## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

| | |
|---|---|
| Product name | ARG2 (NM_001172) Human Recombinant Protein |
| Product Number | TP306756 |
| Brand | OriGene Technologies, Inc. |

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

| | |
|---|---|
| Identified uses | Laboratory chemicals, Synthesis of substances |

### 1.3 Details of the supplier of the safety data sheet

| | |
|---|---|
| Company | OriGene Technologies, Inc.<br>9620 Medical Center Drive, Suite 200<br>Rockville, MD 20850, USA |
| Telephone | +1 301.340.3188 |
| Fax | +1 301.340.8606 |

### 1.4 Emergency telephone number

| | |
|---|---|
| Emergency Phone # | + 240.620.0267 |

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

### 2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Not a hazardous substance or mixture.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Mixtures

Substances: Aqueous Solution with non-hazardous additions

| Component | CAS-No. | Classification | Concentration |
|---|---|---|---|
| 2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride | 1185-53-1 | 214-684-5 | ≤ 1% |
| Glycine | 56-40-6 | 200-272-2 | ≤ 1% |
| Glycerol | 56-81-5 | 200-289-5 | ≤ 20% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**If inhaled**

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

**In case of skin contact**

Wash off with soap and plenty of water.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media, suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Nature of decomposition products not known.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, mist or gas. For personal protection see section 8.

### 6.2 Environmental precautions

No special environmental precautions required.

### 6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): 12 Non-combustible liquid

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components with workplace control parameters Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Appropriate engineering controls General industrial hygiene practice. Personal protective equipment Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection Handle with 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 Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Respiratory protection Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Control of environmental exposure No special environmental precautions required.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Appearance | Form: aqueous solution |
| Odor | No data available |
| Odor Threshold | No data available |
| pH | 7.0 – 8.0 |
| Melting point / freezing point | 0 Centigrade |
| Initial boiling point & range | 100 Centigrade |
| Flash point | No data available |
| Evaporation point | No data available |
| Flammability (solid/gas) | No data available |
| Upper/lower Flammability limits | No data available |
| Vapor pressure | No data available |
| Relative density | No data available |
| Water solubility | No data available |
| Partition coefficient (octanol/water) | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity | No data available |
| Explosive properties | No data available |
| Oxidizing properties | No data available |

### 9.2 Other safety information

No data available

## 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**

No data available

**10.5 Incompatible materials**

Strong oxidizing agents

**10.6 Hazardous decomposition products**

Other decomposition products - No data available
In the event of fire: See section 5

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**
No data available

**Inhalation**
No data available

**Dermal**
No data available

**Skin corrosion/irritation**
No data available

**Serious eye damage/eye irritation**
No data available

**Respiratory or skin sensitization**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**

| | |
|---|---|
| IARC: | No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| NTP: | No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| OSHA: | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

**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

**Additional Information**
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**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 Other adverse effects**

No data available

## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

**DOT (US)**

Not regulated as a dangerous good

**IMDG**

Not regulated as a dangerous good

**IATA**

Not regulated as a dangerous good

## 15. REGULATORY INFORMATION

**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

No SARA Hazards

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

No components are subject to the Pennsylvania Right to Know Act.

**New Jersey Right To Know Components**

No components are subject to the New Jersey Right to Know Act.

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex X.

## 16. OTHER INFORMATION

**HMIS Rating**

| | |
|---|---|
| Health hazard: | 0 |
| Chronic Health Hazard: | 0 |
| Flammability: | 0 |
| Physical Hazard: | 0 |

**NFPA Rating**

| | |
|---|---|
| Health hazard: | 0 |
| Fire Hazard: | 0 |
| Reactivity Hazard: | 0 |

**Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. OriGene Technologies and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.origene.com for additional terms and conditions of sale.
COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

**Preparation Information**

OriGene Technologies, Inc.
Safety Office
Revision: 3.8 Revision Date: 10/26/2023