

## CytoGrow™ Recombinant TNF-α (Human), CHO, Tag Free TheWell Bioscience Inc.

Version No: 1.0  
 Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **06/20/2025**  
 Print Date: **06/27/2025**

S.GHS.USA.EN

### SECTION 1 Identification

#### Product Identifier

|                               |                                                    |
|-------------------------------|----------------------------------------------------|
| Product name                  | CytoGrow™ Recombinant TNF-α (Human), CHO, Tag Free |
| Synonyms                      | Not Available                                      |
| Other means of identification | Not Available                                      |

#### Recommended use of the chemical and restrictions on use

|                          |                        |
|--------------------------|------------------------|
| Relevant identified uses | For research use only. |
|--------------------------|------------------------|

#### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

|                         |                                                                         |
|-------------------------|-------------------------------------------------------------------------|
| Registered company name | TheWell Bioscience Inc.                                                 |
| Address                 | 1 Deerpark Dr, Ste C, Monmouth Junction, New Jersey 08852 United States |
| Telephone               | 1-973-855-4955                                                          |
| Fax                     | 1-973-755-9670                                                          |
| Website                 | <a href="http://www.thewellbio.com">http://www.thewellbio.com</a>       |
| Email                   | <a href="mailto:info@thewellbio.com">info@thewellbio.com</a>            |

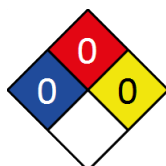
#### Emergency phone number

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Association / Organisation        | TheWell Bioscience Inc.             |
| Emergency telephone numbers       | USA & Canada: 1-866-332-3357        |
| Other emergency telephone numbers | Outside USA & Canada: 1-973-855-495 |

### SECTION 2 Hazard(s) identification

#### Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

|                |                |
|----------------|----------------|
| Classification | Not Applicable |
|----------------|----------------|

#### Label elements

|                     |                       |
|---------------------|-----------------------|
| Hazard pictogram(s) | Not Applicable        |
| Signal word         | <b>Not Applicable</b> |

CytoGrow™ Recombinant

TNF-α (Human), CHO, Tag Free

**Hazard statement(s)**

Not Applicable

**Hazard(s) not otherwise classified**

Not Applicable

**Precautionary statement(s) Prevention**

Not Applicable

**Precautionary statement(s) Response**

Not Applicable

**Precautionary statement(s) Storage**

Not Applicable

**Precautionary statement(s) Disposal**

Not Applicable

**SECTION 3 Composition / information on ingredients**

**Substances**

See section below for composition of Mixtures

**Mixtures**

| CAS No | %[weight] | Name |
|--------|-----------|------|
|--------|-----------|------|

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4 First-aid measures**

**Description of first aid measures**

|              |                                                                                                                                                                                                                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye Contact  | <p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"><li>▶ Wash out immediately with water.</li><li>▶ If irritation continues, seek medical attention.</li><li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li></ul> |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"><li>▶ Flush skin and hair with running water (and soap if available).</li><li>▶ Seek medical attention in event of irritation.</li></ul>                                                                                        |
| Inhalation   | <ul style="list-style-type: none"><li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li><li>▶ Other measures are usually unnecessary.</li></ul>                                                                                                                 |
| Ingestion    | <ul style="list-style-type: none"><li>▶ Immediately give a glass of water.</li><li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li></ul>                                                                                                       |

**Most important symptoms and effects, both acute and delayed**

See Section 11

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5 Fire-fighting measures**

**Extinguishing media**

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.

**Special hazards arising from the substrate or mixture**

|                      |             |
|----------------------|-------------|
| Fire Incompatibility | None known. |
|----------------------|-------------|

**Special protective equipment and precautions for fire-fighters**

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire Fighting         | <ul style="list-style-type: none"><li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li><li>▶ <b>Do not</b> approach containers suspected to be hot.</li><li>▶ Cool fire exposed containers with water spray from a protected location.</li><li>▶ If safe to do so, remove containers from path of fire.</li><li>▶ Equipment should be thoroughly decontaminated after use.</li></ul> |
| Fire/Explosion Hazard | <ul style="list-style-type: none"><li>▶ Non combustible.</li><li>▶ Not considered a significant fire risk, however containers may burn.</li></ul>                                                                                                                                                                                                                                                                     |

