**** MATERIAL SAFETY DATA SHEET ****

MSDS Name: Human TNFSF11 / RANKL / CD254 Protein, His Tag (active trimer) (MALS verified)

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Human TNFSF11 / RANKL / CD254 Protein, His Tag (active trimer) (MALS verified)
Catalog Numbers： RAL-H5240

Company Identification: ACROBIOSYSTEMS INC
For information, call: +1 800-810-0816

**** SECTION 2 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Eye: Potassium chloride can cause eye irritation, including redness, tearing, and possible abrasions.
Skin: Sodium Phosphate is a corrosive material and can cause burns.
Sensitization possible through skin contact and inhalation.
Ingestion: Material can be irritating to mucous membranes and respiratory tract.
Inhalation: Inhalation of high concentrations of dust may cause nasal or lung irritation.
Ingestion of large quantities can produce gastrointestinal irritation and vomiting.
Chronic: N/A

**** SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS ****

The product contains no substances which at their given concentration, are considered to be hazardous to health.
We recommend handling all chemicals with caution.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes: Rinse opened eye for at least 15 minutes under running water, lifting upper and lower eyelids occasionally.
Seek medical attention.
Skin: Remove contaminated clothing. Immediately wash with plenty of soap and water for at least 15 minutes.
Seek medical attention.
Ingestion: swallowed and patient is conscious, induce vomiting. Seek medical attention immediately.
Inhalation: In case of unconsciousness, place patient on side position for transportation.
If not breathing, give artificial respiration. Supply fresh air or oxygen; seek medical attention immediately.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Fight larger fires with water or alcohol resistant foam. Firefighters should wear protective equipment and self-contained breathing apparatus. As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Personal Precautions	Use personal protective equipment.
Methods for Cleaning Up	Take up mechanically and collect in suitable container for disposal.

**** SECTION 7 - HANDLING AND STORAGE ****

Handling: Wear personal protective equipment.

Storage: Keep in properly labelled containers.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls: Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Respiratory Protection ： In case of insufficient ventilation wear suitable respiratory equipment.
Hand Protection：Protective gloves.
Eye Protection：Safety glasses with side-shields.
Skin and Body Protection：Lightweight protective clothing.
Hygiene Measures：Handle in accordance with good industrial hygiene and safety practice.
Environmental Exposure：Prevent product from entering drains.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

General Information

Form	Solid Lyophilized powder	
Important Health Safety and Environmental Information		
Boiling Point/Range	°C No data available	°F No data available
Melting Point/Range	°C No data available	°F No data available
Flash Point	°C No data available	°F No data available
Autoignition Temperature	°C No data available	°F No data available
Oxidizing Properties	No information available	
Water Solubility	No data available	

**** SECTION 10 - STABILITY AND REACTIVITY ****

Stability	Stable.
Materials to Avoid	No information available.
Hazardous decomposition products	No information available.
Polymerization	Hazardous polymerisation does not occur.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Acute Toxicity

Principle Routes of Exposure/
Potential Health effects

Eyes	May cause eye irritation with susceptible persons.
Skin.	No information available.
Inhalation	May cause irritation of respiratory tract.
Ingestion	May be harmful if swallowed.

Specific effects (Long Term Effects)

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

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity Effects	No information available.
Mobility	No information available.
Biodegradation	Inherently biodegradable.
Bioaccumulation	Does not bioaccumulate.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in accordance with local regulations

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation information-DOT/IATA/IMDG
Not dangerous goods. Be available for any mode of transportation.

**** SECTION 15 - REGULATORY INFORMATION ****

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Safety, health and environmental regulations/legislation specific for the substance or mixture---no data available
Chemical Safety Assessment---For this product a chemical safety assessment was not carried out

**** SECTION 16 - OTHER INFORMATION****

For research use only

Reported by:

Company Name : **ACROBIOSYSTEMS INC** **Date:** 01/07/2020