Sewage Sludge Disposal (165) Mar 76 (*EI*)
NTIS/PS-76/0237/8GA

Waste Heat Utilization (165) Apr 76 Excludes total energy systems
NTIS/PS-76/0276/6GA

Waste Heat Utilization. Vol 1. 1970-1974 (179) Apr 76 Excludes total energy systems (*EI*)
NTIS/PS-76/0277/4GA

Waste Heat Utilization. Vol 2. 1975-March 1976 (71) Apr 76 Excludes total energy systems (*EI*)
NTIS/PS-76/0278/2GA

Aeration of Sewage Lagoons, Reservoirs, and Streams (177) Mar 76
NTIS/PS-76/0279/0GA

Aeration of Sewage Lagoons, Reservoirs, and Streams (103) Mar 76
NTIS/PS-76/0280/8GA

Regional and Urban Solid Waste Disposal. Part 1. Management Planning (132) Apr 76
NTIS/PS-76/0301/2GA

Regional and Urban Solid Waste Disposal. Part 2. Local Case Studies (128) Apr 76
NTIS/PS-76/0302/0GA

Regional and Urban Solid Waste Disposal. Part 3. Handling and Disposal Technology (147) Apr 76
NTIS/PS-76/0303/8GA

Mercury Pollution (173) Apr 76 Excludes toxicity and pollution effects
NTIS/PS-76/0315/2GA

Oil Shale Mining, Processing, Uses and Environmental Impacts (223) Apr 76
NTIS/PS-76/0319/4GA

Oil Shale Mining, Processing, Uses, and Environmental Impacts (231) Apr 76 (*EI*)
NTIS/PS-76/0320/2GA

Hazardous Materials Transportation. Part 1. General Studies (190) Apr 76 Excludes radioactive wastes and materials
NTIS/PS-76/0331/9GA

Hazardous Materials Transportation. Part 2. Radioactive Materials and Wastes (106) Mar 76
NTIS/PS-76/0332/7GA

Hazardous Materials Waste Disposal (157) Apr 76 Excludes radioactive wastes and materials
NTIS/PS-76/0333/5GA

Biological Effects of Mercury Pollution (150) Apr 76
NTIS/PS-76/0343/4GA

Effects of Land Use and Urbanization on Water Resources and Water Quality (144) May 76
NTIS/PS-76/0369/9GA

Metal Processing Wastes. Part 1. Air Pollution (198) May 76
NTIS/PS-76/0384/8GA

Metal Processing Wastes. Part 2. Water Pollution (139) May 76
NTIS/PS-76/0385/5GA

Biological Effects of Microwaves (153) May 76
NTIS/PS-76/0387/1GA

Air Pollution Emission Factors (82) May 76
NTIS/PS-76/0392/1GA

Septic Tank and Household Sewage Systems Design and Use (94) May 76
NTIS/PS-76/0395/4GA

Septic Tank and Household Sewage Systems Design and Use (109) May 76 (*EI*)
NTIS/PS-76/0396/2GA

Desulfurization of Coal and Petroleum (195) May 76 Excludes flue gas and other post-combustion sulfur control
NTIS/PS-76/0399/6GA

Biochemical Oxygen Demand. Vol 1. 1964-1975 (237) May 76
NTIS/PS-76/0409/3GA

Biochemical Oxygen Demand. Vol 2. 1975-May 76 (135) May 76
NTIS/PS-76/0410/1GA

Light Detection and Ranging(LIDAR). Vol 1. 1964-1974 (176) May 76
NTIS/PS-76/0428/3GA

Light Detection and Ranging(LIDAR). Vol 2. 1975-April 1976 (77) May 76
NTIS/PS-76/0429/1GA

Sewage Effects in Marine and Estuarine Environments (193) May 76
NTIS/PS-76/0438/2GA

Salt Marshes (160) May 76 Includes wetland studies
NTIS/PS-76/0439/0GA

Water Quality Modeling--Hydrological and Limnological Systems. Vol 1. 1964-1974 (192) Jun 76
NTIS/PS-76/0443/2GA

Water Quality Modeling--Hydrological and Limnological Systems. Vol 2. 1975-Jun 76 (98) Jun 76
NTIS/PS-76/0444/0GA

Highway Traffic Noise (123) Jun 76 Includes planning, control, and tire noise studies
NTIS/PS-76/0470/5GA

Activated Carbon. Vol 1. 1964-1974 (204) June 76 Includes activated carbon treatment of sewage
NTIS/PS-76/0478/8GA

