

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Identification of the substance/preparation

**Product name** : S-adenosylmethionine(SAM) (EzRNA™ RNA Capping System)

**Product code** : CHRC01 (RC1000)

**Recommended use** : For laboratory use.

### 1.2 Company/Undertaking identification

SMOBIO Technology, Inc.

3F, No. 15, Industry E. 9th Rd., Hsinchu Science Park, Hsinchu 300096, Taiwan

Tel : +886 3 5799292

Fax : +886 3 5790202

E-mail : [support@smobio.com](mailto:support@smobio.com)

### 1.3 Emergency telephone number

**Emergency telephone** : +886 3 5799292 (09.00-18.00 TST)

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flammable liquids	Category 3 – (H226)
Chronic aquatic toxicity	Category 3 – (H412)

### 2.2 Label elements



**Signal Word** : Warning

#### Hazard statements

H226 - Flammable liquid and vapor

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 - Keep container tightly closed.  
 P273 - Avoid release to the environment.  
 P370 + P378 - In case of fire: Use dry chemical, CO2, water spray or alcohol-resistant foam to extinguish.  
 P403 + P235 - Store in a well-ventilated place. Keep cool.  
 P501 - Dispose of contents/ container to an approved waste disposal plant.

**Unknown aquatic toxicity** Contains 0 % of components with unknown hazards to the aquatic environment.

**2.3 Other information**

No information available.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors.

**3. Composition/information on ingredient**

**3.1 Substances**

Not applicable

**3.2 Mixtures**

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

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethanol 64-17-5	7 - 13	No data available	(603-002-00-5) 200-578-6	Flam. Liq. 2 (H225)

Full text of H- and EUH-phrases: see section 16

**Acute Toxicity Estimate**

No information available

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 – 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Ethanol 64-17-5	7060	No data available	116.9 133.8	No data available	No data available

#### 4. First aid measures

##### 4.1 General information

No special measures required.

##### 4.2 Description of first aid measures

**In case of ingestion :** If swallowed, rinse mouth and throat thoroughly with water.

Consult a doctor in the event of any complaints.

**In case of inhalation :** If inhaled, remove victim from area of exposure. If symptoms of irritation or respiratory allergy occur, consult a doctor.

**In case of skin contact :** Generally, the product does not irritate the skin. If symptoms of irritation after prolonged exposure occur, consult a doctor.

**In case of eye contact :** Wash out opened eyes with plenty of water for several minutes. Consult a doctor in event of any complaints.

#### 5. Fire-fighting measures

##### 5.1 Suitable extinguishing agents

Water spray, Carbon dioxide (CO<sub>2</sub>), dry chemical powder or appropriate foam.

##### 5.2 Not suitable extinguishing agents

Do not scatter spilled material with high pressure water streams.

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

**Specific hazards arising from the chemical**

Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**5.4 Advice for firefighters****Special protective equipment and precautions for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.  
Use personal protection equipment.

**6. Accidental release measures****6.1 Personal precautions**

Wear appropriate gloves (see Section 8), safety glasses to clean small releases/spillage.  
In case of vapor/aerosol formation, wear suitable respiratory protection means. Ventilate the area.

**6.2 Environmental precautions**

No special measures required.

**6.3 Methods for cleaning up**

Absorb spillages with liquid-binding material. Ventilate and wash the area after the spillage is completely removed.

**6.4 Additional information**

No dangerous substances are released.

**7. Handling and storage****7.1 Handling**

No further requirements. Use appropriate personal protection measures (see Section 8). Avoid any contact with the liquid. Avoid the formation of aerosols. Ventilate area.

**7.2 Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

**8. Exposure controls/personal protection****8.1 Control parameters**

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

**Engineering measures** : No specific requirements relating to the preparation.

### 8.3 Personal protection

**Respiratory protection** : No special measures required.

**Hand protection** : Wear rubber gloves. No special requirements to rubber.

**Eye protection** : Safety glasses (goggles) are recommended during ordinary operations with the preparation.

**Skin protection** : The usual precautionary measures accepted in research laboratories, e.g. protective clothes (gowns). No specific requirements.

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance**: Liquid.