**SECTION 6 Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

CytoGrow™ Recombinant  
TNF-α (Human), CHO, Tag Free

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minor Spills | <ul style="list-style-type: none"><li>▶ Clean up all spills immediately.</li><li>▶ Avoid breathing vapours and contact with skin and eyes.</li><li>▶ Control personal contact with the substance, by using protective equipment.</li><li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li><li>▶ Wipe up.</li><li>▶ Place in a suitable, labelled container for waste disposal.</li></ul>                                                                                                            |
| Major Spills | <ul style="list-style-type: none"><li>▶ Clear area of personnel and move upwind.</li><li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li><li>▶ Control personal contact with the substance, by using protective equipment.</li><li>▶ Prevent spillage from entering drains, sewers or water courses.</li><li>▶ Recover product wherever possible.</li><li>▶ Put residues in labelled containers for disposal.</li><li>▶ If contamination of drains or waterways occurs, advise emergency services.</li></ul> |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safe handling     | <ul style="list-style-type: none"><li>▶ Limit all unnecessary personal contact.</li><li>▶ Wear protective clothing when risk of exposure occurs.</li><li>▶ Use in a well-ventilated area.</li><li>▶ Avoid contact with incompatible materials.</li><li>▶ When handling, <b>DO NOT eat, drink or smoke.</b></li><li>▶ Keep containers securely sealed when not in use.</li><li>▶ Avoid physical damage to containers.</li><li>▶ Always wash hands with soap and water after handling.</li><li>▶ Work clothes should be laundered separately.</li><li>▶ Use good occupational work practice.</li><li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li><li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li></ul> |
| Other information |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

Conditions for safe storage, including any incompatibilities

|                         |                                                                                                                                                                                                                       |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable container      | <ul style="list-style-type: none"><li>▶ Polyethylene or polypropylene container.</li><li>▶ Packing as recommended by manufacturer.</li><li>▶ Check all containers are clearly labelled and free from leaks.</li></ul> |
| Storage incompatibility | Avoid contamination of water, foodstuffs, feed or seed.<br>None known                                                                                                                                                 |

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

| Ingredient                                            | TEEL-1        | TEEL-2        | TEEL-3        |
|-------------------------------------------------------|---------------|---------------|---------------|
| CytoGrow™ Recombinant<br>TNF-α (Human), CHO, Tag Free | Not Available | Not Available | Not Available |
| Ingredient                                            | Original IDLH |               | Revised IDLH  |
| CytoGrow™ Recombinant<br>TNF-α (Human), CHO, Tag Free | Not Available |               | Not Available |

Exposure controls

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appropriate engineering controls | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively</p> |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**CytoGrow™ Recombinant  
TNF-α (Human), CHO, Tag Free**

remove the contaminant.

| Type of Contaminant:                                                                                                                                                                                                | Air Speed:                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| solvent, vapours, degreasing etc., evaporating from tank (in still air)                                                                                                                                             | 0.25-0.5 m/s<br>(50-100 f/min)  |
| aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.)      |
| direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)                                                      | 1-2.5 m/s (200-500 f/min)       |
| grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).                                                                | 2.5-10 m/s<br>(500-2000 f/min.) |

Within each range the appropriate value depends on:

| Lower end of the range                                    | Upper end of the range             |
|-----------------------------------------------------------|------------------------------------|
| 1: Room air currents minimal or favourable to capture     | 1: Disturbing room air currents    |
| 2: Contaminants of low toxicity or of nuisance value only | 2: Contaminants of high toxicity   |
| 3: Intermittent, low production.                          | 3: High production, heavy use      |
| 4: Large hood or large air mass in motion                 | 4: Small hood - local control only |

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

**Personal protection**



**Eye and face protection**

- ▶ Safety glasses with side shields
- ▶ Chemical goggles.
- ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

**Skin protection**

See Hand protection below

**Hands/feet protection**

Wear general protective gloves, eg. light weight rubber gloves.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min
- Good when breakthrough time > 20 min
- Fair when breakthrough time < 20 min
- Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential

**CytoGrow™ Recombinant  
TNF-α (Human), CHO, Tag Free**

|                         |                                                                                                                                                                                                              |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.                                          |
| <b>Body protection</b>  | See Other protection below                                                                                                                                                                                   |
| <b>Other protection</b> | <p>No special equipment needed when handling small quantities.</p> <p><b>OTHERWISE:</b></p> <ul style="list-style-type: none"> <li>▸ Overalls.</li> <li>▸ Barrier cream.</li> <li>▸ Eyewash unit.</li> </ul> |