Activated Carbon. Vol 2. 1975-May 1976 (77) June 76 Includes activated carbon treatment of sewage
NTIS/PS-76/0479/6GA

Activated Carbon. Part 1. Waste Water Treatment (174) June 76 Includes sewage treatment (*EI*)
NTIS/PS-76/0480/4GA

Activated Carbon. Part 2. Other Uses (211) June 76 Excludes industrial and sewage treatment (*EI*)
NTIS/PS-76/0481/2GA

Activated Charcoal (58) Jun 76 Excludes activated carbon (*EI*)
NTIS/PS-76/0493/7GA

Food Processing Waste Treatment (235) Jun 1976
NTIS/PS-76/0497/8GA

Remote Sensing for Natural Resource, Environmental, and Regional Planning (268) 1973-Jun 76
NTIS/PS-76/0500/9GA

Atmospheric Modeling of Air Pollution. Vol 1. 1964-1973 (119) Jun 76 Excludes stratospheric studies
NTIS/PS-76/0508/2GA

Atmospheric Modeling of Air Pollution. Vol 2. 1974-June 1976 (135) Jun 76 Excludes stratospheric studies
NTIS/PS-76/0509/0GA

Solid Waste Reclamation and Recycling:Part1. Packaging and Containers (60) Jul 76 Excludes studies only dealing with specific materials
NTIS/PS-76/0514/0GA

Solid Waste Reclamation and Recycling. Part 2. Plastics (78) Jul 76
NTIS/PS-76/0515/7GA

Solid Waste Reclamation and Recycling. Part 3. Metals (176) Jul 76 Includes metal recovery from aqueous industrial waste streams
NTIS/PS-76/0516/5GA

Solid Waste Reclamation and Recycling. Part 4. Glass (59) Jul 76
NTIS/PS-76/0517/3GA

Solid Waste Recycling and Reclamation. Part 5. Paper (87) Jul 76
NTIS/PS-76/0518/1GA

Sulfur Dioxide Control. Vol 1. 1964-1972 (159) May 75
NTIS/PS-75/456/4GA

Sulfur Dioxide Control. Vol 2. 1973-June 1976 (181) July 76 Excludes fuel desulfurization
NTIS/PS-76/0519/9GA

Aircraft Air Pollution. Vol 1. 1964-1974 (127) July 76 Includes studies concerning pollution from supersonic aircraft and aircraft ground operations
NTIS/PS-76/0528/0GA

Aircraft Air Pollution. Vol 2. 1975-June 1976 (136) July 76 Includes studies concerning pollution from supersonic aircraft and aircraft ground operations
NTIS/PS-76/0529/8GA

Synthetic Foods (60) Jul 76 Excludes fish protein concentrates and includes studies on the use of wastes as food
NTIS/PS-76/0534/8GA

Health Planning

Health Care Costs (110) Jan 76
NTIS/PS-76/0018/2GA

Emergency Medical Services (160) Feb 76
NTIS/PS-76/0080/2GA

Oral Diseases and Preventive Dentistry (182) Mar 76
NTIS/PS-76/0282/4GA

Industrial and Mechanical Engineering

Machine Automation and Numerical Control. Vol 1. 1964-1970 (226) Jun 75
NTIS/PS-75/480/4GA

Cooling Towers (123) Jun 75
NTIS/PS-75/549/6GA

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ndered Govt Repts Announcements & Index Sept 17, 1976 #19

l policy tool. It is concluded that Forrester and leadows generally overstate the case for the ppropriateness of their model as a policy tool. great deal more scientific inquiry is required efore models of this kind can be considered to e reliable aids to policy-making.

D-A026 815/1GA PC$3.50/MF$2.25
California Univ Los Angeles Dept of Geography
Ecologic Stress in a Subtropical Coastal Lagoon: Lake St. Lucia, Zululand.
Technical rept.,
Antony R. Orme. 1975, 17p Rept no. TR-2
Contract N00014-69-A-0200-4035
Availability: Pub. in Geoscience and Man, v12 p9-22, 20 Jun 75.

Descriptors: *Ecology, *Lagoons(Landforms), Lakes, South Africa, Tropical regions, Geomorphology, Coasts, Hydrology, Sedimentation, Salinity, Estuaries, Indian Ocean, Reprints.

