B18, Biomedical Park, # 858 Gaoxin Road,<br>Donghu Hi-Tech Development Area, Wuhan, Hubei, China |
| Email: | techsupport@elabscience.com |
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| Emergency | 86-27-87385095 |

## SECTION 2 HAZARDS IDENTIFICATION

| Items | Physical form | Hazardous Ingredient | Concentration | CAS No. |
|---|---|---|---|---|
| E-CK-A105 | Odorless and colorless, liquid | Ammonium chloride | 0.05% | 12125-02-9 |

### 2.1 GHS Classification

Acute toxicity, Oral (Category 4), H302

Serious eye damage/eye irritation (Category 2A), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word Warning

Hazard Statements

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

Precautionary Statements

Prevention

P264 Wash skin thoroughly after handling.

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

P280 Wear eye protection/ face protection.

Response

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

Rinse mouth.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

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

Disposal

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

**2.3 Physical and chemical hazards**

Referring to current information, no physical or chemical hazard.

**2.4 Health hazards**

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

**2.5 Environmental hazards**

Referring to current information, no environmental hazard.

2.6 Other hazards - none

## SECTION 3 INFORMATION ON INGREDIENTS

| Ingredient | Concentration | CAS No. |
|---|---|---|
| Water | 91.40% | 7732-18-5 |
| Sodium chloride | 3.15% | 7647-14-5 |
| Disodium hydrogen orthophosphate | 0.85% | 7558-79-4 |
| Potassium chloride | 1.45% | 7447-40-7 |
| Calcium chloride | 0.85% | 10043-52-4 |
| Magnesium chloride | 0.6% | 7786-30-3 |
| Magnesium sulfate | 0.8% | 7487-88-9 |
| D(+)-Glucose | 0.65% | 50-99-7 |
| Potassium dihydrogen orthophosphate | 0.2% | 7778-77-0 |
| Ammonium chloride | 0.05% | 12125-02-9 |

## SECTION 4 FIRST-AID MEASURES

Classification according to GHS

**4.1 General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**4.2 If inhaled**

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

**4.3 In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**4.4 In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**4.5 If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## SECTION 5 FIRE FIGHTING MEASURES

### 5.1 Suitable extinguishing media

Suitable: Water spray, alcohol-resistant foam, dry chemical, carbon dioxide or appropriate foam.

For small fires, use media such as “alcohol” foam, dry chemical or carbon dioxide.

For large fires, apply water from as far as possible. Use large quantities of water applied as a mist or spray. Solid streams of water may be ineffective. Cool affected containers with flooding quantities of water.

### 5.2 Special precautions for fire-fighters

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

### 5.3 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### 6.1 Person-related safety precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### 6.2 Measures for environmental protection

Prevent further leakage or spillage if safe to do so. Do not let enter drains. Discharge into the environment must be avoided.

### 6.3 Measures for containment and cleaning

Contain spillage, and then collect with non-combustible absorbent material (eg. sand, diatomaceous earth, vermiculite). Place in a container for disposal according to local regulations. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Sweep up and shovel. 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 (see section 13). Keep in suitable, closed containers for disposal.

## SECTION 7 HANDLING AND STORAGE

### 7.1 Handling

Wear appropriate protective clothing and safety gloves.

Avoid inhalation.

Avoid contact with eyes, skin and clothing.

Mechanical exhaust required.

Keep away from ignition sources, heat and flame.

No smoking at working site.

Incompatibilities: Strong oxidizing agents, Strong acids. Handling and unloading should be light, to prevent packaging broken, damp and cause losses.

Working place should be equipped with appropriate varieties and quantities of firefighting equipment and leakage emergency treatment equipment.

### 7.2 Storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Keep away from heat, sparks and flame.

Keep away from sources of ignition.

Incompatible: Strong oxidizing agents, Strong acids.

Storage place should be equipped with appropriate varieties and quantities of firefighting equipment and leakage emergency treatment equipment.

## SECTION 8 EXPOSURE CONTROL/PPE

### 8.1 Engineering Controls

Mechanical exhaust required. Safety shower and eye bath.

