



# Aerospace Overview



## Nye Aerospace Customers (Partial List)

### SPACE

|                                     |                                    |
|-------------------------------------|------------------------------------|
| Aerospace Corporation               | ITT Aerospace                      |
| Allied Signal                       | JAXA                               |
| Astronautics Corporation of America | Jet Propulsion Labs                |
| BF Goodrich Aerospace               | Lockheed Martin                    |
| Ball Aerospace                      | Space Systems                      |
| Barden Precision Bearings           | Mitsubishi Precision               |
| Blue Canyon Technologies            | Moog Inc.                          |
| Boeing Satellite Systems            | NASA                               |
| Eaton Aerospace                     | Northrop Grumman                   |
| Honeybee                            | Orbital Sciences Corporation       |
| Honeywell, Inc.                     | Parker Aerospace                   |
| Ithaco Space Systems                | Starsys Research                   |
|                                     | Tecstar Electro Systems            |
|                                     | Timken Aerospace & Super Precision |
|                                     | UTC Aerospace                      |

### AVIATION

|                       |                      |
|-----------------------|----------------------|
| Airbus                | GRW-Gebrueder        |
| Air Canada            | Reinfurt GmbH & Co.  |
| Air France            | Hughes Aircraft      |
| Air India             | INA USA Corporation  |
| American Airlines     | Kaydon Corporation   |
| AMETEK Rotron         | L-3 Brashear LP      |
| Bangkok Airways       | Lufthansa            |
| BF Goodrich Aerospace | NTN Bearing          |
| BAE Systems           | Philippines Airlines |
| Boeing Company        | Pratt & Whitney      |
| Bombardier            | Rolls-Royce          |
| Cessna                | Sikorski             |
| Delta Airlines        | Singapore Airlines   |
| Embraer               | Tai Airways          |
| GE Aviation           | Turkish Airlines     |
| General Atomics       | United Airlines      |
| Goodrich Aviation     | UTC Aviation         |

### DEFENSE

|                        |                                 |
|------------------------|---------------------------------|
| Airborne Express       | Naval Surface Warfare Center    |
| AMETEK                 | Raytheon                        |
| DFAS                   | USAF Joint Base                 |
| Fort Campbell          | Elmendorf-Richardson            |
| Army Base              | US Department of Defense        |
| General Dynamics       | Wright Patterson Air Force Base |
| Hillman Air Force Base |                                 |
| Naval Research Labs    |                                 |

# Lubricants that perform. Experience you can trust.

Nye Lubricants has been designing high-quality synthetic lubricants for leaders in the aerospace industry for more than 60 years. Our scientists and engineers focus on two challenging categories of aerospace applications: discrete components that are lubricated for life and mechanical or electromechanical devices that must operate for extended periods in severe environments. Nye's synthetic oils and greases are specified for extreme-temperature jet engine actuators; cargo aircraft landing gear; aircraft controls; precision bearings in navigational instruments and space suits; wide temperature avionics connectors; linear actuators for satellite antennas; and many other critical aerospace components. Today, we continue to work with design engineers in the private, government, and military sectors to formulate new synthetic lubricants that will take off with next-generation aircraft and spacecraft.

**CUSTOM FORMULATION** Nye's approach to lubricant design is a cornerstone of our success. While some lubricant suppliers specialize in only one type of chemistry, Nye stocks a complete selection of synthetic fluids. We work with all standard synthetic hydrocarbons, esters, polyglycols, silicones, polyphenylethers, as well as proprietary fluids such as chlorophenylpolydimethylsiloxanes and multiplyalkylated cyclopentanes.

Nye is also the only lubricant company that offers all five types of perfluoropolyether fluids, each with its own unique tribological qualities. This unparalleled range of chemistries - coupled with our experience in selecting and blending fluids for specific applications - ensures that each Nye customer gets the lubricant best suited to the application.

**LUBRICATION SERVICES** Nye offers several technical services that are frequently used by aerospace customers. We maintain an Ultrafiltration Lab where any of Nye's oils and greases can be filtered to precise cleanliness levels. Nye regularly filters and certifies the cleanliness of other manufacturers' lubricants as well. We can certify oils to Mil-Std 1246 and greases to Mil-G-81937. In addition, Nye will package or repackage any lubricant in oilers, syringes, cartridges, and other small dispenser-containers. Nye also can customize Mil-Spec lubricants with rust inhibitors, antioxidants, fortifiers, and other additives to enhance performance or extend service life.