Lake St. Lucia is the largest of several coastal lagoons that lie behind the massive sand barriers forming the Zululand Coast, South Africa. Following the Flandrian transgression, this lagoon covered 912 sq km, forming a body of water 112 km long and more than 40 m deep. A rich and varied lagoonal ecosystem developed in which plants and animals characteristic of tropical Africa blended with species from temperate southern Africa. Today, after 5000 years of sedimentation, segmentation, and reed-swamp encroachment, Lake St. Lucia has been reduced to a shallow lagoon averaging 312 sq km in area, 40 km in length, and less than 2 m deep. Whereas most coastal lagoons are destined to be infilled over time, the processes of change at Lake St. Lucia have been accelerated recently primarily by man. Present sedimentation rates are between two and three times the mean rate for the past 5000 years, a response in part to accelerated erosion farther inland. In addition, periodic low water levels and high salinities reflect diminished discharge from watersheds affected by erratic rainfall, irrigation agriculture, afforestation, and drainage diversions. Frequent closure of the estuary by strong littoral drift further inhibits the free exchange of water and biota between the lagoon and the sea. These physical changes in Lake St. Lucia create a serious threat to the survival of the entire ecosystem.

AD-A026 837/5GA PC$4.50/MF$2.25
California Univ Irvine
Environmental Quality Research. The Phytotoxicity of Missile Exhaust Products: Short Term Exposures of Plants to HCL, HF and Al(2)03.
Annual rept. no. 2, 16 Jun 74-31 May 75,
Shimshon Lerman. May 76, 53p AMRL-TR-75-102
Contract F33615-73-C-4059
See also report dated Feb 75, AD-A011 558.

Descriptors: *Hydrogen chloride, *Hydrogen fluoride, *Alumina, *Plants(Botany), *Exhaust gases, Air pollution, Particulates, Gases, Plant growth, Plant tissue, Toxicity, Experimental data.
Identifiers: Environmental quality, *Air pollution effects(Plants), Bioindicators, Missiles.

Eight species of ornamentals and three garden plants were selected in order to determine the range of phytotoxic responses to hydrogen chloride, hydrogen fluoride and alumina particles. The experimental plants were grown in a greenhouse or growth chambers or growth chambers under controlled conditions. Two exposure chambers were constructed to accomodate the exposure of plants to both gaseous and particulate pollutants. Methods and equipment for the generation, dispensing and monitoring of pollutants were established. Plants of various age levels from each species were exposed to the missile products at various concentrations for periods of 10 or 20 minutes each. Plants received a single exposure for phytotoxic range-finding studies as well as multiple exposure to determine cumulative effects of toxicants. Growth conditions such as temperature, relative humidity and light intensity which could affect plant responses were also under investigation. The exposed plants were evaluated 24 to 48 hours after exposure and injury symptoms were recorded.

AD-A026 882/1GA PC$5.00/MF$2.25
Army Engineer Waterways Experiment Station Vicksburg Miss
Ecological Evaluation of Proposed Discharge of Dredged or Fill Material Into Navigable Waters: Interim Guidance for Implementation of Section 404(b)(1) of Public Law 92-500 (Federal Water Pollution Control Act Amendments of 1972).
Final rept.,
May 76, 89p Rept no. WES-MP-D-76-17

Descriptors: *Environmental impact statements, *Spoil, *Ecology, *Dredging, Test methods, Damage assessment, Waterways, Waste disposal, Filling, Bioassay, Water chemistry, Sediments, Terrestrial ecology.
Identifiers: *Dredged materials, Navigable waters.

The Environmental Effects Lab., (WES) has prepared Interim Guidance to be used for the ecological evaluation of the proposed discharge of dredged or fill material in navigable waters according to Section 404(b) of Public Law 92-500. The Interim Guidance outlines the basic philosophy of the ecological evaluation of dredged and fill material discharges and outlines the general procedures to make this evaluation. Important in an ecological evaluation are the selection of appropriate test(s) and interpretation of results for assessment of potential problems. General approaches for technical evaluation are partitioned into physical effects, chemical-biological interactive effects, and procedures for site comparison. The Interim Guidance presents the general sequence of testing and evaluation procedures given in the Federal Register and presents detailed stepwise procedures for conducting an elutriate test, estimating a mixing zone, performing bioassays, conducting total sediment analyses, and evaluating biological community structure. These procedures contain all references and citations pertinent to the various evaluative procedures.

