

## **Publications & Patents**

Colizza, Kevin; McLennan, Lindsey; Yevdokimov, Alexander V.; Smith, James L.; Oxley, Jimmie "Using Gas Phase Reactions of Hexamethylene Triperoxide Diamine (HMTD) to Improve Detection in Mass Spectrometry" *J Am Soc Mass Spec* **2018** DOI: 10.1007/s13361-017-1879-5

Colizza, Kevin; McLennan, Lindsey; Yevdokimov, Alexander V.; Smith, James L.; Oxley, Jimmie "Reactions of Organic Peroxides with Alcohols in Atmospheric Pressure Chemical Ionization—the Pitfalls of Quantifying Triacetone Triperoxide (TATP)" *J Am Soc Mass Spec.* **2018**, 29: 393-404. DOI: 10.1007/s13361-017-1836-3

J. C. Oxley; J.L. Smith; E. Bernier; F. Sandstrom; G.G Weiss; G.W. Recht; D.Schatzer "Characterizing the Performance of Pipe Bombs" *J Forensic Sci.* **2017**, 63(1), 86-101. DOI: 10.1111/1556-4029.13524

Sayavur I. Bakhtiyarov, Jimmie C. Oxley, James L. Smith, Philipp M. Baldovi "A Complex Variable Method to Predict a Range of Arbitrary Shape Ballistics" *J Applied Nonlinear Dynamics* **2017**, 6(4), 521-530.

Oxley, Jimmie C.; Smith James L.; Brown, A.C. "Eutectics of Erythritol Tetranitrate" *J Phys Chem* **2017**, 121(30), 16137-44

Oxley, J.C.; Furman, D.; Brown, A.C.; Dubnikova, F.; Smith, J.L.; Kosloff, R.; Zeiri, Y "Thermal Decomposition of Erythritol Tetranitrate: A Joint Experimental & Computational Study" *J Phys. Chem.* **2017**, 121(30), 16145-57.

Oxley, J.C.; Smith, J.L.; Porter, M; Yekel, M.J.; Canaria, J.A. "Potential Biocides" Iodine-Producing Pyrotechnics" *Propellants, Explosives, Pyrotechnics* **2017**, 42(8), 960-73.

Sayavur I. Bakhtiyarov, Jimmie C. Oxley, James L. Smith, Rebecca Levine, Philipp M. Baldovi, Rheological Studies of Functional Polyurethane Foam Composites: Part 1. Rheology of its compounds with and without solid additives (aluminum flakes). *J Elastomers and Plastics*, **2017**; 1-19. DOI 10.1177/0095244317715787

Sayavur I. Bakhtiyarov, Jimmie C. Oxley, James L. Smith, Philipp M. Baldovi, Rheological Studies of Functional Polyurethane Composites with Solid Additives (Calcium Iodate Particles and Aluminum Flakes): Part 2. Rheology of Components. *J Elastomers and Plastics*, **2017**, 1-13 10.1177/0095244317729558

Oxley, J.C.; Smith, J.L.; Porter, M.; Colizza, K.; McLennan, L.; Zeiri, Y.; Kosloff, R.; Dubnikova, F. "Synthesis and Degradation of Hexamethylene triperoxide diamine (HMTD)" *Propellant, Explosives, Pyrotechnics* **2016**, 41(2), 334-350. DOI 10.1002/prep.201500151

Colizza, Kevin; Mahoney, Keira E.; Yevdokimov, Alexander V.; Smith, James L.; Oxley, Jimmie C. "Acetonitrile Ion Supression in Atmospheric Pressure Ionization Mass Spectrometry," *J. Amer. Soc. Mass Spec.*, **2016**, 27(1), 1796-1804.

Oxley, Jimmie C.; Smith, James L.; Kagan, Gerald L.; Zhang, Guang; Swanson, Devon S. "Energetic Material/Polymer Interaction Studied by Atomic Force Microscopy," *Propellants, Explosives, Pyrotechnics* **2016** 41(4), 623-628.

Oxley, Jimmie C.; Smith, James L.; Donnelly, Maria A.; Colizza, Kevin; Rayome, Stephanie "Thermal Stability Studies Comparing IMX-101 (Dinitroanisole/Nitroguanidine/NTO) to Analogous Formulation Containing Dinitrotoluene," *Propellants, Explosives, Pyrotechnics*, **2016** 41(1), 98-113.

