

# Caldera 6

## PAG Heat Transfer Fluid



CALDERA<sup>®</sup>  
HEAT TRANSFER FLUIDS



Heat Transfer Fluids

Caldera 6 is a high-quality, heat transfer fluid designed to replace polyalkylene glycol (PAG) based alternatives. It is fully compatible with most PAG based heat transfer fluids and is ideal for open-bath systems. Caldera 6's proprietary formulation is more oxidatively stable than glycol based heat transfer fluids, and provides hours of trouble-free service, even in the most demanding applications.

### Applications

- Open-bath systems
- Closed and open loop systems with a maximum bulk temperature of 500°F (260°C)

### Temperature Range



### Performance Advantages

- **Ideal for open-bath systems**  
Resists fluid degradation from air exposure
- **Low varnishing tendencies**  
Allows for clean operation and greater thermal transfer efficiency
- **Easy disposal**  
Can be disposed using mineral oil recycling services
- **Minimal odor**

### Typical Properties

| Caldera 6                                |           |
|--|-----------|
| Minimum Temperature, °F (°C)             | 19 (-7)   |
| Maximum Film Temperature, °F (°C)        | 550 (288) |
| Maximum Bulk Temperature, °F (°C)        | 500 (260) |
| Pour Point, °F (°C)                      | -40 (-40) |
| Flash Point, °F (°C)                     | 445 (229) |
| Fire Point, °F (°C)                      | 490 (254) |
| Autoignition Point, °F (°C)              | 366 (691) |
| Thermal Expansion Coefficient, %/°F      | 0.0377    |
| Thermal Conductivity @ 100°F, BTU/h-ft-F | 0.1052    |
| Thermal Conductivity @ 500°F, BTU/h-ft-F | 0.0925    |
| Heat Capacity @ 100°F, BTU/lb-F          | 0.472     |
| Heat Capacity @ 500°F, BTU/lb-F          | 0.527     |
| Distillation Range (ASTM D2887), 10% °F  | 694       |
| Distillation Range (ASTM D2887), 90% °F  | 957       |