AD-A026 946/4GA PC$5.00/MF$2.25
Florida Univ Gainesville
'Vogtia malloi', A Newly Introduced Pyralid (Lepidoptera) for the Control of Alligatorweed in the United States.
Doctoral thesis,
John Lee Brown. 1973, 80p

Descriptors: *Weed control, *Aquatic weeds, *Biological control, *Lepidoptera, Biology, Ecology, Literature surveys, Geographical distribution, Growth(Physiology), Regression analysis, Insects.
Identifiers: Alligator weed, Vogtia malloi, Agasicles hygrophilia, Alternanthera philoxeroides.

Vogtia malloi pastrana was introduced into the United States in the spring of 1971 as a biological control agent of alligatorweed, Alternanthera philoxeroides (mart.) Griseb. Vogtia populations were established and survived the winter as far north as Columbia, S. C., and as far south as Fort Lauderdale, Florida. Studies reported herein include: a canonical analysis which describes the insect-host plant relationship between two insects and alligatorweed, the relationship between nutrient levels and alligatorweed growth, and a comparison of alligatorweed growing in lakes and in streams; a multivariate regression analysis which measures the significance of each of 12 measured variables in influencing the growth and spread of alligatorweed. Also included are measurements of alligatorweed productivity in greenhouse studies and in field plot studies during the spring and summer growth periods.

AD-A027 061/1GA PC$4.50/MF$2.25
Naval Electronic Systems Command Washington D C
Navy Sponsored ELF Biological and Ecological Research Summary (Update).
10 May 76, 73p
Supersedes AD-A015 299.

Descriptors: *Electromagnetic radiation, *Radiobiology, *Ecology, Radiation effects, Extremely low frequency, Radiation dosage, Humans, Animals, Plants(Botany), Microorganisms, Books, Genetics, Performance(Human), Diurnal variations, Physiology.
Identifiers: *Radioecology.

ELF is the Navy's extremely low frequency submarine communications system. The project is currently in the research and development stage. This booklet (a) summarizes the progress of Navy sponsored biological/ecological research studies initiated to determine the effects of electromagnetic fields in the ELF range, and (b) lists the publications of each principal investigator. (Author)

NTIS/PS-76/0582/7GA PC$25.00/MF$25.00
National Technical Information Service, Springfield, Va.
Eutrophication. Volume 2. 1974-Jul 76 (A Bibliography with Abstracts).
Rept. for 1974-Jul 76,
Elizabeth A. Harrison. Jul 76, 176p*
Supersedes NTIS/PS-75/523, and NTIS/PS-74/090.

Descriptors: *Bibliographies, *Water pollution, *Biological productivity, Primary biological productivity, Limnology, Nutrients, Ecology, Sediments, Lakes, Water chemistry, Effluents, Abstracts.
Identifiers: *Eutrophication.

The selected abstracts cover all aspects of eutrophication, including research on primary productivity, water chemistry, ecology, the influence and impact of nutrients on lakes and streams, control techniques, and mathematical modeling. (This updated bibliography contains 171 abstracts, 85 of which are new entries to the previous edition.) See also, NTIS/PS-75/522, Eutrophication. Vol. 1, 1964-1973.

PAT-APPL-648 835/GA PC$3.50/MF$2.25
Department of Agriculture, Washington, D.C.
Chemical Attractant for the Smaller European Bark Beetle.
Patent Application,
Robert M. Silverstein, William E. Gore, Glenn T. Pearce, and Roy A. Cuthbert. Filed 14 Jan 76, 12p PB-254 318/9
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of application available NTIS.

Descriptors: *Patent applications, *Insect control, *Attractants, *Beetles, Insecticides, Elm wood, Trees(Plants), Mixtures, Alcohols, Field tests, Pest control, Plant diseases, Disease vectors, Fungi, Fungus diseases.
Identifiers: PAT-CL-43-107, Coleoptera, *Heptanol/methyl, Bicyclooctane/dimethyl-diethyl-dioxa, *Cyclopenta-cyclopropa-benzene/hexahydro-isopropyl-dimethyl, Scolytus multistriatus, Dutch elm disease, Ceratocystis ulmi.

This patent application pertains to a method for combating the bark beetle Scolytus multistriatus. The method uses an attractant mixture of three compounds: 4-methyl-3-heptanol; 2,4-dimethyl-5-ethyl-6,8-dioxabicyclo (3.2.1) octane; and alpha-cubebene. Traps containing the mixture are set out in or near infested areas. When a sufficient number of beetles have been lured into the traps, they are removed and destroyed. Alternatively, the traps contain an insecticide which enables the traps to remain onsite for a longer period.