Oxley, J.C.; Smith, J.L. Porter, M.; McLennan, L.; Colizza, K. "Issues affecting safe handling of peroxide explosives" New Trends in Research of Energetic Materials, Proceed. 18<sup>th</sup> Pardubice, CZ Ap 15-17 **2015**, 26-33.

Johnson, Samuel C.; Gan, Yong X.; Calderon, Sinclair B.; Smith, James L.; Oxley, Jimmie C. "Measuring the electrochemical response of a titanium oxide nanotube electrode to various chemicals as explosives components," *Int. Res. J. of Pure and Appl. Chem.* **2015** 5(2), 1-11.

Johnson, S.C.; Gan, Y. X.; Calderon, S.B.; Smith, J.L.; Oxley, J.C. "Measuring the Electrochemical Response of a Titanium Dioxide Nanotube Electrode to Various Chemicals as Explosive Components" International Research Journal of Pure and Applied Chemistry; **2015**; 5(2) 119-130. DOI: 10.9734/IRJPAC/2015/14263

Oxley, J.C.; Smith, J.L.; Canino, J.N. "Insensitive TATP Training Aid by Microencapsulation" *J. Energetic Materials*; **2015**, 33(3), 215-228.

Colizza, Kevin M Porter, J. Smith, J. Oxley "Gas Phase Reactions of Alcohols with Hexamethylene triperoxide diamine (HMTD) under Atmospheric Pressure Chemical Ionization Conditions" *Rapid Communications in Mass Spectrometry* **2015**, 29(1), 74-80.

Oxley, Jimmie C.; Smith, James L.; Donnelly, Maria; Porter, Matthew "Fuel-oxidizer mixtures: their stabilities and burn characteristics," *J. of Therm. Anal. Calorim.* **2015** 121(2), 743-763.

Chen, Z.; Rettinger, R.; Hefferman, G.; Smith, J. Oxley, J. Wei, T. "Microwave modulated photon Doppler velocimetry" *Photonics Technology Letters, IEEE* **2015**.

Oxley, J.C. "Explosive Detection: How We Got Here and Where Are We Going?" *International Journal of Energetic Materials and Chemical Propulsion*; **2014**, 13(4): 373-381.

J. Oxley, J Smith, M. Donnelly, M Porter "Fuel-Oxidizer Mixtures: Their Stabilities and Burn Characteristics; *International Journal of Energetic Materials and Chemical Propulsion* **2014**, 13(6): 517-557.

Oxley, J.C.; Smith, J.L.; Brady, J.; Steinkamp, F.L. "Factors Influencing Destruction of Triacetone Triperoxide (TATP)," *Propellants, Explosives, Pyrotechnics*, **2014**, 39(2), 289-298.

Gan, Y. X.; Yazawa, R. H.; Smith, J. L.; Oxley, J. C.; Zhang, G.; Canino, J.; Ying, J.; Kagan, G.; Zhang, L., Nitroaromatic explosive sorption and sensing using electrochemically processed polyaniline-titanium dioxide hybrid nanocomposite. *Materials Chemistry Physics* **2014**, 143 (3), 1431-1439.

Oxley, J.C.; Smith, J.L.; Steinkamp, L.; Zhang, G. “Factors Influencing Triacetone Triperoxide (TATP) and Diacetone Diperoxide (DADP) Formation: Part 2,” *Propellants, Explosives, Pyrotechnics*, **2013**, 6, 841-851.

Oxley, J.C.; Smith, J.L.; Vadlamannati, S; Brown, AC; Zhang,G.; Swanson, D.S.; Canino, J “Synthesis and Characterization of Urea Nitrate and Nitrourea;” *Propellants, Explosives, Pyrotechnics*, **2013**, 38(3), 335–344.

Oxley, J.C.; Smith, J.L.; Bowden, P; Ryan Rettinger “Factors Influencing TATP and DADP Formation: Part I” *Propellants, Explosives, Pyrotechnics* **2013**, 38(2), 244-254.

Brady, J.E.; Oxley, J.C.; Smith, J.L.; Hart, C.E. Estimating Ambient Vapor Pressure of Low Volatility Explosives by Rising-Temperature Thermogravimetry; *Propellants, Explosives, Pyrotechnics* **2012** 37(2), 215-222.

Oxley, Jimmie C.; Brady, Joseph; Wilson, Steven A.; Smith, James L. “The risk of mixing dilute hydrogen peroxide and acetone solutions,” *J Chemical Health & Safety* **2012** 19(2), 27-33.

