R&S 006057

PB80-807662

Toxicity of Vinyl Chloride

Citations from the NTIS Data Base

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CONTENTS

Bibliographic information ii
Ordering reports iii
Prices of reports iii
Sample citation iii
About NTIS iv
About NTISearches v
Citations 1

R&S 006058

R&S 006061

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R&S 006062

Composition Stability and Degradation Products of Selected Materials for Solar Heating and Cooling

Sandia Labs., Albuquerque, NM.*Department of Energy. (5659000)
AUTHOR: Arnold, C. Jr; Trujillo, R. E.
P2005I1 Fld: 11I, 13A, 710, 97J, 97N GRAI7922
Mar 79 36p
Contract: EY-76-C-04-0789
Monitor: 18

Abstract: The composition, stability and thermal degradation products of a variety of structural plastics, heat transfer fluids, thermal storage media and sealants, which have been proposed for use in solar heating and cooling applications, were either defined generically by analysis or obtained by surveying the literature. This information will be used to aid in the assessment of the environmental impact of these materials. By gas chromatography-mass spectrometry (GC-MS), beta -phenylnaphthylamine, a suspected carcinogen, was tentatively identified as a component in the heat transfer fluid, UCON. In addition, aromatic components which might be toxic were detected in all of the heat transfer fluids that were derived from petroleum sources. By TGA (thermogravimetric analysis), it was found that polysulfide, Neoprene, poly(vinyl chloride) and poly(vinyl fluoride) were the least stable solar heating and cooling materials. In the event of a solar system failure, these materials would be expected to thermally degrade and evolve such toxic substances as H sub 2 S, HCl and HF. Other solar heating and cooling materials were found to be more thermally stable and hence should not outgas if the solar system fails. (ERA citation 04:038480)

Descriptors: *Heat storage, *Heat transfer fluids, *Plastics, *Sealing materials, *Solar cooling systems, *Solar heating systems, Chemical composition, Failures, Gas chromatography, Mass spectroscopy, Materials testing, Neoprene, Polyvinyls, Pvc, Stability, Sulfides, Thermal degradation, Thermal gravimetric analysis, Toxic materials

Identifiers: ERDA/140901, ERDA/360603, ERDA/360604, NTISDE

SAND-78-0681 NTIS Prices: PC A03/MF A01

R&S 006063

R&S 006064

Economic Impact Studies of the Effects of Proposed OSHA Standards for Vinyl Chloride

Booz-Allen and Hamilton, Inc., Florham Park, NJ. Foster D. Snell Div.*Occupational Safety and Health Administration, Washington, DC.

Final rept.
PB1992C3 Fld: 6T, 6J, 5F, 57Y, 57U, 68G, 68A GRAI7922
27 Sep 74 418p
Contract: DL-74-167
Monitor: OSHA/IS-79/005

Abstract: The Final Report presents Snell's evaluation of the technical feasibility and resulting costs of compliance with various target levels of exposure to vinyl chloride. It includes data on monitoring and personal protective equipment, and worker medical surveillance. The conclusions and recommendations of this report: (1) Achieving no detectable levels of vinyl chloride monomer (VCM) mainly through engineering means is judged not feasible with present technology in the VCM and polyvinyl chloride (PVC) sectors. (2) Compliance costs increase rapidly with decreasing VCM target levels and represent significant engineering uncertainty or unfeasibility beyond 10 ppm ceiling and 2-5 ppm time weighted average for VCM industry and 15-25 ceiling and 10-15 TWA for PVC industry. (3) Area monitoring, especially in PVC plants, is recommended to OSHA as a compliance requirement regardless of the target level selected by OSHA. (4) This report recommends that OSHA establish phased requirements for reading VCM target levels to allow the collection of additional VCM monitoring data to fully assess the efficiency of corrective steps. Subject to review in light of current medical findings, and as they become available.