PB-253 982/3GA PC$4.50/MF$2.25
Radian Corp., Austin, Tex.
Biological Effects and Environmental Aspects of 1,3-Butadiene. (Summary of the Published Literature).
Final rept.,
T. B. Parsons, and Glynda E. Wilkins. May 76, 58p EPA/560/2-76/004
Contract EPA-68-01-3249

Descriptors: *Butadienes, *Air pollution, *Water pollution, *Reviews, Hydrocarbons, Concentration(Composition), Toxicity, Industrial hygiene, Waste water, Combustion products, Industrial wastes, Photochemical reactions, Physiological effects, Bibliographies, Tables(Data), Metabolism.
Identifiers: Air pollution effects(Plants), Air pollution effects(Animals), Air pollution effects(Humans), Water pollution effects(Plants), Water pollution effects(Animals), Water pollution effects(Humans), Environmental health, Toxic agents.

This report is a summary of the literature on the biological effects and environmental aspects of 1,3-butadiene and was prepared from articles and abstracts identified through a search of the technical literature. The report contains information on the effects of 1,3-butadiene in environmental samples and on the reactivity of 1,3-butadiene in environmental media.

PB-254 265/2GA PC$3.50/MF$2.25
Pesticides and Toxic Substances Effects Lab., Wenatchee, Wash. Field Studies Section.
Persistence of Azinphosmethyl in Soil,
D. C. Staiff, S. W. Comer, J. F. Armstrong, and H. R. Wolfe. 1975, 8p
Pub. in Bulletin of Environmental Contamination and Toxicology, v13 n3 p362-368 1975.

Descriptors: *Insecticides, *Pesticides, *Soils, Residues, Hazards, Domestic animals, Children, Waste disposal, Leaching, Degradation, Pollution, Toxicity.
Identifiers: Reprints, *Azinphosmethyl, Phosphorodithioates, Pesticide residues, Environmental persistance.

The purpose of the present study was to determine the persistence of azinphosmethyl, 0,0-dimethyl S(4-oxo-1,2,3-benzotriazin-3(4H)-ylmethyl) phosphorodithioate, residues in soil following topical applications of the compound. The results are intended to have application not only to the problem of hazard to children, pets and domestic farm animals who may come in contact with contaminated spillage areas, but also to problems related to waste pesticide disposal, leaching, and degradation or disappearance of the compound in the environment. Copyright (c) by Springer-Verlag New York Inc., 1975.

PB-254 291/8GA PC$7.75/MF$2.25
Washington State Dept. of Ecology, Olympia.
Baseline Study Program, North Puget Sound. Biological Oil Impact Literature Review. Volume I. Text.
Final rept.,
James W. Buell, and Victor W. Kacznyski. Oct 75, 204p WA/DOE/BR-75/01
Sponsored in part by National Oceanic and Atmospheric Administration, Rockville, Md. Office of Coastal Zone Management. Prepared by Beak Consultants, Inc., Portland, Oreg.

Descriptors: *Marine biology, *Ecology, *Oil pollution, *Puget Sound, Reviews, Environmental impacts, Bioassay, Aquatic animals, Fishes, Aquatic plants, Algae, Crustacea, Mollusca, Birds, Mammals, Life cycles, Annelida, Crude oil, Toxicity, Washington(State).
Identifiers: Baseline studies, *Oil spills, *Water pollution effects(Animals), *Water pollution effects(Plants).

Pertinent literature on the impact of oil upon the significant biological resources of Puget Sound is reviewed and analyzed. Possible effects of oil spills and spills of petrochemical products on the biota are considered. Interpretative data is summarized by organism and habitat.

PB-254 292/6GA PC$12.00/MF$2.25
Beak Consultants, Inc., Portland, Oreg.
Baseline Study Program, North Puget Sound. Biological Oil Impact Literature Review. Volume II. Bibliography.
Final rept.,
James W. Buell, and Victor W. Kaczynski. Oct 75, 467p WA/DOE/BR-75/02
See also PB-254 291.

Descriptors: *Marine biology, *Ecology, *Oil pollution, *Pudget Sound, *Bibliographies, Environmental impacts, Marine microorganisms, Birds, Littoral zone, Shellfish, Larvae, Growth, Plant physiology, Aquatic plants, Mortality, Diesel fuels, Plankton, Crude oil, Animal migrations, Washington(State).
Identifiers: Baseline studies, *Oil spills, *Water pollution effects(Plants), *Water pollution effects(Animals).