Fan, W, Young, M, Canino, J, Smith, J, Oxley, J, Almirall, JR “Fast Detection of Triacetone Triperoxide (TATP) from Headspace using Planar Solid Phase Microextraction (PSPME) Coupled to an IMS Detector” *Anal Bioanal Chem.* **2012** 403(2), 401-408.

Oxley, J.C.; Smith, J.L.; Kirschenbaum, L.; Marimiganti, S.; Efremenko, I.; Zach, R; Zeiri, Y Accumulation of Explosive in Hair: Part 3: Binding Site Study; *J Forensic Sci* **2012** 57(3), 623-35.

Oxley, J.C.; Smith, J.L.; Brady, IV, J.E.; Brown, A.C. Characterization and Analysis of Tetranitrate Esters, *Propellants, Explosives, Pyrotechnics*, **2012**, 37(1), 24-39.

Dubnikova, Faina; Kosloff, Ronnie; Oxley, Jimmie C.; Smith, James L.; Zeiri, Yehuda “Role of Metal Ions in the Destruction of TATP: Theoretical Considerations” *J Phys Chem A* **2011** 115(38), 10565-10575.

World Book Encyclopedia “Bombs” **2011**.

Gregory, Otto; Oxley, Jimmie; Smith, James; Platek, Michael; Ghonem, Hamouda; Bernier, Evan; Downey, Markus; Cumminskey, Christopher “Microstructural Characterization of Pipe Bomb Fragments,” *Materials Characterization* **2010** 61(3), 347-354.

Oxley, Jimmie C.; Smith, James L.; Marimaganti, Kishore “Developing Small-Scale Tests to Predict Explosivity,” *J Therm. Analysis and Calorimetry* **2010** 102(2), 597-603.

Oxley, J.C., Smith, J.L., Brady, J. Naik, S. "Determination of Urea Nitrate and Guanidine Nitrate Vapor Pressures by Isothermal Thermogravimetry," *Propellants, Explosives, Pyrotechnics* **2010**, 35(3), 278-283.

Lancaster, S.L; Marshall, M.; Oxley, J.C. "Laboratory Analysis of Explosion Debris" in *Wiley Encyclopedia of Forensic Science* **2009**, Wiley online library.

Lancaster, S.L.; Marshall, M., Oxley, J.C. *Explosion Debris: Laboratory Analysis* of in Wiley Encyclopedia of Forensic Science, Jamieson, A.; Moenssens, A. (eds). Wiley, Chichester, UK **2009** p1028-1060.

Oxley, J.C.; Smith, J.L.; Junqi, Y.; Moran, J. "Hypergolic Reactions of TNT," *Propellants Explos. Pyrotech.* **2009**, 34(5), 421-426.

Oxley, J.C.; Smith, J.L.; Luo, W; Brady, J. "Determining the Vapor Pressure of Diacetone Diperoxide (DADP) and Hexamethylene Triperoxide Diamine (HMTD)," *Propellants Explos. Pyrotech.*, **2009**, 34(6), 539-543.

Oxley, J.C.; Smith, J.L.; Higgins, C.; Bowden, P.; Moran, J.; Brady, J.; Aziz, C.E.; Cox, E. "Efficiency of Perchlorate Consumption in Road Flares, Propellants and Explosives," *J. Environ. Management*, **2009** 90(11), 3629-34.

Oxley, J.C., Smith, J.L.; Huang, J.; Luo, W. "Destruction of Peroxide Explosives," *J. Forensic Sci.*, **2009** 54(5), 1029-33.

Oxley, J.C., Smith, J., Bernier, E., Moran, J.S., Luongo, J. "Hair as Forensic Evidence of Explosives Handling," *Propellants, Explosives, Pyrotechnics*, **2009** 34(4), 307-314.

Oxley, J.C., Smith, J.L., Naik, S., Moran, J.S. "Decompositions of Urea and Guanidine Nitrates," *Journal of Energetic Materials*, **2009** 27(1), 17-39.

Aspects of Explosive Detection, ed. M. Marshall & J C. Oxley; Elsevier **2009**.

Oxley, J.C., Smith, J.L., Moran, J.S. "Decomposition of Azo & Hydrazo linked Bis Triazines, *Journal of Energetic Materials*, **2009**, 27(2) 63 – 93.

Oxley, J.C., Smith, J.L., Kirschenbaum, L.J., Marimganti, S., Vadlamannati, S., "Detection of Explosives in Hair Using Ion Mobility Spectrometry," *J. Forensic Science*, **2008**, 53(3), 690-693.

