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| 1. Identification of the substance/preparation and of the company/undertaking                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| Catalog # ERT2010-1 Rat Tumor Necrosis Factor Alpha (TNF-a) ELISA Kit (for research use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| This ELISA Kit is intended by Assaypro for in vitro determination of samples. For research use only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| Assaypro LLC<br>30 Triad South Drive<br>St. Charles, MO 63301, USA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                     |                                                                |          | Phone: 1-636-447-9175<br>Fax: 636-447-9475<br>Email: support@assaypro.com |                               |                                                  |                                     |               |
| 2. Hazards identification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| None of the hazardous reagents are present in an amount that qualifies the products as hazardous according to directive 67/548/EC. However exposure to large amounts and/or ingestion can potentially be hazardous.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| Kit Components                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Microwell plate, 96 precoated wells | EIA Diluent Concentrate (10x) or MIX Diluent Concentrate (10x) | Standard | Biotinylated Antibody or Biotinylated Protein                             | Wash Buffer Concentrate (20x) | Streptavidin-Peroxidase Conjugate (SP Conjugate) | Chromogen Substrate                 | Stop Solution |
| Hazard to man (if exposed to large amounts)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                     | X                                                              | X        | X                                                                         | X                             |                                                  |                                     |               |
| Risk of percutaneous absorption.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | X                                                              | X        | X                                                                         | X                             |                                                  | X                                   | X             |
| Hazard to the environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| Harmful to aquatic organisms, may cause long-term adverse effects In the aquatic environment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                     | X                                                              | X        | X                                                                         | X                             |                                                  |                                     |               |
| 3. Composition/information on ingredients                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| The kit contains the following components: 12 x 8 coated Microwells + frame, EIA Diluent Concentrate (10x)/MIX Diluent Concentrate (10x)/NAB Diluent Concentrate (10x), Standard, Wash Buffer Concentrate (20x), Biotinylated Antibody or Protein, Streptavidin-Peroxidase Conjugate (SP Conjugate), Chromogen Substrate (TMB Substrate), Stop Solution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| No single component contains a hazardous ingredient in an amount that requires labeling. The contents in the components of ingredients listed as hazardous are given below:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| Component                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Ingredient                          |                                                                |          | Concentration                                                             | CAS#                          | EC#                                              | Classification (pure in ingredient) |               |
| EIA Diluent Concentrate (10x) or MIX Diluent Concentrate (10x) or NAB Diluent Concentrate (10x)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Proclin 300                         |                                                                |          | 0.04 %                                                                    | None                          | None                                             | Xi;R36/37/38                        |               |
| Wash Buffer Concentrate (20x)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sodium Azide                        |                                                                |          | 0.02 %                                                                    | 26628-22-8                    | None                                             | NA, biologic                        |               |
| Chromogen Substrate (TMB Substrate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3,3', 5,5' – tetramethylbenzidine   |                                                                |          | 5% (w/v) in H2O                                                           | 54827-17-7                    | 259-364-6                                        | Xn;R22 N: R51/53                    |               |
| Stop Solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Hydrochloric acid                   |                                                                |          | 0.5N                                                                      | 7647-01-0                     | 231-595-7                                        | C;R35                               |               |
| Biotinylated Antibody                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sodium Azide                        |                                                                |          | 0.02 %                                                                    | 26628-22-8                    | None                                             | NA, biologic                        |               |
| Streptavidin-Peroxidase Conjugate (SP Conjugate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Peroxidase Stabilizer               |                                                                |          | 100 %                                                                     | N/A                           | N/A                                              | N/A                                 |               |
| 4. First aid measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| After inhalation:<br>Immediately remove the causality from exposure and move to fresh air. If the breathing stops, immediately apply mechanical ventilation and apply an oxygen mask if available. Arrange medical treatment.<br>Ingestion:<br>Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.<br>Skin contact:<br>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.<br>Eye contact:<br>Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention. |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| 5. Fire-fighting measures:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| Flammability of the product:<br>Fire Hazard: Flash point 250 C or 482 F<br>Explosion Hazard: If this material in powder form, it is capable of creating a dust explosion.<br><br>Suitable extinguishing media:<br>Use an extinguishing agent suitable for the surrounding fire.<br>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |
| 6. Accidental release measures:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                     |                                                                |          |                                                                           |                               |                                                  |                                     |               |

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| <p>Personal precautions<br/>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</p> <p>Environmental precautions:<br/>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</p> <p>Small spill<br/>Stop leak if without risk. Move containers for spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</p>                                                                                                       |
| <b>7. Handling and storage:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p>Handling<br/>Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Keep in the original containers; expiry date is printed on the kit box label. Take care to keep workplace clean and dry. The substances used should not be present at the place of work in quantities above those required for carrying out the work. Do not leave containers open.</p> <p>Storage:<br/>Components of kits require store between the following temperatures: 2 to 8 C or -20 C. Refer components label for details. Keep containers tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.</p> <p>Specific use:<br/>The product is intended for research use only. Intended for professional use only.</p> |
