

Dr. John Allum

Principal Consultant, Global Head of Fire & Explosion
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**Profession**

Consulting chemist, specialising in the investigation of fires and explosions, marine cargo spoilage / damage and chemical / hazardous marine cargoes

Academic and Professional Qualifications

BSc (Hons)	Chemistry, 1996, Plymouth University
PhD	2002, Royal Military College of Science, Cranfield University. Research into the behaviour of emulsion explosives
FRSC	Fellow of the Royal Society of Chemistry
MIExpE	Member of the Institute of Explosive Engineers
MAE	Member of the Academy of Experts

Experience

I have been involved in the investigation of over 800 fire and explosion incidents, ranging from small domestic premises to large industrial plants. This has included over 300 shipping incidents.

I have investigated a wide variety of marine incidents on ships and yachts, including fires in containers, engine rooms and bulk cargoes. This has included providing advice on 'live' ship fires involving cargoes such as DRI, coal and agricultural products. In addition, I have dealt with a number of cargo contamination cases, including natural product spoilage, chemical reactions, liquid and gas cargo contamination, sample taking, interpreting analytical results, and supervising the clean-up.

I have significant experience of agricultural bulk cargo claims, including determining causes of product deterioration, cargo liquefaction (fluorspar, nickel ore, iron ore, fines etc.) and providing advice on the carriage and care of the cargo. This work involves supervising surveyors, agricultural scientists and sampling experts as well as providing reports suitable for use in both local courts and London Arbitrations. I have frequently provided advice on incidents involving IMDG CODE and IMSBC CODE cargoes, including chemical and dangerous cargoes.

I have appeared as an expert witness in fire investigation cases and chemical incidents, including in Hong Kong, Thailand, Korea, Norway, China and UK. This has involved attendance in both court and arbitration, giving expert testimony.

I have prepared numerous technical publications for P&I clubs on dangerous cargoes, fires and explosions, confined space entry and other scientific issues as required.

Employment history

CMC Marine 2023 – Present *Principal Consultant, Global Head of Fire & Explosion*

- Consulting scientist involved in fire and explosion investigation, hazardous and agricultural cargoes.

Agoko Consulting 2020 – 2023 *Director, UK*

- Consulting scientist involved in fire and explosion investigation, hazardous and agricultural cargoes.

Hawkins	2016 – 2020	<i>Regional Director, Asia</i>
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HFS-Asia	2011 - 2016	<i>Managing Director, Asia</i>
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- Investigation of a wide range of ship fires and explosions, including fires involving engine rooms, accommodation and cargo. Conducted investigations on container ships, tankers, bulk carriers, general cargo vessels and yachts. Provided on-board technical advice on firefighting and extinguishment of ongoing fires.
- Detailed investigations into chemical cargo contamination incidents, including lubricating oil, toluene, caustic soda, refrigerant gas, butene, methanol, gasoline, aviation fuel and other chemical cargoes. Investigation of a number of chemical incidents ranging from small spillages on-board to major ship fire and contamination incidents. Investigation of marine cargoes has included self-heating of coal, liquefaction investigations of nickel ores, bauxite, and iron ores, as well as damage to wheat, soybeans, expellers, soybean oil, menthol crystals, fertilizers and wheat bran pellets.
- Investigation of major fire and gas explosion incidents around the world in commercial premises, factories and processes including: oil refinery and petrochemical plant fires; food manufacturing; metal finishing; manufacturers of high-tech goods such as PCBs, LCDs and other IT equipment; heavy engineering; electrical appliances; large retail complexes.
- Provided training and lectures to insurance companies, lawyers, loss adjusters, and other experts on fire investigation and report writing. Provided expert reports, and expert witness for criminal and civil litigation cases.

<u>Dr J H Burgoyne & Partners</u>	2009 - 2011	Resident Director
	2001 - 2009	Associate

- Investigated fires and explosions, including ship and cargo fires. Conducted detailed, extensive site investigations on yachts, ships, large commercial/industrial sites and domestic premises. On-site work included conducting witness interviews and coordinating with the authorities.
- Preparation of technical reports, devised fire tests, provided advice to clients regarding cause of the incident, prevention and future risk factors, as well as provided technical advice concerning insurance

conditions and warranties. Expert witness for criminal and civil litigation cases. Provided expert reports, gave evidence in court and arbitration.

Cranfield University 1999 - 2001 Post-Doctoral Research Officer, Explosive Testing and Safety

- Designed and developed a gas gun to determine the reaction thresholds of high explosives in accidental impact scenarios. Analysed explosive residues and damaged explosives using DSC, TGA, FT-IR, Infra-red spectroscopy and Ion Chromatography as well as interpreting results from GC, GC-MS, X-Ray diffraction, SEM and NMR. Provided safety reports on the transportation, storage and testing of explosive ordnance.

Cranfield University 1996 – 1999 Doctoral Research Officer

- Manufacture, design and testing of emulsion explosive formulations. This was an industry supported research project (ICI), looking at developing new emulsion explosive formulations and studying their behaviour and performance.