Oxley, J.C., Koppes, W.M., Moran, J.S., Smith, J.L. "Azo Bond Hydrogenation with Hydrazine, R-NHNH<sub>2</sub>, and Hydrazobenzene," *Tetrahedron Letters* **2008**, 49, 3234-3237.

Jimmie Oxley, James Smith, Joseph Brady, Faina Dubnikova, Ronnie Kosloff,\* Leila Zeiri, Yehuda Zeiri "The Raman and IR fingerprint spectroscopy of peroxide-based explosives" *J. Applied Spectroscopy* **2008**, 62 (8), 906-915

Oxley, J.C., Smith, J.L., Moran, J.S.; Almog, J. "Nitroguanidine, and EGDN: nitration using simple nitro species" *Tetrahedron Letters*, **2008**, 49(28), 4449-4451

J. C. Oxley; J. L. Smith; L. Kirschenbaum; S. Marimganti "Accumulation of Explosives in Hair: Part II: Factors Affecting Sorption" *J Forensic Science*; **2007**, Vol 52, No. 6, 1291-1296.

Oxley, J.C; Smith, J.L.; Buco, R.; Huang, J. "A Study of Reduced-Sensitivity RDX" *J Energetic Materials* **2007**, 2  
5, 141-60.

Oxley, J.C. "What to Detect?" Chp 2 in *Trace Chemical Sensing of Explosives*, Ed. R.L. Woodfin; Wiley, **2006**.

W.M. Koppes, D. M. Rosenberg, M. E. Sitzmann, B W. Vos, K.A. Clark, P. Politzer, JS. Murray, J.C. Oxley, J S. Moran "Synthesis of 1,3,5-triazine-based energetic materials and the hypergolic ignition of nitroaromatic explosives" ACS Regional Meeting, SERMACS **2006**, November 1-4, **2006**, Augusta, GA

J. C. Oxley, J. L. Smith, L. Kirschenbaum, K. P. Shinde, S. Marimganti "Accumulation of Explosives in Hair" *J. Forensic Science*, **2005**, 50(4), 826-831.

Oxley, J.C.; Smith, J.L.; Moran, J.; Shinde, K. "Determination of the Vapor Density of Triacetone Triperoxide (TATP) Using A Gas Chromatography Headspace Technique" *Propellants, Explosives, Pyrotechnics*, **2005**, 30.2, 127-130.

Oxley, J C.; Smith, J.L.; Moran, J.; Nelson, K.; Utley, W.E. 2004. Training dogs to detect Triacetone Triperoxide (TATP) Proceedings of SPIE, Vol 5403(1), 349, **2004**.

Oxley, J.C. "A Survey of the Thermal Stability of Energetic Materials" Chp 1 in "Energetic Materials: Part 2. Detonation, Combustion;" P. Politzer & J. Murray Eds, Elsevier, **2003**, 5-30.

Oxley, J.C. The Thermal Stability of Explosives" Chp. 8 in *Handbook of Thermal Analysis and Calorimetry*: Vol 2 in *Applications to Inorganic and Miscellaneous Materials*, P. K. Gallagher & M. E. Brown, Eds. Elsevier, **2003**, 349-369.

Oxley, J.C.; Smith, J.L.; Resende, E.; Pearce, E "Quantification and Aging of the Post-Blast Residue of TNT Landmines" *J. Forensic Sci*, **2003**, 48(4), 742-752.

Oxley, J.C.; Smith, J.L.; Resende, E.; Pearce, E.; Chamberlain, T. "Trends in Explosive Contamination" *J. Forensic Science* **2003**, 48(2), 1-9.

Marshall, M; Sanders, K.; Oxley, J.; Smith, J.; Egee, L. "Explosive Recovery from Hair" *Science & Justice* **2002**, 42(3), 137-142

Oxley, J.C.; Smith, J.L.; Chen, H. "Decomposition of Multi-Peroxidic Compound: Triacetone Triperoxides (TATP)" *Propellants, Explosives and Pyrotechnics* **2002**, 27, 209-216.

Oxley, J.C.; Smith, J.L.; Chen, H.; Cioffi, E. “Decomposition of Multi-Peroxidic Compounds: Part II: Hexamethylene Triperoxide Diamine (HMTD)” *Thermochimica Acta* **2002**, 388(1-2), 215-225.

Special Issue *Thermochimica Acta Energetic Materials*; Guest Editors: Oxley, Minier (32 articles) **2002**, 384(1-2).