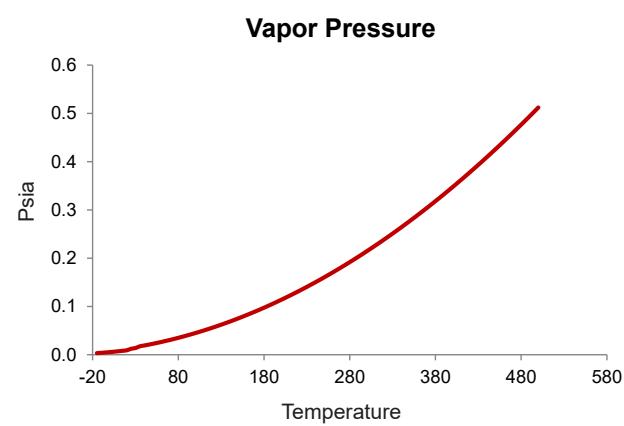
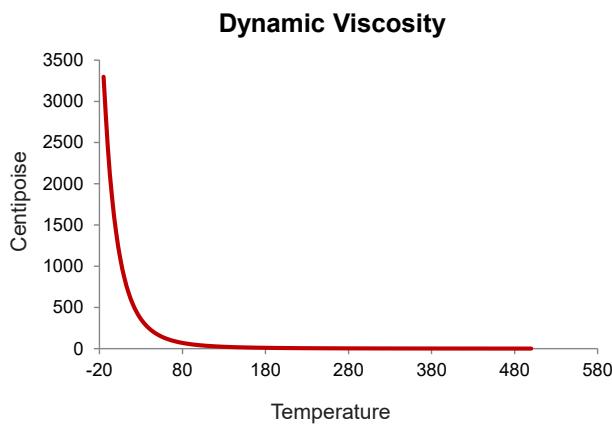
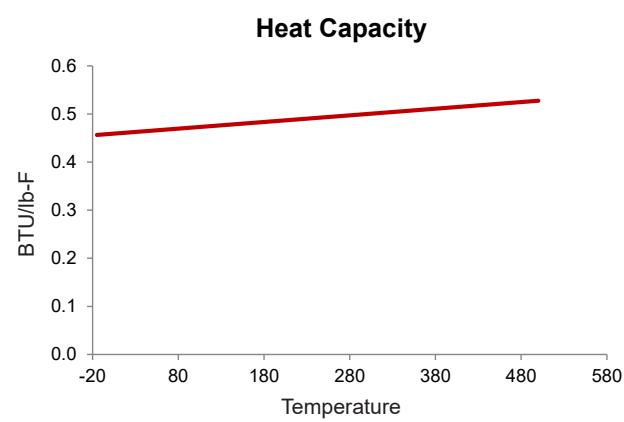
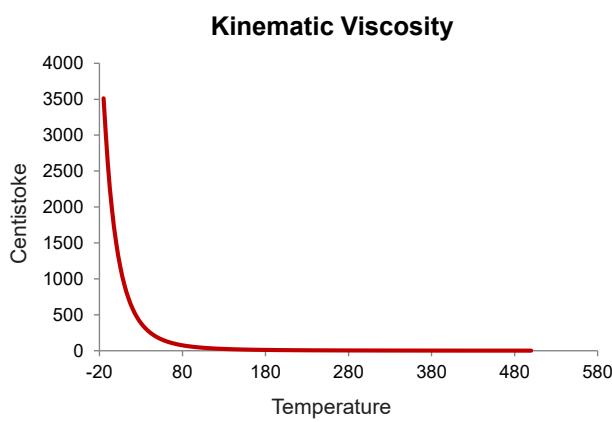
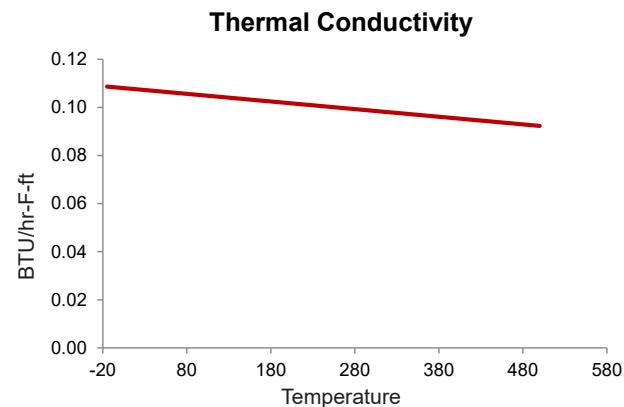
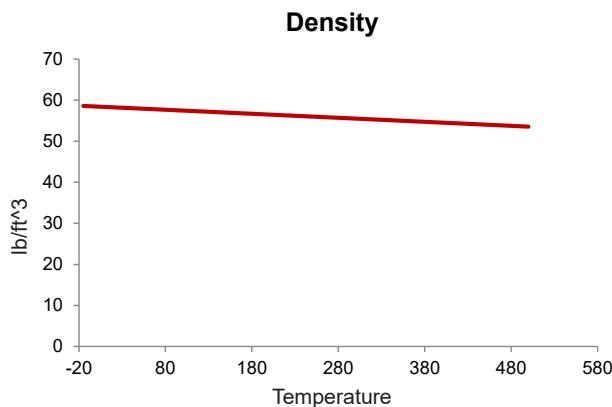
Fluid properties are typical results and should not serve as a sole resource for determining the correct fluid for a particular application. Please consult an Isel representative to ensure that the product is the correct choice for the application. Revised 9/2018 - S

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| Temperature (°F) | Density (lb/ft^3) | Kinematic Viscosity (Centistoke) | Dynamic Viscosity (Centipoise) | Thermal Conductivity (BTU/hr-F-ft) | Heat Capacity (BTU/lb-F) | Vapor Pressure (Psia) |
|------------------|-------------------|----------------------------------|--------------------------------|------------------------------------|--------------------------|-----------------------|
| 20               | 58.24             | 583.94                           | 545.08                         | 0.108                              | 0.461                    | 0.01                  |
| 25               | 58.19             | 471.95                           | 440.17                         | 0.107                              | 0.462                    | 0.01                  |
| 30               | 58.14             | 384.93                           | 358.71                         | 0.107                              | 0.463                    | 0.01                  |
| 35               | 58.09             | 316.68                           | 294.86                         | 0.107                              | 0.463                    | 0.02                  |
| 40               | 58.04             | 262.67                           | 244.37                         | 0.107                              | 0.464                    | 0.02                  |
| 45               | 57.99             | 219.56                           | 204.09                         | 0.107                              | 0.465                    | 0.02                  |
| 50               | 57.95             | 184.88                           | 171.71                         | 0.107                              | 0.465                    | 0.02                  |
| 55               | 57.90             | 156.76                           | 145.47                         | 0.106                              | 0.466                    | 0.02                  |
| 60               | 57.85             | 133.80                           | 124.06                         | 0.106                              | 0.467                    | 0.03                  |
| 65               | 57.80             | 114.92                           | 106.46                         | 0.106                              | 0.467                    | 0.03                  |
| 70               | 57.75             | 99.29                            | 91.91                          | 0.106                              | 0.468                    | 0.03                  |
| 75               | 57.70             | 86.27                            | 79.79                          | 0.106                              | 0.469                    | 0.03                  |
| 80               | 57.65             | 75.36                            | 69.64                          | 0.106                              | 0.470                    | 0.04                  |
| 85               | 57.60             | 66.17                            | 61.09                          | 0.105                              | 0.470                    | 0.04                  |
| 90               | 57.55             | 58.38                            | 53.86                          | 0.105                              | 0.471                    | 0.04                  |
| 95               | 57.50             | 51.75                            | 47.69                          | 0.105                              | 0.472                    | 0.04                  |
| 100              | 57.46             | 46.07                            | 42.42                          | 0.105                              | 0.472                    | 0.04                  |
| 105              | 57.41             | 41.18                            | 37.89                          | 0.105                              | 0.473                    | 0.05                  |
| 110              | 57.36             | 36.96                            | 33.98                          | 0.105                              | 0.474                    | 0.05                  |
| 115              | 57.31             | 33.30                            | 30.58                          | 0.105                              | 0.474                    | 0.05                  |
| 120              | 57.26             | 30.10                            | 27.63                          | 0.104                              | 0.475                    | 0.06                  |
| 125              | 57.21             | 27.31                            | 25.04                          | 0.104                              | 0.476                    | 0.06                  |
| 130              | 57.16             | 24.86                            | 22.78                          | 0.104                              | 0.476                    | 0.06                  |
| 135              | 57.11             | 22.70                            | 20.78                          | 0.104                              | 0.477                    | 0.07                  |
| 140              | 57.06             | 20.79                            | 19.01                          | 0.104                              | 0.478                    | 0.07                  |
| 145              | 57.01             | 19.09                            | 17.44                          | 0.104                              | 0.479                    | 0.07                  |
| 150              | 56.97             | 17.58                            | 16.05                          | 0.103                              | 0.479                    | 0.08                  |
| 155              | 56.92             | 16.23                            | 14.81                          | 0.103                              | 0.480                    | 0.08                  |
| 160              | 56.87             | 15.02                            | 13.69                          | 0.103                              | 0.481                    | 0.08                  |
| 165              | 56.82             | 13.94                            | 12.69                          | 0.103                              | 0.481                    | 0.09                  |
| 170              | 56.77             | 12.96                            | 11.79                          | 0.103                              | 0.482                    | 0.09                  |
| 175              | 56.72             | 12.08                            | 10.98                          | 0.103                              | 0.483                    | 0.09                  |
| 180              | 56.67             | 11.28                            | 10.24                          | 0.102                              | 0.483                    | 0.10                  |
| 185              | 56.62             | 10.55                            | 9.58                           | 0.102                              | 0.484                    | 0.10                  |
| 190              | 56.57             | 9.89                             | 8.97                           | 0.102                              | 0.485                    | 0.11                  |
| 195              | 56.53             | 9.29                             | 8.42                           | 0.102                              | 0.485                    | 0.11                  |
| 200              | 56.48             | 8.74                             | 7.91                           | 0.102                              | 0.486                    | 0.11                  |
| 205              | 56.43             | 8.24                             | 7.45                           | 0.102                              | 0.487                    | 0.12                  |

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| Temperature (°F) | Density (lb/ft <sup>3</sup> ) | Kinematic Viscosity (Centistoke) | Dynamic Viscosity (Centipoise) | Thermal Conductivity (BTU/hr-F-ft) | Heat Capacity (BTU/lb-F) | Vapor Pressure (Psia) |
|------------------|-------------------------------|----------------------------------|--------------------------------|------------------------------------|--------------------------|-----------------------|
| 210              | 56.38                         | 7.77                             | 7.03                           | 0.102                              | 0.488                    | 0.12                  |
| 215              | 56.33                         | 7.35                             | 6.64                           | 0.101                              | 0.488                    | 0.13                  |
| 220              | 56.28                         | 6.96                             | 6.28                           | 0.101                              | 0.489                    | 0.13                  |
| 225              | 56.23                         | 6.60                             | 5.95                           | 0.101                              | 0.490                    | 0.14                  |
| 230              | 56.18                         | 6.26                             | 5.64                           | 0.101                              | 0.490                    | 0.14                  |
| 235              | 56.13                         | 5.96                             | 5.36                           | 0.101                              | 0.491                    | 0.15                  |
| 240              | 56.08                         | 5.67                             | 5.10                           | 0.101                              | 0.492                    | 0.15                  |
| 245              | 56.04                         | 5.40                             | 4.85                           | 0.100                              | 0.492                    | 0.16                  |
| 250              | 55.99                         | 5.16                             | 4.63                           | 0.100                              | 0.493                    | 0.16                  |
| 255              | 55.94                         | 4.92                             | 4.42                           | 0.100                              | 0.494                    | 0.17                  |
| 260              | 55.89                         | 4.71                             | 4.22                           | 0.100                              | 0.494                    | 0.17                  |
| 265              | 55.84                         | 4.51                             | 4.04                           | 0.100                              | 0.495                    | 0.18                  |
| 270              | 55.79                         | 4.32                             | 3.86                           | 0.100                              | 0.496                    | 0.18                  |
| 275              | 55.74                         | 4.15                             | 3.70                           | 0.099                              | 0.496                    | 0.19                  |
| 280              | 55.69                         | 3.98                             | 3.55                           | 0.099                              | 0.497                    | 0.19                  |
| 285              | 55.64                         | 3.83                             | 3.41                           | 0.099                              | 0.498                    | 0.20                  |
| 290              | 55.60                         | 3.68                             | 3.28                           | 0.099                              | 0.499                    | 0.20                  |
| 295              | 55.55                         | 3.54                             | 3.15                           | 0.099                              | 0.499                    | 0.21                  |
| 300              | 55.50                         | 3.41                             | 3.04                           | 0.099                              | 0.500                    | 0.21                  |
| 305              | 55.45                         | 3.29                             | 2.93                           | 0.098                              | 0.501                    | 0.22                  |
| 310              | 55.40                         | 3.18                             | 2.82                           | 0.098                              | 0.501                    | 0.23                  |
| 315              | 55.35                         | 3.07                             | 2.72                           | 0.098                              | 0.502                    | 0.23                  |
| 320              | 55.30                         | 2.97                             | 2.63                           | 0.098                              | 0.503                    | 0.24                  |
| 325              | 55.25                         | 2.87                             | 2.54                           | 0.098                              | 0.503                    | 0.24                  |
| 330              | 55.20                         | 2.78                             | 2.46                           | 0.098                              | 0.504                    | 0.25                  |
| 335              | 55.15                         | 2.69                             | 2.38                           | 0.098                              | 0.505                    | 0.26                  |
| 340              | 55.11                         | 2.61                             | 2.30                           | 0.097                              | 0.505                    | 0.26                  |
| 345              | 55.06                         | 2.53                             | 2.23                           | 0.097                              | 0.506                    | 0.27                  |
| 350              | 55.01                         | 2.45                             | 2.16                           | 0.097                              | 0.507                    | 0.28                  |
| 355              | 54.96                         | 2.38                             | 2.10                           | 0.097                              | 0.508                    | 0.28                  |
| 360              | 54.91                         | 2.31                             | 2.04                           | 0.097                              | 0.508                    | 0.29                  |
| 365              | 54.86                         | 2.25                             | 1.98                           | 0.097                              | 0.509                    | 0.30                  |
| 370              | 54.81                         | 2.19                             | 1.92                           | 0.096                              | 0.510                    | 0.30                  |
| 375              | 54.76                         | 2.13                             | 1.87                           | 0.096                              | 0.510                    | 0.31                  |
| 380              | 54.71                         | 2.07                             | 1.82                           | 0.096                              | 0.511                    | 0.32                  |
| 385              | 54.66                         | 2.02                             | 1.77                           | 0.096                              | 0.512                    | 0.33                  |
| 390              | 54.62                         | 1.97                             | 1.72                           | 0.096                              | 0.512                    | 0.33                  |
| 395              | 54.57                         | 1.92                             | 1.68                           | 0.096                              | 0.513                    | 0.34                  |