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

|                                                     |                                                           |                                                |               |
|-----------------------------------------------------|-----------------------------------------------------------|------------------------------------------------|---------------|
| <b>Appearance</b>                                   | White powder, Colorless clear liquid after reconstitution |                                                |               |
| <b>Physical state</b>                               | Lyophilized                                               | <b>Relative density (Water = 1)</b>            | Not Available |
| <b>Odour</b>                                        | Not Available                                             | <b>Partition coefficient n-octanol / water</b> | Not Available |
| <b>Odour threshold</b>                              | Not Available                                             | <b>Auto-ignition temperature (°C)</b>          | Not Available |
| <b>pH</b>                                           | 7.0-8.0                                                   | <b>Decomposition temperature</b>               | Not Available |
| <b>Melting point / freezing point (°C)</b>          | Not Available                                             | <b>Viscosity (cSt)</b>                         | Not Available |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available                                             | <b>Molecular weight (g/mol)</b>                | Not Available |
| <b>Flash point (°C)</b>                             | Not Available                                             | <b>Taste</b>                                   | Not Available |
| <b>Evaporation rate</b>                             | Not Available                                             | <b>Explosive properties</b>                    | Not Available |
| <b>Flammability</b>                                 | Not Available                                             | <b>Oxidising properties</b>                    | Not Available |
| <b>Upper Explosive Limit (%)</b>                    | Not Available                                             | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available |
| <b>Lower Explosive Limit (%)</b>                    | Not Available                                             | <b>Volatile Component (%vol)</b>               | Not Available |
| <b>Vapour pressure (kPa)</b>                        | Not Available                                             | <b>Gas group</b>                               | Not Available |
| <b>Solubility in water</b>                          | Immiscible                                                | <b>pH as a solution (1%)</b>                   | Not Available |
| <b>Vapour density (Air = 1)</b>                     | Not Available                                             | <b>VOC g/L</b>                                 | Not Available |

## SECTION 10 Stability and reactivity

|                                           |                                                                           |
|-------------------------------------------|---------------------------------------------------------------------------|
| <b>Reactivity</b>                         | See section 7                                                             |
| <b>Chemical stability</b>                 | Product is considered stable and hazardous polymerisation will not occur. |
| <b>Possibility of hazardous reactions</b> | See section 7                                                             |
| <b>Conditions to avoid</b>                | See section 7                                                             |
| <b>Incompatible materials</b>             | See section 7                                                             |
| <b>Hazardous decomposition products</b>   | See section 5                                                             |

## SECTION 11 Toxicological information

### Information on toxicological effects

|                                                       |                                                                                                                                                                                                                                                                                                                   |                   |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <b>Inhaled</b>                                        | The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. |                   |
| <b>Ingestion</b>                                      | The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.                                                                                                                    |                   |
| <b>Skin Contact</b>                                   | The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.                                                                 |                   |
| <b>Eye</b>                                            | Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).                                                                                          |                   |
| <b>Chronic</b>                                        | Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.                                                                            |                   |
| CytoGrow™ Recombinant<br>TNF-α (Human), CHO, Tag Free | <b>TOXICITY</b>                                                                                                                                                                                                                                                                                                   | <b>IRRITATION</b> |
|                                                       | Not Available                                                                                                                                                                                                                                                                                                     | Not Available     |

Continued...

**CytoGrow™ Recombinant  
TNF-α (Human), CHO, Tag Free**

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. \* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity                    | ✗ | Carcinogenicity          | ✗ |
| Skin Irritation/Corrosion         | ✗ | Reproductivity           | ✗ |
| Serious Eye Damage/Irritation     | ✗ | STOT - Single Exposure   | ✗ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✗ |
| Mutagenicity                      | ✗ | Aspiration Hazard        | ✗ |

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
 ✔ – Data available to make classification

## SECTION 12 Ecological information

### Toxicity

| CytoGrow™ Recombinant<br>TNF-α (Human), CHO, Tag Free | Endpoint                                                                                                                                                                                                                                                                                                                                                                                  | Test Duration (hr) | Species       | Value         | Source        |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|---------------|---------------|
|                                                       | Not Available                                                                                                                                                                                                                                                                                                                                                                             | Not Available      | Not Available | Not Available | Not Available |
| <b>Legend:</b>                                        | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data |                    |               |               |               |