Oxley, J.C.; Smith, J.L.; Rogers, E.; Yu, M. “Kinetic Studies on Ammonium Nitrate Formulations: the Search for Explosivity Modifiers,” *Thermochimica Acta*. **2002**, 384(1-2), 23-45.

Oxley, J.C.; Smith, J.L.; Chen, H. “Thermal Decomposition of High-Nitrogen Energetic Compounds—Dihydrazido-s-tetrazine Salts” *Thermochimica Acta* **2002**, 384(1-2), 91-99.

Oxley, J. C.; Smith, J. L.; Rogers, E.; Ye, W.; Aradi, A.; Henley, T. “Heat-Release Behavior of Fuel Combustion Additives” *Energy and Fuel*, **2001**, 5, 1194-1199.

Oxley, J.C.; Smith, J.L.; Resende, E. “Determining Explosivity Part II: Comparison of Small-Scale Cartridge Test to Actual Pipe Bombs” *J. Forensic Science* **2001**; 46(5): 1070-1075.

Oxley; J.C.; Smith, J.L.; Resende,E.; Rogers, E.; Strobel, R.A.; Bender, E. C. “Improvised Explosive Devices: Pipe Bombs” *J. Forensic Sci* **2001**; 46(3):87-110

Oxley; J.C.; Smith, J.L.; Zhang, J.; Bedford, C. “A Comparison of the Thermal Decomposition of Nitramines and Difluoroamines” *J. Phys. Chem. A* **2001**, 105, 579 - 590

Oxley; J.C.; Smith, J.L.; Zhang, J. “Decomposition of 3,6-Substituted s-Tetrazines;” *J. Phys. Chem. A* **2000**, 104(29), 6764- 6777.

Zhang, J.; Oxley, J.; Smith, J., Cioffi, E. “Mass Spectra of Unlabeled and Isotopically Labeled Hexamethylene Triperoxide Diamine (HMTD)” *Propellants, Explosives and Pyrotechnics*, **2000**, 25, 1-4.

Oxley, J. C.; Smith, J. L.; Rogers, E.; Ye, W.; Aradi, A.; Henley, T. “Fuel Combustion Additives: A Study of their Thermal Stabilities and Decomposition Pathways” *Energy and Fuel*, 2000, 14(6), 1252-1264.

Oxley, J.C.; Smith, J.L.; Rogers, E.and Dong, X. “Gas Production from Thermal Decomposition of Explosives: Assessing the Thermal Stabilities of Energetic Materials from Gas Production Data” *J. Energetic Materials* **2000**, 18, 97-121.

Zhang, J.; Oxley, J.; Smith, J. ;Bedford, C.; Chapman, R. “Mass Spectral Fragmentation Pathways in Cyclic Difluoroamino and Nitro Compounds” *J. Mass Spectrometry*, **2000**, 35, 841-852.

George, V.; Jenkins, T.F; Phelan, J. M.; Leggett, D.C.; Cragin, J. H.; Webb, S.W.; Oxley, J.C.; Smith, J.L.; Berry, T.E.; Miyares, P.H. "Progress on Determining the Vapor Signature of a Buried Landmine" Proceed. 14<sup>th</sup> Annual International Symp. on Aerospace/Defense Sensing, Simulation, & Controls, April **2000**, Orlando, FL, pp 240-261.

George, V.; Jenkins, T.F; Phelan, J. M.; Leggett, D.C.; Cragin, J. H.; Webb, S.W.; Oxley, J.C.; Smith, J.L.; Berry, T.E.; Miyares, P.H. "Progress on Determining the Vapor Signature of a Buried Landmine" Proceed. 13<sup>th</sup> Annual International Symp. on Aerospace/Defense Sensing, Simulation, & Controls, April 5-9, **1999**, Orlando, FL, Vol 3710, pp258-269.

Oxley, J.C.; Smith, J.L.; Rogers, E; Hamad, M.A.; Resende, E. "Small Scale Explosivity Testing" *J. Energetic Materials*, **1999**, 17(4), 331-343.

Coburn, M.D.; Hiskey, M.A.; Oxley, J.C.; Smith, J.L.; Zheng, W.; Rogers, E. "Synthesis and Spectra of Some <sup>2</sup>H, <sup>13</sup>C, and <sup>15</sup>N Isomers of 1,3,3-Trinitroazetidine and 3,3-Dinitroazetidinium Nitrate" *J. Energetic Materials*, **1998**, 16, 73-99.

Oxley, J.C. "The Chemistry of Explosives" Chpt 5 in "Explosives Effects and Applications" ed. Walters, B. and Zukas, J.; Springer, New York, **1998**, pp. 137-172.