The report is an annotated bibliography of current available literature on the ecology of the significant biological resources of Puget Sound and on the effects of oil spills and petrochemical products on those biota. It is intended for use in conjunction with composite fact sheets and contains all consulted sources used in obtaining information for the fact sheets. Certain references of general interest on the subject of oil pollution and marine organisms are also included.

6H. Food

AD-A026 756/7GA PC$3.50/MF$2.25
Naval Medical Research Inst Bethesda Md
Energy, Protein, Mineral and Water Content of Food Items.
Medical research progress rept. no. 8,
V. Frattali, M. Quesada, and R. Robertson. Apr 76, 25p

Descriptors: *Food analysis, *Proteins, *Minerals, *Divers, Food consumption, Calorific value, Sodium, Potassium, Diet, Moisture content, Nutrition, Controlled atmospheres, Hyperbaric conditions, Diving.

Methods used to determine the energy, protein, mineral, and water content of prepared food items that composed the diet for five divers involved in a biomedical study lasting 30 days which included nutrition in a high pressure helium-oxygen environment are described. Moisture content of food items was determined by a gravimetric procedure, energy by oxygen bomb calorimetry, nitrogen by a semimicro Kjeldahl procedure, and sodium and potassium by atomic absorption spectrophotometry. Approximately 300 food items were analyzed in order to calculate the energy, protein, mineral and water intake for the hyperbaric nutrition balance study.

AD-A026 768/2GA PC$4.00/MF$2.25
Alberta Univ Edmonton
Analysis of Multiple Frequency Food Processing System.
Final rept. Dec 73-Dec 74,
W. R. Tinga. 31 Oct 75, 30p ARO-12109.1-EL
Grant DAHC04-74-G-0075

Descriptors: *Food processing, *Microwave ovens, Microwave frequency, Heat transfer, Equations, Temperature, Food, Mathematical models, Spheres, Cylindrical bodies, Profiles.

A model is described for predicting temperature profiles in materials heated by microwave power at 2450 MHz and 915 MHz. Theoretical and some experimental data are given to show that internal temperatures in cylinders and spheres exposed to microwaves from all sides are considerably higher than the surface temperatures of the materials. The time dependent three-dimensional heat conduction equation including an internal heat generation term is solved for parallel slabs and infinite cylinders.

PATENT-3 930 032 Not available NTIS
Department of the Army Washington D C
Baking Powder of Improved Stability and Method of Producing Same.
Patent,
Norman E. Harris, Anthony P. Umina, and Donald E. Westcott. Filed 4 Feb 75, patented 30 Dec 75, 6p AD-D002 564/3, PAT-APPL-546 954
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of patent available Commissioner of Patents, Washington, D.C. 20231 $0.50.

Descriptors: *Patents, Stability, Protective coatings, Storage, Sodium carbonates, Cellulose ethers.
Identifiers: PAT-CL-426-97, *Bakery products.

Baking powder of improved stability is produced by coating both the sodium bicarbonate leavening agent and the acidic leavening agent with a coating composition comprising a mixture of cellulose ethers of certain characteristics prior to mixing of the leavening agents to form the baking powder, either with or without redried starch mixed therewith.

PB-254 508/GA PC$40.00, MF$17.25
Litton Bionetics, Inc., Kensington, Md.
Mutagenic Evaluation of Compounds.
1975,13 reports

Mutagenic test results are reported in microbial and mammalian cell systems. For individual reports, see below:
FDA/HFF-76/69. FDA 75-6. 007784-26-1, Aluminum Ammonium Sulfate. 24 Dec 75, 42p PC$4.00/MF$2.25 **PB-254 509/3GA**

PB-254 523/GA PC$49.00, MF$23.50
Federation of American Societies for Experimental Biology, Bethesda, Md. Life Sciences Research Office.
Evaluation of Health Aspects of Food Ingredients.
1974,18 reports
Report of Select Committee on GRAS Substances.

The report, by a group of scientists designated the Select Committee on GRAS Substances (SCOGS), provides an independent evaluation of the safety of food ingredients, when used in food at present or projected levels of use. For individual reports, see below:
FDABF-GRAS-357. FDA/HFF-76/51. Bile Salts and Ox Bile Extract. 1975, 23p PC$3.50/MF$2.25 **PB-254 524/2GA**
FDABF-GRAS-358. FDA/HFF-76/52. Sorbose. 1974, 14p PC$3.50/MF$2.25 **PB-254 525/9GA**

6Q. Protective Equipment

N76-24406/0GA PCS3.50/MF$2.25
Baylor Univ., Houston, Tex. Dept. of Dermatology.
Evaluation of Textiles Proposed for Spacecraft Crew Apparel.
Final Report.
W. C. Duncan. 1976, 3p NASA-CR-147714
Contract NAS9-14407

Descriptors: *Crews, *Flight clothing, *Space, *Textiles, Allergic diseases, Copolymers, Cotton, Detergents, Ethylene compounds, Guinea pigs, Irritation, Polyimides.