**Color**: Colorless

**Odor**: Mild.

**pH-value**: No data available.

**Boiling point**: No data available.

**Flash Point**: 49°C.

**Autoignition temperature**: 363°C

**Flammability / autoflammability**: No data available.

**Explosive properties**: The preparation does not possess explosive properties.

**Oxidizing properties**: No data available.

**Vapor pressure**: No data available.

**Relative density at 20°C**: ~1.03 g/cm<sup>3</sup>.

**Solubility in/miscibility with water**: No data available

**Fat solubility**: No data available.

**Vapor density**: No data available.

**Evaporation rate**: No data available.

**Conductivity**: No data available.

**Viscosity**: No data available.

### 9.2 Other information

No further relevant information available.

**10. Stability and reactivity**

**10.1 Stability**

Stable under storage conditions (see section 7).

**10.2 Reactivity**

No information available.

**10.3 Possibility of hazardous reactions**

None under normal processing.

**10.4 Conditions to avoid**

Heat, flames and sparks.

**10.5 Incompatible materials**

None known based on information supplied.

**10.6 Hazardous decomposition products**

None known based on information supplied.

**11. Toxicological information**

**11.1 Information on likely routes of exposures**

**Inhalation:**

Specific test data for the substance or mixture is not available.

**Ingestion:**

Specific test data for the substance or mixture is not available.

**Skin and eye contact:**

Specific test data for the substance or mixture is not available.

**Acute toxicity:**

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	70,600.00 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.0000 mg/l
ATEmix (inhalation-dust/mist)	1,169.000 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ethanol	= 7060 mg/kg ( Rat )	-	= 116.9 mg/L ( Rat ) 4 h = 133.8 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**11.2 Information on other hazards**

**11.2.1 Endocrine disrupting properties**

**Endocrine disrupting properties:** No information available.

**11.2.2 Other information**

**Other adverse effects:** No information available.

**12. Ecological information**

**12.1 Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethanol	-	LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: >100mg/L (96h, Pimephales promelas) LC50: 13400 - 15100mg/L	-	LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna)

		(96h, Pimephales						
<b>12.2 Persistence and degradability</b> Persistence and degradability: No information available.								
<b>12.3 Bioaccumulative potential</b> <b>Bioaccumulation</b> <table border="1" data-bbox="247 577 1404 674"> <thead> <tr> <th>Chemical name</th> <th>Partition coefficient</th> </tr> </thead> <tbody> <tr> <td>Ethanol</td> <td>-0.35</td> </tr> </tbody> </table>					Chemical name	Partition coefficient	Ethanol	-0.35
Chemical name	Partition coefficient							
Ethanol	-0.35							
<b>12.4 Other adverse effects</b> No information available.								
<b>13. Disposal consideration</b>  <b>13.1 Waste treatment methods</b> <b>Waste from residues / unused products:</b> Dispose of in accordance with local regulation. <b>Contaminated packaging:</b> Empty containers should be taken to an approved waste handling site for recycling or disposal.								
<b>14. Transport information</b>  <b>IATA</b> UN/ID No                      UN1170 Proper shipping name        ETHANOL SOLUTION Transport hazard class(es)    3 Packing group                    II <b>IMDG/IMO:</b> Not regulated. <b>RID:</b> Not regulated. <b>ADR:</b> Not regulated.								
<b>15. Regulatory information</b>  <b>International Inventories</b> <b>TSCA</b> Contact supplier for inventory compliance status <b>DSL/NDSL</b> Contact supplier for inventory compliance status <b>EINECS/ELINCS</b> Contact supplier for inventory compliance status <b>ENCS</b> Contact supplier for inventory compliance status <b>IECSC</b> Contact supplier for inventory compliance status								





## SAFETY DATA SHEET

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<b>KECL</b>	Contact supplier for inventory compliance status
<b>PICCS</b>	Contact supplier for inventory compliance status
<b>AIIC</b>	Contact supplier for inventory compliance status
<b>NZIoC</b>	Contact supplier for inventory compliance status

### **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

### **US Federal Regulations**

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### **SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.



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### 16. Other information

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SMOBIO shall not be held liable for any damage resulting from handling or from contact with the above product.