Oxley, J.C. "Safe Handling of Explosives" Chpt 9 in "Explosives Effects and Applications" ed. Walters, B. and Zukas, J.; Springer, New York, **1998**, 341-380.

Oxley, J.C.; Smith, J.L.; Zheng, W.; Rogers, E.; Coburn, M.D. "Thermal Decomposition Studies on Ammonium Dinitramide(ADN) & <sup>15</sup>N & <sup>2</sup>H Isotopomers" *J. Phys. Chem*, **1997**, 101(31) 5646-5652. DOI: 10.1021/jp9625063

Oxley, J.C.; Smith, J.L.; Zheng, W.; Rogers, E.; Coburn, M.D. "Thermal Decomposition Pathways of 1,3,3-Trinitroazetidine (TNAZ), Related 3,3,-Dinitrozetidinium Salts, and <sup>15</sup>N, <sup>13</sup>C, and <sup>2</sup>H Isotopomers" *J. Phys. Chem A* **1997**, 101(24) 4375-4483.

Oxley, J.C.; Smith, J.L.; Rogers, E.; Dong X.X. "NTO Decomposition Products Tracked with N-15 Labels" *J. Phys. Chem.*, **1997**, 101, 3531-3536.

Gardner, J.S.; Oxley, J.C.; Smith, J.L. "Thermal Stability of a HAN-Based Liquid Gun Propellant" *J. Thermal Analysis* **1997**, 49(3), 1315-1319.

Zheng, W.; Dong, X.X.; Rogers, E.; Oxley, J.C.; Smith, J.L. "Improvements in Determination of Decomposition Gases from 1,3,3-Trinitroazetidine (TNAZ) and 5-Nitro-2,4,-dihydro-3H-1,2,4-triazol-3-one (NTO) using Capillary Gas Chromatography/Mass Spectrometry?" *J. Chromat. Sci.*, **1997**, 35, 478-482.

Zheng, W.; Rogers, E.; Coburn, M.D.; Oxley, J.C.; Smith, J.L. "Mass Spectral Fragmentation Pathways in 1,3,3-Trinitroazetidine" *J. Mass Spectrometry*, **1997**, 32, 525-532.

Gardner, J.S.; Oxley, J.C.; Smith, J.L.; Roger, E.; Yeager, K; Zheng, W. "Microcalorimetry Studies on HAN-Based Liquid Propellant," Proceed. JANNAF Propulsion Systems Hazards Subcommittee, Huntsville, AL 1997.

J.C. Oxley; J.L. Smith; K.E. Yeager; E. Rogers; X.X. Dong "NTO Decomposition Studies" in *MRS Decomposition, Combustion, & Detonation Chemistry of Energetic Materials* editors Brill, Russell, Tao, Wardle, **1996**, 135-142.

Oxley, J.C.; Smith, J.L.; Ye, H.; McKenney, R.L.; Bolduc, P.R. "Thermal Stability Studies on Homologous Series of Nitroarenes" *J.Phys.Chem.*, **1995**, 99, 9593-9602.

Oxley, J.C.; Smith, J.L.; Zhou, Z.; McKenney, R.L. "Thermal Decomposition Studies on NTO and NTO/TNT" *J.Phys.Chem.*, **1995**, 99, 10383-10391.

Oxley, J.C.; Smith, J.L.; Yeager, K.E.; Coburn, M.D.; Ott, D. "Synthesis of <sup>15</sup>N-Labeled Isomers of 5-Nitro-2,4-dihydro-3h-1,2,4-triazol-3-one (NTO)" *J. Energetic Materials* **1995**, 13(1&2), 93-105.

Oxley, J.C.; Smith, J.L.; Valenzuela, B. "Ammonium Perchlorate Decomposition: Neat and Solution" *J. Energetic Materials* **1995**, 13(1&2), 57-91.

Goldfarb, I.J.; Feng, H.; Oxley, J.C. "An improved DSC glass sample container technique" *Thermochimica Acta*, **1996** 275 (1), 139-147.

Oxley, J.C.; Kooh, A.; Szeckeres, R.; Zheng, W. "Mechanisms of Nitramines Thermolysis" *J.Phys.Chem.* **1994**, 98, 7004-7008. DOI: 10.1021/j100079a019

Oxley, J.C.; Smith, J.L.; Valenzuela, B. "Ammonium Perchlorate Thermal Decomposition: Neat and Solution" Proceeding of 23nd NATAS Conf.; Toronto, ON; Sept. 1994.

