



Northern Lipids Inc.

**Large-scale LIPEX™ Extruder Equipment Request**

We would appreciate if you could answer the following questions, so that we will be able to design your LIPEX™ Extruder equipment.

|                         |  |
|-------------------------|--|
| <b><u>Product:</u></b>  |  |
| <b><u>Customer:</u></b> |  |
| <b><u>Date:</u></b>     |  |

|           |           |  |  |
|-----------|-----------|--|--|
| <b>I.</b> |           | <b>Contact Information:</b>                  |  |
|           |           |  |  |
|           | <b>A.</b> | <b>Business Contact</b>                      |  |
|           |           | <b>Name:</b>                                 |  |
|           |           | <b>Address:</b>                              |  |
|           |           | <b>Telephone:</b>                            |  |
|           |           | <b>FAX:</b>                                  |  |
|           |           | <b>e-mail address:</b>                       |  |
|           |           | <b>Company Web site:</b>                     |  |
|           |           |  |  |
|           | <b>B.</b> | <b>Technical Contact</b>                     |  |
|           |           | <b>Name:</b>                                 |  |
|           |           | <b>Address:</b>                              |  |
|           |           | <b>Telephone:</b>                            |  |
|           |           | <b>FAX:</b>                                  |  |
|           |           | <b>e-mail address:</b>                       |  |
|           |           | <b>Has a CDA been negotiated and signed?</b> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|           |           |  |  |



Northern Lipids Inc.

|            |           |   |  |
|------------|-----------|---|--|
| <b>II.</b> |           | <b>General Product Information:</b>                           |  |
|            |           |   |  |
|            | <b>A.</b> | <b>Have you previously purchased an Extruder from us?</b>     | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
|            | <b>B.</b> | <b>Have you previously used extrusion to prepare batches?</b> | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
|            | <b>C.</b> | <b>At what scale has extrusion been used?</b>                 |  |
|            | <b>D.</b> | <b>Application</b>  | <input type="checkbox"/> R&D <input type="checkbox"/> cGMP   |
|            | <b>E.</b> | <b>Lipid Concentration</b>                                    | <b>mg/mL</b>   |
|            | <b>F.</b> | <b>Target Particle Size</b>                                   | <b>nm</b>  |
|            | <b>G.</b> | <b>Required batch size (volume)</b>                           | <b>L</b>   |
|            | <b>H.</b> | <b>Required batch size (weight of lipid)</b>                  | <b>kg</b>  |
|            | <b>I.</b> | <b>Approximate phase transition temperature</b>               | <b>°C</b>  |
|            | <b>J.</b> | <b>Requirement for temperature control</b>                    | <input type="checkbox"/> None <input type="checkbox"/> Necessary <input type="checkbox"/> Don't Know |
|            | <b>K.</b> | <b>Finish</b>   | <input type="checkbox"/> Mechanically Polished<br><input type="checkbox"/> Electropolished           |
|            | <b>L.</b> | <b>Other comments, requirements</b>                           |  |

|             |           |                                     |   |
|-------------|-----------|-------------------------------------|---|
| <b>III.</b> |           | <b>Pump Information:</b>            |   |
|             |           |                                     |   |
|             | <b>A.</b> | <b>Pump head</b>                    | <input type="checkbox"/> Single <input type="checkbox"/> Dual   |
|             | <b>B.</b> | <b>Design requirements</b>          | <input type="checkbox"/> R&D <input type="checkbox"/> Sanitary <input type="checkbox"/> Hygenic   |
|             | <b>C.</b> | <b>Heat-jacketing of heads</b>      | <input type="checkbox"/> Yes <input type="checkbox"/> No  |
|             | <b>D.</b> | <b>Range of flow rate for pump</b>  | <b>#1            L/min; #2            L/min</b>   |
|             | <b>E.</b> | <b>Power requirements</b>           | <input type="checkbox"/> Single-phase <input type="checkbox"/> Three-phase<br><input type="checkbox"/> 50 Hz <input type="checkbox"/> 60 Hz<br>Voltage _____ V; |
|             | <b>F.</b> | <b>Other comments, requirements</b> |   |



Northern Lipids Inc.

|            |                                  |  |
|------------|----------------------------------|--|
| <b>IV.</b> | <b>Extruder Information:</b>     |  |
|            |                                  |  |
| A.         | Size of filter-holder (diameter) | <input type="checkbox"/> 142 mm <input type="checkbox"/> 293 mm  |
| B.         | Heat-jacketing (filter-holders)  | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
| C.         | Number                           | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> More |
| D.         | Configuration                    | <input type="checkbox"/> Single; <input type="checkbox"/> Parallel   |
| E.         | Heat-jacketing (tubing)          | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
| F.         | Other comments, requirements     |  |

|           |                              |  |
|-----------|------------------------------|--|
| <b>V.</b> | <b>Vessel Information:</b>   |  |
|           |                              |  |
| A.        | Number of Vessels and Size   | <input type="checkbox"/> 0 <input type="checkbox"/> 1   L <input type="checkbox"/> 2   L   |
| B.        | Finish                       | <input type="checkbox"/> Mechanically Polished<br><input type="checkbox"/> Electropolished |
| C.        | Heat-jacketing (vessel)      | <input type="checkbox"/> Yes <input type="checkbox"/> No                                   |
| D.        | Lid                          | <input type="checkbox"/> Loose <input type="checkbox"/> Sealed                             |
| E.        | Other comments, requirements |  |