

TABLE 1.—SUBSTANCES RECOMMENDED FOR STUDY

Substance [CAS No.]	Nominated by	Nomination rationale	Recommendations for toxicological studies
Acrylamide [79–06–1] and Glycidamide [5694–00–8].	U.S. Food and Drug Administration.	Inadequate information available to accurately assess human health risks from exposure to acrylamide in foodstuffs; a properly designed well-conducted, GLP-compliant bioassay with appropriate ancillary studies is needed to provide dose-response information and account for the food matrix through which humans are exposed.	—Toxicological characterization. —Toxicokinetics. —Mechanistic (hemoglobin adducts). —Carcinogenicity. —Bioavailability from food and drinking water.
Antimony trisulfide [1345–04–6]	National Cancer Institute.	Significant human exposure in occupational settings and suspicion of carcinogenicity.	Chronic toxicity/carcinogenicity.
Cadmium telluride [1306–25–8]	U.S. Department of Energy, Brookhaven National Laboratory, National Renewable Energy Laboratory, First Solar, Inc.	Potential for widespread applications in photovoltaic energy generation; anticipated increase in human exposures; further data needed to address health and safety issues related to manufacture and use.	—Toxicological characterization. —Chemical disposition (oral and inhalation routes).
Cedarwood oil, Virginia [8000–27–9].	National Cancer Institute	Widespread occupational and consumer exposure; lack of basic toxicology data.	—Toxicological characterization. —Developmental toxicity.
Chondroitin sulfate [9007–28–7]	National Cancer Institute	Widespread long-term use as a dietary supplement and inadequate data to assess safety.	—Chronic toxicity/carcinogenicity. —Carcinogenicity of chondroitin sulfate and glucosamine combined.
Dimethylethanolamine [108–01–0]	National Institute of Environmental Health Sciences.	Potential for widespread human exposure through its use in industrial and consumer products; inadequate toxicological database; some ethanolamines can interfere with choline uptake and utilization and may also generate nitrosamines.	—Metabolism.
Drugs positive for QT Interval Prolongation/Induction of <i>Torsade de Pointes</i> Proarrhythmia [No CAS No.].	U.S. Food and Drug Administration.	QT interval prolongation and <i>torsade de pointes</i> is a high priority cause for concern in drug development and regulatory safety evaluation; a clear definition of the strengths, limitations, and future performance characteristics of the canine telemetry model for pre-clinical safety assessment is needed.	—Initiate a study program to develop <i>in vitro</i> and <i>in vivo</i> test systems for assessing QT interval prolongation.
Glucosamine [3416–24–8]	National Cancer Institute	Widespread long-term use as a dietary supplement and inadequate data to assess safety.	—Chronic toxicity/carcinogenicity. —Carcinogenicity of chondroitin sulfate and glucosamine combined.
Nanoscale materials. [No CAS No.].	Rice University Center for Biological and Environmental Nanotechnology.	Intense current and anticipated future research and development focus; further studies and development of appropriate toxicological methods are needed to adequately assess health effects.	—Size—and composition—dependent biological disposition of nanocrystalline fluorescent semiconductor materials. —Toxicological characterization of high aspect ratio carbon nanomaterials. —Role of particle core and surface composition in the immunotoxicity of the above listed materials. —Phototoxicity of representative metal oxide nanoparticles.