Oxley, J.C.; Smith, J.L.; Wang, W. "Compatibility of Ammonium Nitrate with Monomolecular Explosives, Part I" *J.Phys.Chem.* **1994**, 98, 3893-3900.

Oxley, J.C.; Smith, J.L.; Wang, W. "Compatibility of Ammonium Nitrate with Monomolecular Explosives, Part II: Nitroarenes" *J.Phys.Chem.* **1994**, 98, 3901-3907.

Oxley, J.C. "Non-Traditional Explosives: Potential Detection Problems" *Terrorism and Political Violence* **1993**, 5(2), 30-47.

Wang, W.; Oxley, J.C.; Smith, J.L.; Gilson, N.S. "Thermal Compatibility of Ammonium Nitrate Mixtures with Energetic Organic Species" Proceed. 22nd NATAS Conf.; Denver, CO. Sept. 1993.

Oxley, J.C.; Smith, J.L.; Ye, H.; Wang, J.; Feng, H.; McKenney, R.L.; Bolduc, P.R. "Thermal Stability Studies on Nitroarenes" Proceed. 10th International Detonation Symposium; Boston, MA. July, 1993.

Oxley, J.C.; Smith, J.L.; Askins, J. A.; Gilson, N. S.; Feng, H.; Banks, M.; and Gardner, J.S. "Thermal Stability Analysis of HAN-Based Liquid Gun Propellants," Proceed. JANNAF Propulsion Systems Hazards Subcommittee, Fort Lewis, WA, May 11-13, 1993.

Oxley, J.C.; Kooh, A.B.; Szekeres, R.; Zheng, W. "Mechansims of Nitramine Thermolysis" Proceedings of ADPA Energetic Materials Technology, Oct. 4-7, 1992, New Orleans.

Oxley, J.C.; Olson, D.B.; Sandstrom, F. "NMIMT Hazard Testing Capabilities" Proceed. of 21nd NATAS Conf.; Atlanta, Sept. 1992.

Oxley, J.C. "Cook-off: Small-Scale Thermal Hazards Analysis" 1992 JANNAF Propulsion Systems Hazards Subcom. Mtg. Cookoff Workshop; Silver Springs, MD, May, 1992

Oxley, J.C.; Kaushik, S.M.; Gilson, N.S. "Ammonium Nitrate Explosives-- Thermal Stability and Compatibility on Small & Large Scale" *Thermochem. Acta* **1992**, 212, 77-85.

Oxley, J.C. Hiskey, M.A., Naud, D.; Szekeres, R. "Thermal Decomposition of Nitramines: Dimethylnitramine, Diisopropyl-nitramine, and N-Nitropiperidine" *J. Phys. Chem.* **1992**, 96, 2505-2509. DOI: 10.1021/j100185a023

Oxley, J.C.; Kaushik, S.M.; Gilson, N.S. "Thermal Stability and Compatibility of Ammonium Nitrate Explosives on Small and Large Scale" Proceeding of 20th NATAS Conf.; Minneapolis, MN, Sept. 1992.

Oxley, J.C. "Explosives Detection" *SPIE* San Diego, July **1992**

Minier,L.; Brower,K.; Oxley J.C."The Role of Intermolecular Reactions in Thermolysis of Aromatic Nitro Compounds in Supercritical Aromatic Solvents" *J.Org.Chem.* **1991**, 56, 3306-3314. DOI: 10.1021/jo00010a025

Oxley, J.C.; Kaushik, S.M.; Gilson, N.S. "The Effect of Anions on the Thermal Stability of Ammonium Nitrate Formulations" ADPA Intr'l Symp. Compat. Plastics & Other Mat Explosives, Propellants, Pyrotechnics & Proc. Expl, Prop.& Ingred, San Diego, Ap '91.

Hiskey, MA; Brower, KR.; Oxley J "Thermal Decomposition of Nitrate Esters" *J. Phys. Chem.* **1991**, 95, 3955-3960. DOI: 10.1021/j100163a013

Hiskey, M.A.; Hatch, M.J.; Oxley, J.C. "Nitrato Amine Nitrates: Nitrate Ester Explosives with Reduced Impact Sensitive" *Propellants, Explosives, Pyrotechnics* **1991**, 16, 40-42.

