



# Material Safety Data Sheet

Revision date 01-Feb.-2013

## **1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY /UNDERTAKING**

**Product Code: CFS-SUB-SGC**

**Product Name: SUB-AMIX<sup>®</sup> SGC**

(SUB-AMIX<sup>®</sup> SGC is translation buffers which are composed of S1,S2, S3 and S4.)

**Identified use: Laboratory chemicals**

### **Company/Undertaking Identification**

CellFree Sciences Co., Ltd  
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### Contact Information

Sales & Marketing Department

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(to be continued)

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous/Non-hazardous Components

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

CHEMICAL NAME	Concentration,w/w%	CAS No.
2-[4-(2-Hydroxyethyl)-1-piperazinyl]ethanesulfonic Acid	Less than 30	7365-45-9
Disodium Creatinephosphate Tetrahydrate	Less than 30	922-32-7
DTT	Less than 5	27565-41-9
Glycine	Less than 1	56-40-6
L-Alanine	Less than 1	56-41-7
L-Arginine(HCl)	Less than 1	1119-34-2
L-Asparagine(H <sub>2</sub> O)	Less than 1	5794-13-8
L-Aspartic Acid	Less than 1	56-84-8
L-Cysteine(HCl,H <sub>2</sub> O)	Less than 1	7048-4-6
L-Glutamic Acid	Less than 1	56-86-0
L-Glutamine	Less than 1	56-85-9
L-Histidine(HCl,H <sub>2</sub> O)	Less than 1	5934-29-2
L-Isoleucine	Less than 1	73-32-5
L-Leucine	Less than 1	61-90-5
L-Lysine(HCl)	Less than 1	657-27-2
L-Methionine	Less than 1	63-68-3
L-Phenylalanine	Less than 1	63-91-2
L-Proline	Less than 1	147-85-3
L-Serine	Less than 1	56-45-1
L-Threonine	Less than 1	72-19-5
L-Tryptophan	Less than 1	73-22-3
L-Tyrosine	Less than 1	60-18-4
L-Valine	Less than 1	72-18-4
Magnesium Acetate Tetrahydrate	Less than 5	16674-78-5
Potassium Acetate	Less than 40	127-08-2

### **3. HAZARDOUS IDENTIFICATION**

Physical State:	Aqueous solution
Principal Routes of exposure/Potential Health Effects	
Eyes	No information available
Skin	No information available
Inhalation	No information available
Ingestion	Maybe harmful if swallowed

#### Specific effects

Carcinogenic Effects	No information available
Mutagenic Effects	No information available
Reproductive Toxicity	No information available
Sensitization	No information available

### **4. FIRST AID AND MEASURES**

#### GENERAL ADVICE:

Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.

#### INHALATION:

Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.

#### SKIN CONTACT:

Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.

#### EYE CONTACT:

Remove any contact lenses at once. Flush eyes well with flooding amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.

#### INGESTION:

Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Consult a physician.

### **5. FIRE FIGHTING MEASURES**

#### EXTINGUISHING MEDIA:

Carbon dioxide, dry chemical powder, foam, water

#### FIRE&EXPLOSION HAZARDS:

Toxic, irritating dust or smoke may be emitted.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS:

Firemen should wear normal protective equipment (full bunker gear) and positive-pressure self-contained breathing apparatus.

## **6. ACCIDENTAL RELEASE MEASURES**

### PROCEDURE(S) OF PERSONAL PRECAUTION(S):

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of vapors.

### METHODS FOR CLEAN UP:

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

## **7. HANDLING AND STORAGE**

### HANDLING:

No special measures necessary. Good laboratory technique should be used when handling.

### STORAGE:

No special measures necessary. Store at -20°C ~ -80°C.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### ENGINEERING MEASURES:

Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.

### VENTILATION:

Local Exhaust; Necessary, Mechanical(General); Recommended

### PERSONAL PROTECTION;

#### Respiratory protection:

Use a NIOSH/MSHA or European Standard EN149 approved respirator if the vapor concentrations exceed regulatory guidelines.

Hand protection: Chemical resistant gloves

Eye protection: Safety glasses (goggles)

Skin protection: Protective clothing

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Clear aqueous solution

BOILING POINT: Above 100 degree C

MELTING POINT: Not available

FREEZING POINT: Below 0 degree C

VAPOR DENSITY: Not available

VAPOR PRESSURE: Not available

## **10. STABILITY AND REACTIVITY**

### STABILITY:

Stable, under normal handling and storage conditions.

### DECOMPOSITION:

No data available.

### CONDITIONS TO AVOID:

Contact with strong oxidants or fire.

### HAZARDOUS POLYMERIZATION:

Will not occur.

## **11. TOXICOLOGICAL INFORMATION**

ACUTE TOXICITY DATA:	Not available
IRRITATION DATA:	Not available
MUTATION DATA:	Not available
REPRODUCTIVE EFFECTS DATA:	Not available
TUMORIGENIC DATA:	Not available

## **12. ECOLOGICAL INFORMATION**

BIODEGRADABILITY:	Not available
BIOACCUMULATION POTENTIAL:	Not available
AQUATIC TOXICITY:	Not available

## **13. DISPOSAL CONSIDERATION**

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environmental agency for specific rules.)

## **14. TRANSPORT INFORMATION**

IATA:	Not Restricted.
DOT(Department of Transportation):	Not a Hazardous Material for DOT shipping.

The above information is believed to be correct to be the best of our knowledge and information but does not purport to be all inclusive and shall 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, volume, 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 MSDS DOES NOT CONSTITUTE A WARRANTY , EXPRESSED OR IMPLIED, OF ITS SUITABILITY FOR A PARTICULAR PURPOSE.