| <b>8. Exposure controls/personal protection:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>Hands:<br/>Chemical-resistance, impervious gloves complying with an approved standard should be worn at all times when handling chemical and biological products if a risk assessment indicates this is necessary.</p> <p>Eyes<br/>Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts.</p> <p>Skin<br/>Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this kit.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>9. Physical and chemical properties</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>Data for kit component solution (not for individual ingredients)</p> <p>Appearance: Clear to yellow solutions<br/>pH: Neutral except for the Stop Solution (Acidic solution)<br/>Boiling point: N/A<br/>Flash point: N/A<br/>Flammability: N/A<br/>Explosive properties: N/A<br/>Oxidizing properties: N/A<br/>Vapor pressure: N/A<br/>Relative density: N/A<br/>Solubility: Soluble in water<br/>Viscosity: N/A<br/>Vapor density: N/A<br/>Evaporation rate: N/A<br/>Additional parameters: N/A</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>10. Stability and reactivity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>Stable.</p> <p>However note expiry date printed on the kit box label. Store at 2-8 C or -20 refer to components label and replace the components at this temperature at the end of the working procedure.</p> <p>Conditions to avoid:<br/>Heating above room temperature, freezing</p> <p>Materials to avoid:<br/>Generally use only clean glass and plastic suitable for laboratory use for handling the kit components. None known materials to be avoided.</p> <p>Dangerous reactions:<br/>In the case of fire see chapter 5. No dangerous reactions known.</p> <p>Further information: Note that Stop Solution contains 0.5 N Hydrochloric Acid (HCL) and has a corrosive effect.</p>                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>11. Toxicological information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>Because of the small size of the container and the low concentrations of hazardous ingredients, the toxicological risks are minor.</p> <p>Toxicological experiments have not been done on the kit components.<br/>The following toxicological information is for the hazardous ingredient in pure form for Pierce:</p> <p>Pierce Peroxidase Conjugate Stabilizer used in SP Conjugate.</p> <p>Acute toxicity<br/>After inhalation: May be harmful after inhalation and irritate the respiratory tract.<br/>After swallowing: Harmful if swallowed<br/>After skin contact: Irritation of the skin, danger of skin absorption.<br/>After eye contact: May cause eye irritation<br/>Animal toxicological data LD50 (oral, Rat 4700 mg/kg. LD50)<br/>Human toxicological data: No data available.</p>                                                                                                                                                                                                                                                                                   |
| <b>12. Ecological information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |                      |               |                 |                         |           |                      |         |                 |                     |               |    |    |    |                  |               |               |               |               |
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| <p>No known significant effects or critical hazards.</p> <p>Further ecological information<br/> Do not allow to enter waters, waste water or soil.<br/> Due to the small size of the containers and the low concentrations of hazardous ingredients, risks are minor.</p>                                                                                                                                                                                                                                                                                                                               |               |                      |               |                 |                         |           |                      |         |                 |                     |               |    |    |    |                  |               |               |               |               |
| <p>13. Disposal considerations</p> <p>Product: Must be disposed in compliance with the respective national regulations.<br/> Packaging: Must be disposed in compliance with the respective national regulations.</p>                                                                                                                                                                                                                                                                                                                                                                                    |               |                      |               |                 |                         |           |                      |         |                 |                     |               |    |    |    |                  |               |               |               |               |
| <p>14. Transport information</p> <table border="1"> <tr> <td>Regulatory information:</td> <td>UN Number</td> <td>Proper shipping name</td> <td>Classes</td> <td>Packaging group</td> </tr> <tr> <td>DOT Classification:</td> <td>Not regulated</td> <td>--</td> <td>--</td> <td>--</td> </tr> <tr> <td>IATA –DGR Class:</td> <td>Not available</td> <td>Not available</td> <td>Not available</td> <td>Not available</td> </tr> </table>                                                                                                                                                                 |               |                      |               |                 | Regulatory information: | UN Number | Proper shipping name | Classes | Packaging group | DOT Classification: | Not regulated | -- | -- | -- | IATA –DGR Class: | Not available | Not available | Not available | Not available |
| Regulatory information:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | UN Number     | Proper shipping name | Classes       | Packaging group |                         |           |                      |         |                 |                     |               |    |    |    |                  |               |               |               |               |
| DOT Classification:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Not regulated | --                   | --            | --              |                         |           |                      |         |                 |                     |               |    |    |    |                  |               |               |               |               |
| IATA –DGR Class:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Not available | Not available        | Not available | Not available   |                         |           |                      |         |                 |                     |               |    |    |    |                  |               |               |               |               |
| <p>15. Regulatory information:</p> <p>No single component contains a hazardous ingredient in an amount that requires identification and labeling according to EC directives.</p>                                                                                                                                                                                                                                                                                                                                                                                                                        |               |                      |               |                 |                         |           |                      |         |                 |                     |               |    |    |    |                  |               |               |               |               |
| <p>16. Other information</p> <p>For research use only.<br/> For Professional use only.<br/> Read instructions for use before using the product. The customer is responsible for determining the PPE code for this material.</p> <p>To the best of our knowledge, the information contained herein is accurate. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.</p> |               |                      |               |                 |                         |           |                      |         |                 |                     |               |    |    |    |                  |               |               |               |               |

Revision Level: 001