Minier, L.; Oxley J.C. "Thermolysis of Nitroarenes: 2,2',4,4',6,6'-Hexanitrostilbene" *Thermochem. Acta* **1990**, 166, 241-249. doi:10.1016/0040-6031

Baer, B.J.; Oxley, J.C.; Nicol, M. "The Phase Diagram of RDX (Hexahydro-1,3,5-Trinitro-s-Triazine) under Hydrostatic Pressure" *High Pressure Research* **1990**, 2, 99-108,

Hiskey, M.A.; Oxley, J.C. "A New Synthetic Route to Nitrate Esters" *J. Energetic Materials* **1989**, 7(3), 199-205.

Oxley, J.C.; Kaushik, S.M.; Gilson, N.S. "Thermal Decomposition of Ammonium Nitrate Based Composites" *Thermochim Acta* **1989**, 153, 269.

Brower, K.R.; Oxley, J.C.; Tewari, M.P. "Homolytic Decomposition of Ammonium Nitrate at High Temperature" *J. Phy. Chem.* **1989**, 93, 4029-4033

Nicol, M.; Baer, B.J; Oxley, J.C. "Raman Spectroscopy of High Explosives at High Hydrostatic Pressures Used to Detect Phase Transition of RDX (Hexahydro-1,3,5-Trinitro-s-Triazine)" ADPA proceedings October, 1989.

Minier, L.M.; Oxley J.C. "Thermolysis of Nitroarenes: 2,2',4,4',6,6'- Hexanitrostilbene" Proceed. of 18th NATAS Conf.; San Diego, Sept. 1989

Nicol, M.; Oxley, J.C.; Baer, B.J "Phase Diagram of RDX(Hexahydro-1,3,5- Trinitro-s-Triazine) at High Pressures and Temperatures" ARART proceedings, Aug. 1989.

Oxley, J.C.; Brower,K.R.; Tewari, M.P. "The Thermal Decomposition of Energetic Nitrate Salts" 1988 JANNAF S&EPS Mtng, Monterey, May 23-27, 1988.

Oxley, J.C.; Kaushik, S.M.; Gilson,N.S. "Thermal Hazards Analysis of Ammonium Nitrate-Based Composites", paper 15, 17th NATAS Conf., Orlando, Oct. 9-12 1988.

Oxley, J.C; Brower, K.R."Thermal Decomposition of Hydroxylamine Nitrate" *SPIE* **1988**, 872, 63-9

Oxley, J.C.; Perkins, W.D. "Use of a CIR Cell for Analysis of Aqueous Partially Hydrolyzed Polyacrylamide solutions by FT-IR Spectroscopy" Perkin-Elmer Infrared Bulletin 113, July 1986.

Oxley, J.C.; Perkins, W.D. "Utilization of a circular cell for the analysis of partially hydrolyzed aqueous solutions of polyacrylamides by Fourier-transform infrared spectrometry" Analusis **1987**, 15(10), XLI-XLIV.

Martin, D.F.; Oxley, J.C.; Lim H.T. "Enhanced Recovery of a "J" Sand Crude Oil With a Combination of Surfactant and Alkaline Chemicals," SPE 14293, presented at 60th Ann. Tech. Conf.& Exhibit., Las Vegas, Sept. 22-25, 1985.

Martin, F.D.; Oxley, J.C. "Effects of Various Alkaline Chemicals on Phase Behavior of Surfactant/Brine/Oil Mixtures," paper SPE 13575, presented at the Intl. Symp. on Oilfield & Geothermal Chemistry, Phx., Apr. 9-11, 1985.

Martin F.D.; Hatch, M.J.; Abouelezz, M.; Oxley, J.C. "Modified Acrylamide Polymers for Enhanced Recovery of Crude Oil, National American Chemical Society Meet, Philadelphia, August 25-27, 1984.

Legzdins, P.; Martin, J.T.; Oxley, J.C., "New Organometallic Hydrido Nitrosyl Complexes of Tungsten." *Organometallics*, **1985**, 7, 1263-1271.

Legzdins, P.; Oxley, J.C. "Mono- and Bi-metallic Dinitrosyl-molybdenum Complexes." *Inorganic Chemistry* **1984**, 23, 1053-1059.

Oxley, Jimmie C.; Toppen, David L. "Kinetics and mechanisms of reactions of water-soluble ferriporphyrins. 3. Ascorbic acid reduction of the [5,10,15,20-tetrakis(4-N-methylpyridyl) porphine]iron(III)-histidine system" *Inorganic Chemistry* **1978**, 17(11), 3119-23.

**UNITED STATES PATENT**

J Oxley; J Smith; J Canino "Non-Detonable Explosive or Explosive-Simulant Source" US 9,784,723 B1 Oct. 10, 2017