For abstract, see STAR 1415

PB-254 487/2GA PCS3.50/MF$2.25
Bureau of Mines, Pittsburgh, Pa. Pittsburgh Mining and Safety Research Center.
An Ice-Cooling Garment for Mine Rescue Teams.
Rept. of investigations,
Maria I. DeRosa, and Richard L. Stein. May 76, 19p BuMines-RI-8139

Descriptors: *Exposure suits, *Rescue operations, *Mining, Heat stress, Cooling systems, Body temperature, Tests, Heart rate, Exposure, Protective clothing, Effectiveness, Safety engineering, Breathing apparatus.
Identifiers: Mine rescues.

High temperatures encountered by mine rescue teams during emergency situations may cause severe physiological strain, hindering the men from carrying out rescue and recovery missions. A prototype ice-cooling garment (ICG) has been developed to alleviate physiological strain due to heat stress. The effectiveness of the garment was tested with acclimatized and unacclimatized subjects at a typical work rate (1,200 Btu/hr) expected during rescue operations and at various hot environments (97-113F dry bulb, 80-89F wet bulb). During exposures with the ice-cooling garment, the subjects were able to maintain a safe deep body temperature of 100.4F or below. Without the garment, the deep body temperature rose beyond values of 100.4F, a condition considered unsafe for continuous work in hot conditions. Both heart rate and skin temperature values were lower while wearing the ICG. Subjective observation also indicated a marked benefit by wearing the ICG.

6R. Radiobiology

AD-A027 049/8GA #3766 PCS5.00/MF$2.25
Block Engineering Inc Cambridge Mass
The Detection of RF Damage to High Molecular Weight Biopolymers by Raman Spectroscopy.
Final comprehensive rept. 1 Jun-1 Sep 75,
Charles A. Cody, Anthony J. Modestino, Philip J. Miller, and Stanley M. Klainer. 9 Jan 76, 78p
Rept no. BEI-75-648
Contract F41609-75-C-0043

Descriptors: *Radiation effects, *Radiofrequency, *Deoxyribonucleic acids, *Raman spectroscopy, *Infrared spectroscopy, Biological material, Radiobiology, Molecules, Fluorescence, Sensitivity.
Identifiers: Biopolymers.

The program undertaken under this contract was designed to investigate Raman and infrared spectrometric techniques as a method of detecting, quantifying and diagnosing molecular damage in biological compounds due to exposure to RF (radio frequency) radiation. The program emphasis was on the use of the Raman approach while only a preliminary evaluation of the infrared method was undertaken. It has been established that biological materials do undergo damage when exposed to RF radiation. It has further been concluded that molecular spectroscopy methods yield the data output necessary to generate RF radiation hazard parameters. The spectrometric approaches, however, have not been fully developed or refined. In the case of Raman spectroscopy fluorescence and sensitivity are problems. Infrared techniques appear satisfactory from preliminary data but the effect of the water-rich background matrices and the ability to do micro-damage assessment are not completely known.

PB-254 217/3GA PC$4.00/MF$2.25
National Bureau of Standards, Washington, D.C.
Microdosimetric Spectra and Parameters of Fast Neutrons.
Final rept.,
R. S. Caswell, and J. J. Coyne. 1976, 32p
Sponsored in part by Energy Research and Development Administration, Washington, D.C.
Pub. in Proceedings of Symposium on Microdosimetry (5th) Held at Verbania Pallanza (Italy) on 22-26 Sep 75, p97-126.

Descriptors: *Fast neutrons, *Dosimetry, Neutron spectra, Monte Carlo method, Computation.
Identifiers: Stopping power.

Definitions and relationships of microdosimetric spectra and parameters for fast neutrons are discussed in the continuous slowing-down approximation (c.s.d.a.). Regions of validity of various calculational methods, including Monte-Carlo and c.s.d.a. are considered. Calculations and measurements of energy deposition spectra are compared. Calculations of microdosimetric parameters (from the energy deposition spectra) are compared with determinations of parameters from experimental spectra. Future needs for experimental energy deposition measurements, nuclear data, and charged particle stopping-power data are considered.