### 8.2 Personal Protective Equipment

Respiratory: Government approved respirator if needed.

Eye/face: Chemical safety goggles if needed.

Clothing: Wear appropriate protective clothing.

Hand/skin: Protective gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection: Wear suitable protective clothing according to the concentration and amount of the substance at the workplace.

### 8.3 Other Protect

No smoking, drinking and eating at working site. Wash thoroughly after handling.

## SECTION 9 PHYSICAL/CHEMIICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Physical state solid

b) Color white

c) Odor odorless

d) Melting point/freezing point Melting point: 338 ℃ - (sublimed)

e) Initial boiling point and boiling range 520 ℃

f) Flammability (solid,gas) The product is not flammable.

g) Upper/lower flammability or explosive limits No data available

h) Flash point Not applicable

i) Autoignition temperature > 400 ℃ - Relative self-ignition temperature for solidsdoes not ignite

j) Decomposition temperature Not applicable

k) pH 5 - 5.5 at 25 ℃

l) Viscosity Viscosity, kinematic: No data available Viscosity, dynamic: No data available

m) Water solubility 372 g/l at 20 ℃

n) Partition coefficient: Not applicable for inorganic substances n-octanol/water

o) Vapor pressure 1.3 hPa at 160.4 ℃ 1.3 hPa at 30 ℃

p) Density 1.53 g/cm3 at 25 ℃ Relative density No data available

q) Relative vapor density No data available

r) Particle characteristics No data available

s) Explosive properties No data available

t) Oxidizing properties none

**9.2 Other safety information**

No data available

## SECTION 10 STABILITY AND REACTIVITY

**10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable under recommended storage conditions

**10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

Heat, flames and sparks

**10.5 Incompatible materials**

Strong oxidizing agent, Light sensitive, Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing agents, Amines, Mercaptans.

**10.6 Hazardous decomposition products**

Other decomposition products: No data available

Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

## SECTION 11 TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**

**Acute toxicity**

LD50 Oral - Rat - male and female - 1,410 mg/kg

(OECD Test Guideline 401)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Symptoms: Possible damages:, mucosal irritations

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

Remarks: (ECHA)

**Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation - 24 h

(Draize Test)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Eye irritation

Remarks: (ECHA)

**Respiratory or skin sensitization**

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

**Germ cell mutagenicity**

In vivo tests did not show mutagenic effects
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster lung cells
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 473
Result: positive
Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

### 11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 90 d - NOAEL (No observed adverse effect level) - 1,695.7 mg/kg
Remarks: Subchronic toxicity
RTECS: BP4550000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large qantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12 ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish semi-static test LC50 - Cyprinus carpio (Carp) - 209.00 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 101 mg/l - 48 h Remarks: (ECHA)

Toxicity to algae static test ErC50 - Chlorella vulgaris (Fresh water algae) - 1,300 mg/l - 5 d Remarks: (ECHA)

Toxicity to bacteria static test EC50 - activated sludge - 1,310 mg/l - 0.5 h (OECD Test Guideline 209)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) semi-static test NOEC - Daphnia magna (Water flea) - 14.6 mg/l -21 d Remarks: (ECHA)

**12.2 Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Endocrine disrupting properties**

No data available

**12.7 Other adverse effects**

No data available

## SECTION 13 DISPOSAL CONSIDERATION

**13.1 Disposal methods**

Dispose of waste in accordance to applicable national, regional, or local regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**13.2 Contaminated packaging**

Dispose in the same manner as unused product.

## SECTION 14 TRANSPORT INFORMATION

**RID/ADR:** Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

**IATA:** Non-Hazardous for Air Transport.

**IMO:** Non-Hazardous for Sea Transport.

## SECTION 15 REGULATORY INFORMATION

This material safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008 and its amendments.

## SECTION 16 OTHER INFORMATION

**IMPORTANT! Read the safety data sheets before the use and disposal of this product. Insure**

**that this information is understood by the operators exposed to this product. Use this product for the intended purpose as indicated in the instruction manual.**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as guide. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from this use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from using the above information.