

# Material Safety Data Sheet

**Date of Issue: 26 Oct 2018**

## 1. IDENTIFICATION OF THE SUBSTANCE

- . **Product Name:** cRGD, TAMRA
- . **Product Code:** ARR1001

## 2. COMPANY INFORMATION

- BioActs. DK Tower 10<sup>th</sup> F, 595 beongil-9, Cheongneung-daero Namdong-gu, Incheon, Korea
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**For research use only. Not intended for human or animal diagnostic or therapeutic uses.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

- . **Component:** cRGD, TAMRA mixture
- . **Weight Percent:** 80 – 100

**The product contains no substances that considered to be hazardous to health.  
We recommend handling all chemicals with caution.**

## 4. HAZARDS IDENTIFICATION

**Health hazards overview:** We are not aware of any reported health hazards for this product,  
however we recommend treating all chemicals with caution.

### Potential Health Effects Principle Routes of exposure

- Inhalation:** May be harmful by inhalation
- Skin:** May cause skin irritation in susceptible persons
- Eyes:** May cause eye irritation
- Ingestion:** May be harmful if swallowed

### Specific Effects

- Carcinogenic effects:** No concerning information for making a satisfactory assessment
- Mutagenic effects:** No concerning information for making a satisfactory assessment
- Reproductive toxicity:** No concerning information for making a satisfactory assessment
- Sensitization:** No concerning information for making a satisfactory assessment

## 5. FIRST AID MEASURES

**Skin contact:** Rinse with plenty of water. If symptoms arise, call a physician.  
**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
If symptoms persist, call a physician.  
**Ingestion:** Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.  
Do not induce vomiting without medical advice.  
**Inhalation:** Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

**Notes to physician:** Treat symptomatically.

## 6. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Water spray, ABC powder or carbon dioxide foam

**Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus and protective suit.

## 7. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment.

**Methods for cleaning up:** Take up mechanically and collect in suitable container for disposal.

## 8. HANDLING AND STORAGE

**Handling:** Always wear recommended protective equipment. No special handling advice required.

**Storage:** Store at -20 °C in a dark.

## 9. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering measures:** Ensure adequate ventilation, especially in confined areas.

**Permissible exposure limit:** Not available

### Personal protective equipment

**Respiratory protection:** In case of insufficient ventilation, wear suitable respiratory equipment.

**Hand protection:** Impervious gloves

**Eye protection:** Safety glasses with side-shields

**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice.

## 10. PHYSICAL AND CHEMICAL PROPERTIES

### General Information

**Form:** Solid  
**Appearance:** Red  
**Odor:** No information available  
**pH:** No data available  
**Melting point:** No data available  
**Boiling point:** No data available  
**Flash point:** No data available  
**Ignition temperature:** No data available  
**Oxidizing properties:** No information available  
**Water solubility:** No data available

## 11. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions

**Hazardous decomposition:** No dangerous reaction under normal usage

**Dangerous decomposition:** None under normal use

## 12. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Chemical Name	LD <sub>50</sub> oral (rat, mouse)	LD <sub>50</sub> dermal (rat, rabbit)	LD <sub>50</sub> inhalation (rat, mouse)
cRGD, TAMRA	No data available	No data available	No data available

### Potential Acute Health Effects of Principle Exposure Routes

**Inhalation:** May be harmful by inhalation  
**Ingestion:** May be harmful if swallowed  
**Skin:** May cause skin irritation in susceptible persons  
**Eye contact:** May cause eye irritation with susceptible persons

### Potential Chronic Health Effects

**Chronic effects:** No known significant effects or critical hazards  
**Carcinogenicity:** No known significant effects or critical hazards  
**Mutagenicity:** No concerning information for making a satisfactory assessment  
**Reproductive toxicity:** No known significant effects or critical hazards  
**Fertility effects:** No known significant effects or critical hazards

## 13. ECOLOGICAL INFORMATION

**Biodegradation:** Inherently biodegradable  
**Ecotoxicity effects:** No information available  
**Mobility:** No information available  
**Bioaccumulation:** Does not bioaccumulate.

## 14. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulation

## 15. TRANSPORT INFORMATION

### International Air Transport Association (IATA)

**Proper shipping name:** Not classified as dangerous in the meaning of transport regulations  
**Hazard class:** None  
**Subsidiary Class:** None  
**Packing group:** None  
**UN-Number:** None

## 16. REGULATORY INFORMATION

No specific data

## 17. OTHER INFORMATION

The above information was acquired by diligent search and/or investigation, and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to 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, volumes, or conditions of use, BioActs 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, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

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