### Persistence and degradability

| Ingredient | Persistence: Water/Soil               | Persistence: Air                      |
|------------|---------------------------------------|---------------------------------------|
|            | No Data available for all ingredients | No Data available for all ingredients |

### Bioaccumulative potential

| Ingredient | Bioaccumulation                       |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

### Mobility in soil

| Ingredient | Mobility                              |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

## SECTION 13 Disposal considerations

### Waste treatment methods

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product / Packaging disposal</b> | <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▸ Reduction</li> <li>▸ Reuse</li> <li>▸ Recycling</li> <li>▸ Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none"> <li>▸ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▸ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▸ Where in doubt contact the responsible authority.</li> <li>▸ Recycle wherever possible.</li> <li>▸ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>▸ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material).</li> <li>▸ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul> |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 14 Transport information

### Labels Required

|                  |    |
|------------------|----|
| Marine Pollutant | NO |
|------------------|----|

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Continued...

CytoGrow™ Recombinant

TNF-α (Human), CHO, Tag Free

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|--------------|-------|
|--------------|-------|

Transport in bulk in accordance with the ICG Code

| Product name | Ship Type |
|--------------|-----------|
|--------------|-----------|

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

|                                                              |    |
|--------------------------------------------------------------|----|
| Section 311/312 hazard categories                            |    |
| Flammable (Gases, Aerosols, Liquids, or Solids)              | No |
| Gas under pressure                                           | No |
| Explosive                                                    | No |
| Self-heating                                                 | No |
| Pyrophoric (Liquid or Solid)                                 | No |
| Pyrophoric Gas                                               | No |
| Corrosive to metal                                           | No |
| Oxidizer (Liquid, Solid or Gas)                              | No |
| Organic Peroxide                                             | No |
| Self-reactive                                                | No |
| In contact with water emits flammable gas                    | No |
| Combustible Dust                                             | No |
| Carcinogenicity                                              | No |
| Acute toxicity (any route of exposure)                       | No |
| Reproductive toxicity                                        | No |
| Skin Corrosion or Irritation                                 | No |
| Respiratory or Skin Sensitization                            | No |
| Serious eye damage or eye irritation                         | No |
| Specific target organ toxicity (single or repeated exposure) | No |
| Aspiration Hazard                                            | No |
| Germ cell mutagenicity                                       | No |
| Simple Asphyxiant                                            | No |
| Hazards Not Otherwise Classified                             | No |

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

State Regulations

US. California Proposition 65

None Reported

National Inventory Status

| National Inventory                               | Status        |
|--------------------------------------------------|---------------|
| Australia - AIIIC / Australia Non-Industrial Use | Not Available |
| Canada - DSL                                     | Not Available |
| Canada - NDSL                                    | Not Available |
| China - IECSC                                    | Not Available |
| Europe - EINEC / ELINCS / NLP                    | Not Available |
| Japan - ENCS                                     | Not Available |
| Korea - KECI                                     | Not Available |
| New Zealand - NZIoC                              | Not Available |
| Philippines - PICCS                              | Not Available |
| USA - TSCA                                       | Not Available |
| Taiwan - TCSI                                    | Not Available |
| Mexico - INSQ                                    | Not Available |
| Vietnam - NCI                                    | Not Available |

CytoGrow™ Recombinant  
TNF-α (Human), CHO, Tag Free

| National Inventory | Status                                                                                                                                                                                                   |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Russia - FBEPH     | Not Available                                                                                                                                                                                            |
| Legend:            | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

SECTION 16 Other information

|               |    |
|---------------|----|
| Revision Date | NA |
| Initial Date  | NA |

SDS Version Summary

| Version | Date of Update | Sections Updated |
|---------|----------------|------------------|
| 1.0     | NA             | NA               |

Other information

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average PC—  
STEL: Permissible Concentration-Short Term Exposure LimitIARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
ES: Exposure Standard  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index  
AIIC: Australian Inventory of Industrial Chemicals  
DSL: Domestic Substances List  
NDSL: Non-Domestic Substances List  
IECSC: Inventory of Existing Chemical Substance in China  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
NLP: No-Longer Polymers  
ENCS: Existing and New Chemical Substances Inventory  
KECI: Korea Existing Chemicals Inventory  
NZIoC: New Zealand Inventory of Chemicals  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
TSCA: Toxic Substances Control Act  
TCSI: Taiwan Chemical Substance Inventory  
INSQ: Inventario Nacional de Sustancias Químicas  
NCI: National Chemical Inventory  
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances