Low Toxicity Spacecraft Propulsion

The next generation in high performance, low-toxicity spacecraft propulsion technology has arrived in the US...

Swedish Space Corporation’s subsidiary, ECAPS has entered a partnership with Moog and ATK to introduce HPGP (High Performance Green Propulsion) technology to the spacecraft propulsion market in the United States.
Benefits of HPGP

- **Better performance than monopropellant hydrazine**
  - Steady-State Specific impulse: 2300 Ns/kg (232 s) delivered
  - Density Specific Impulse: 2852 Ns/L (30% higher than Hydrazine)
  - Pulse performance: Similar to Hydrazine
  - Blow down capability: >4:1
  - Nominal pressure: 22 bar

- **Reduced lead time and system cost**
  - Example – load propellant before shipment to launch site
  - Low toxic and non-carcinogenic propellant
  - Insensitive to mechanical shocks, temperature and open fire
  - Storable for 10 years, verified according to STANAG 4582 method
  - Environmentally benign
  - Transport classified to UN 1.4S enabling air transport

- **HPGP technology is mature and ready for implementation**
  - HPGP technology is prepared to fly on Sweden’s Prisma spacecraft, now scheduled for June 2009 launch
  - Prisma spacecraft uses 1N thrusters that have completed flight qualification testing
  - ECAPS is currently expanding portfolio to include 5N and 20N thrusters in the near future

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Approved for public release: September 2008 (OSR 08-S-2005)