PB-254 247/0GA PC$7.50/MF$2.25
Michigan State Univ., East Lansing. Div. of Engineering Research.
Induced EM Field and Absorbed Power Density Inside Human Torsos by 1 to 500 MHZ EM Waves.
Technical rept.,
Kun-Mu Chen, and B. S. Guru. Apr 76, 184p TR-1
Grant NSF-ENG74-12603

Descriptors: *Electromagnetic radiation, *Radiobiology, Radiation effects, Electromagnetic fields, Electromagnetic absorption, Humans, Polarized electromagnetic radiation, Low frequencies, Numerical analysis.

Presented are numerical results on the internal EM field and absorbed power density inside a human torso induced by EM waves of frequencies ranging from 1 to 500 MHz and of both vertical and horizontal polarizations.

PB-254 282/7GA PC$3.50/MF$2.25
National Bureau of Standards, Washington, D.C. Center for Radiation Research.
A Revised Schema for Calculating the Absorbed Dose from Biologically Distributed Radionuclides.
Final rept.,
Robert Loevinger, and Mones Berman. Mar 76, 13p
Prepared in cooperation with National Cancer Inst., Bethesda, Md. Pub. in Jnl. of Nuclear Medicine, MIRD Pamphlet no. 1, revised, p3-10 Mar 76.

Descriptors: *Radioactive isotopes, *Radiation dosage, Dosimetry, Absorption(Biology), Standards, Computation, Mathematical models.
Identifiers: *Nuclear medicine, *Radiopharmaceutical agents, Reprints.

The paper is a revision of the first pamphlet in the series of publications by the Medical Internal Radiation Dose Committee (MIRD) of the Society of Nuclear Medicine. That pamphlet presented a new formalism for dosimetry calculation in nuclear medicine, and has served as the basis for a series of MIRD publications. This revised schema is intended to be a clearer and more direct presentation of the same formalism, the purpose of which is to produce a convenient uniformity and simplicity in the calculation of absorbed dose from radiopharmaceuticals.

PB-254 615/8GA PC$9.00/MF$2.25
Office of Radiation Programs, Washington, D.C.
Radiological Quality of the Environment.
May 76, 260p* EPA/520/1-76-010

Descriptors: *Health physics, *Radiation dosage, *Radioactivity, Environments, Public health, Evaluation, Dose rate, Ionizing radiation, Tables(Data), United States, Statistical data, Populations, Radiation hazards.
Identifiers: Environmental health, Environmental quality.

The report presents data that were compiled from Federal agencies, states, nuclear facilities, and special studies on the following radiation source categories: ambient environmental radiation, technologically enhanced radiation, fallout, uranium fuel cycle, federal facilities, medical, occupational, and industrial radiation, nonionizing radiation, and other miscellaneous sources. For some of these source categories the available radiation dose data were incomplete. However from the available data, it was found that the largest source of ionizing radiation dose to the population was 10 million person-rem from ambient ionizing radiation. The second largest dose was 3 million person-rem from use of radio-pharmaceuticals. About 3 million person-rem were also attributed to technologically enhanced natural radiation. Doses from all other source categories, for which data were available, resulted in less than 0.1 percent of the total population dose.

6S. Stress Physiology

AD-A026 785/8GA PC$3.50/MF$2.25
Naval Medical Research Inst Bethesda Md
Technique for Electrocardiographic Monitoring of Working Divers.
Medical research progress rept.,
P. F. Hoar, W. E. Long, H. C. Langworthy, W. H. Mints, and L. W. Raymond. 1976, 6p
Availability: Pub. in Aviation, Space and Environmental Medicine, v47 n6 p667-671 Jun 76.

Descriptors: *Electrocardiography, *Divers, Monitoring, Recording systems, Work, Rest, Exercise(Physiology), Underwater, Electrodes, Position(Location), Skin(Anatomy), Moistureproofing, Reprints.

An improved technique to record high-quality electrocardiographic (ECG) signals on the surface, from immersed humans during rest and exercise, in both normothermic and hypothermic exposures, has been devised. Recorded tracings were adequate for research purposes. Waveform signals obtained allow accurate continuous monitoring as well. The best recordings resulted from proper selection of electrode placement sites, careful preparation of the skin, and diligent protection of the skin-electrode interface. The resulting signals recorded from male divers working in 3.05 m (10 ft) of water contained very little artifact or shift in baseline of the ECG tracing. Post-dive examination of the placement sites showed neither separation of ECG electrodes from the skin nor intrusion of water between the electrode and skin surface.