*At Nye, we're committed to creating value for customers with expertly engineered synthetic lubricants. For consultation, lubricant samples, or additional information, visit us at [NyeLubricants.com](http://NyeLubricants.com) or call our world headquarters at +1.508.996.6721.*



| Space                   | Temp. Range (°C) | Qualifies to              | Chemistry*   | Precision Bearings | Other Bearings | Gears/Actuators | Vacuum | Ball/Lead Screws |
|-------------------------|------------------|---------------------------|--|--------------------|----------------|-----------------|--------|------------------|
| Nye Synthetic Oil 2001A | -45 to 125       | NASA Part # 166683        | Multi-alkylated cyclopentane                         | •                  |                |                 | •      |                  |
| Rheolube® 2000          | -45 to 125       | Lockheed 34-4962          | Multi-alkylated cyclopentane oil / organic thickener | •                  | •              |                 | •      |                  |
| Rheolube® 2004          | -45 to 125       | Lockheed 34-4962          | Multi-alkylated cyclopentane oil / organic thickener |                    | •              | •               | •      |                  |
| NyeTorr® 5301           | -65 to 250       |                           | Perfluoropolyether                                   | •                  | •              |                 | •      |                  |
| NyeTorr® 6200           | -45 to 150       |                           | Multi-alkylated cyclopentane                         | •                  | •              | •               | •      | •                |
| NyeTorr® 6300           | -65 to 250       |                           | Perfluoropolyether                                   | •                  | •              |                 | •      | •                |
| NyeTorr® 6350EL         | -80 to 250       |                           | Perfluoropolyether                                   | •                  | •              | •               | •      | •                |
| NyeTorr® 6351           | -65 to 250       |                           | Perfluoropolyether                                   | •                  | •              |                 | •      |                  |
| <b>Aviation</b>         |                  |                           |  |                    |                |                 |        |                  |
| Rheolube® 733MZ         | -54 to 125       |                           | Clay / Polyalphaolefin                               |                    | •              | •               |        |                  |
| Rheolube® 374A          | -54 to 177       | MIL-PRF-32014A            | PAO / lithium soap                                   | •                  |                | •               |        | •                |
| Uniflor™ 8512S          | -50 to 225       |                           | Perfluoropolyether                                   | •                  | •              |                 | •      | •                |
| Uniflor™ 8961MT         | -80 to 200       | MIL-PRF-27617F - Type IV  | Perfluoropolyether oil / PTFE                        |                    |                | •               |        |                  |
| <b>Defense</b>          |                  |                           |  |                    |                |                 |        |                  |
| NPE UC7                 | -40 to 150       | Hughes 20-2164            | Ester  | •                  | •              | •               |        |                  |
| Nye Synthetic Oil 132   | -60 to 120       | MIL-DTL-53131A            | PAO / anti-wear additives                            | •                  | •              |                 |        |                  |
| Nye Synthetic Oil 182   | -40 to 125       | MIL-DTL-53131A            | PAO / anti-wear additives                            | •                  | •              |                 |        |                  |
| Nye Synthetic Oil 186   | -34 to 125       | MIL-DTL-53131A            | PAO / anti-wear additives                            | •                  | •              |                 |        |                  |
| Nye Synthetic Oil 179A  | -54 to 120       | MIL-DTL-53131A            | PAO / anti-wear additives                            | •                  | •              |                 |        |                  |
| Rheolube® 374A          | -54 to 177       | MIL-PRF-32014A            | PAO / lithium soap                                   | •                  |                | •               |        | •                |
| Rheolube® 951           | -54 to 150       | Hughes 20-2164            | Ester oil / lithium soap                             | •                  | •              |                 |        |                  |
| Uniflor™ 8172MT         | -54 to 255       | MIL-PRF-27617F - Type III | Perfluoropolyether oil / PTFE                        |                    |                | •               |        |                  |
| Uniflor™ 8961MT         | -80 to 200       | MIL-PRF-27617F - Type IV  | Perfluoropolyether oil / PTFE                        |                    |                | •               |        |                  |
| Uniflor™ 8991MT         | -60 to 250       | Honeywell ES-2155         | Perfluoropolyether oil / PTFE                        |                    | •              | •               |        |                  |

\*The typical properties shown on this document should not be used as a basis for preparing specifications. For Technical Data and MSDS, contact Nye Lubricants, Inc.

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