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|------------------|-------------------|----------------------------------|--------------------------------|------------------------------------|--------------------------|-----------------------|
| 400              | 54.52             | 1.87                             | 1.63                           | 0.095                              | 0.514                    | 0.35                  |
| 405              | 54.47             | 1.82                             | 1.59                           | 0.095                              | 0.514                    | 0.35                  |
| 410              | 54.42             | 1.78                             | 1.55                           | 0.095                              | 0.515                    | 0.36                  |
| 415              | 54.37             | 1.74                             | 1.52                           | 0.095                              | 0.516                    | 0.37                  |
| 420              | 54.32             | 1.70                             | 1.48                           | 0.095                              | 0.517                    | 0.38                  |
| 425              | 54.27             | 1.66                             | 1.44                           | 0.095                              | 0.517                    | 0.39                  |
| 430              | 54.22             | 1.62                             | 1.41                           | 0.095                              | 0.518                    | 0.39                  |
| 435              | 54.18             | 1.59                             | 1.38                           | 0.094                              | 0.519                    | 0.40                  |
| 440              | 54.13             | 1.55                             | 1.35                           | 0.094                              | 0.519                    | 0.41                  |
| 445              | 54.08             | 1.52                             | 1.32                           | 0.094                              | 0.520                    | 0.42                  |
| 450              | 54.03             | 1.49                             | 1.29                           | 0.094                              | 0.521                    | 0.43                  |
| 455              | 53.98             | 1.46                             | 1.26                           | 0.094                              | 0.521                    | 0.43                  |
| 460              | 53.93             | 1.43                             | 1.24                           | 0.094                              | 0.522                    | 0.44                  |
| 465              | 53.88             | 1.40                             | 1.21                           | 0.093                              | 0.523                    | 0.45                  |
| 470              | 53.83             | 1.38                             | 1.19                           | 0.093                              | 0.523                    | 0.46                  |
| 475              | 53.78             | 1.35                             | 1.16                           | 0.093                              | 0.524                    | 0.47                  |
| 480              | 53.73             | 1.32                             | 1.14                           | 0.093                              | 0.525                    | 0.48                  |
| 485              | 53.69             | 1.30                             | 1.12                           | 0.093                              | 0.525                    | 0.49                  |
| 490              | 53.64             | 1.28                             | 1.10                           | 0.093                              | 0.526                    | 0.49                  |
| 495              | 53.59             | 1.25                             | 1.08                           | 0.092                              | 0.527                    | 0.50                  |
| 500              | 53.54             | 1.23                             | 1.06                           | 0.092                              | 0.528                    | 0.51                  |

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