# SAFETY DATA SHEET

**78068 78068.1 - Human Recombinant TNF-alpha**

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Product identifier</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Name</strong></td>
<td>Human Recombinant TNF-alpha</td>
</tr>
<tr>
<td><strong>Other means of identification</strong></td>
<td></td>
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<tr>
<td><strong>Catalog Number</strong></td>
<td>78068 78068.1</td>
</tr>
<tr>
<td><strong>Document Number</strong></td>
<td>1000007285</td>
</tr>
<tr>
<td><strong>Synonyms</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

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

**Recommended Use**
- Laboratory reagent

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier**
STEMCELL Technologies Canada Inc.
Suite 500 - 1618 Station Street
Vancouver, British Columbia V6A 1B6 Canada

**Emergency telephone number**

**Emergency Telephone**
- 1-800-667-0322

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

**Hazards not otherwise classified (HNOC)**
- Not applicable

**Label elements**

**Hazard statements**
- Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)
The product contains no substances which at their given concentration, are considered to be hazardous to health.

### Appearance
No information available

### Physical state
Solid

### Odor
No data available

### Other Information
Not applicable

### Unknown acute toxicity
0 % of the mixture consists of ingredient(s) of unknown toxicity
0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

#### Description of first aid measures

##### Inhalation
Remove to fresh air.

##### Eye contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

##### Skin contact
Wash skin with soap and water.

##### Ingestion
Clean mouth with water and drink afterwards plenty of water.

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

##### Symptoms
No information available.
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Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
- Sensitivity to Mechanical Impact: None.
- Sensitivity to Static Discharge: None.

Special protective equipment for fire-fighters
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation.

Environmental precautions

Environmental precautions
See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.

Prevention of secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE
Precautions for safe handling

Advice on safe handling  Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions  Store in accordance with information listed on the Product Information Sheet (PIS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits  The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls  Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection  No special protective equipment required.

Skin and body protection  No special protective equipment required.

Respiratory protection  No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations  Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state  Solid
Appearance  No information available
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Color
No information available

Odor
No data available

Odor threshold
No data available

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
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</thead>
<tbody>
<tr>
<td>pH</td>
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<tr>
<td>Melting point / freezing point</td>
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<tr>
<td>Boiling point / boiling range</td>
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<td>None known</td>
</tr>
<tr>
<td>Flash point</td>
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<td>None known</td>
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<tr>
<td>Evaporation rate</td>
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<tr>
<td>Flammability (solid, gas)</td>
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</tr>
<tr>
<td>Flammability Limit in Air</td>
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<td></td>
</tr>
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<td>Upper flammability limit:</td>
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<td>None known</td>
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<tr>
<td>Lower flammability limit:</td>
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<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Vapor density</td>
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</tr>
<tr>
<td>Relative density</td>
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<tr>
<td>Water solubility</td>
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<td>Solubility in other solvents</td>
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<tr>
<td>Partition coefficient</td>
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<td>Autoignition temperature</td>
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<td>Decomposition temperature</td>
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<td>Kinematic viscosity</td>
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<tr>
<td>Dynamic viscosity</td>
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<td>Explosive properties</td>
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<tr>
<td>Oxidizing properties</td>
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</tr>
</tbody>
</table>

Other Information

Softening point
No information available

Molecular weight
No information available

Molecular formula
No information available

VOC Content (%)
No information available

Liquid Density
No information available

Bulk density
No information available

10. STABILITY AND REACTIVITY

Reactivity
No information available.

Chemical stability
Stable under recommended transport or storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.
Eye contact Specific test data for the substance or mixture is not available.
Skin contact Specific test data for the substance or mixture is not available.
Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

Unknown acute toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity
  0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
  0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
  0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
  0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
  0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

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

Skin corrosion/irritation No information available.

Product Information

Serious eye damage/eye irritation No information available.

Product Information

Respiratory or skin sensitization No information available.

Product Information

Germ cell mutagenicity No information available.

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Carcinogenicity No information available.
Reproductive toxicity No information available.

Product Information

STOT - single exposure No information available.

Product Information

STOT - repeated exposure No information available.

Product Information

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity The environmental impact of this product has not been fully investigated.

Product Information

Persistence and degradability No information available.
Bioaccumulation There is no data for this product.
Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated
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TDG
MEX
ICAO (air)
IATA
IMDG
RID
ADR
ADN

Not regulated
Not regulated
Not regulated
Not regulated
Not regulated
Not regulated
Not regulated
Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Does not comply</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>IECSC</td>
<td>Does not comply</td>
</tr>
<tr>
<td>KECL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Does not comply</td>
</tr>
</tbody>
</table>

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - 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

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
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</table>
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16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Prepared By, Quality Control. STEMCELL Technologies Canada Inc.
Revision Date 29-Nov-2022
Revision Note No information available.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

End of Safety Data Sheet