Descriptors: *Economic impact, *Vinyl chloride, *Chemical industry, *Industrial hygiene, *Polyvinyl chloride, *Toxicology, Feasibility, Exposure, Monitoring, Concentration(Composition), Standards, Regulations, Cost analysis, Technology, Protective clothing, Air pollution, Surveillance

Identifiers: *Occupational safety and health, *Indoor air pollution, *Toxic substances, Monomers, Maximum permissible exposure, Standards compliance, NTISLABOSH

PB-297 702/3ST NTIS Prices: PC A18/MF A01

Proposed Regulation: Vinyl Chloride

Occupational Safety and Health Administration, Washington, DC.

Final environmental impact statement.
PB-294 004/1ST Rpt. Fld: 6J, 68H, 57U GRAI7920
5 Sep 74 220p
Rept No: OSHA/IS-79/003
Monitor: 18

Abstract: OSHA proposes to regulate producers of vinyl chloride, polyvinyl chloride, and articles made from these substances by requiring that their employees not be exposed to vinyl chloride above specified levels. The major impact of the regulation is expected to be a reduction in the number of workers contracting liver angiosarcoma and other forms of cancer. A concomitant adverse impact is expected to be substantial increases in capital and operating expenditures among manufacturers, along with reduced productivity. The effect of these cost increases will be increased prices for products made from vinyl chloride and polyvinyl chloride. Major alternatives are considered along with the proposed standard.

Descriptors: *Vinyl chloride, *Environmental impact statements-final, *Industrial hygiene, *Polyvinyl chloride, Regulations, Substitutes, Standards, Capitalized costs, Operating costs, Exposures, Plastics, Safety, Toxicity, Chemical industry, Liver, Malignant neoplasms, Angiosarcomas, Costs, Productivity, Carcinogens

Identifiers: Occupational safety and health, Environmental chemical substitutes, Cancer, Environmental health, NTISLABOSH

PB-297 005/1ST NTIS Prices: PC A10/MF A01

R&S 006065

Vinyl Chloride -- An Information Resource

SRI International, Menlo Park, CA.*National Cancer Inst., Bethesda, MD. Div. of Cancer Control and Rehabilitation.
AUTHOR: Milby, Thomas H.
P175111 Fld: 6T, 6J, 6F, 44G, 57Y, 57U, 68G GRAI7920
Mar 78 122p
Rept No: NIH-78/1599
Monitor: DHEW/PUB/NIH-78/1599

Abstract: A discussion of the link between exposure to vinyl chloride and the occurrence of toxic, nonmalignant illnesses involving skin, bones, liver, lungs, and blood is provided. The regulatory history of vinyl chloride is outlined. It is pointed out that the potential for human contact with vinyl chloride is great. About 2.5 billion kilograms of vinyl chloride are produced each year in the United States. The vinyl chloride is produced at 15 plants employing 900 workers. Vinyl chloride is also polymerized at 39 plants, employing more than 5,500 workers. The Environmental Protection Agency has estimated that approximately five million people live near enough to vinyl chloride facilities to be within range of detectable airborne concentrations of the gas. The production, uses, and dispersion of vinyl chloride are discussed and evidence of its toxic and carcinogenic effects are summarized. Strategies for the control of vinyl chloride are suggested. The appendixes contain a list of vinyl-chloride-related compounds, an approach to evaluation and control of vinyl chloride exposure, and sources for additional information.

Communities, Demography, Environmental health, Health planning, Methodology, Public health, Strategies

Identifiers: HRP/GAA, HRP/ZH, HRP/CK, HRP/AD, HRPGEO/YNO, HRPOCC/XZ, *Vinyl chloride, Chlorine organic compounds, Exposure, *Occupational diseases, *Toxicology, *Industrial medicine, *Occupational safety and health, NTISHRANHP

HRP-0028012/3ST NTIS Prices: PC A06/MF A01

R&S 006066

inyl Chloride: A Review, 1835--1975; an Annotated Literature Collection, 1976--1975; a Literature Compilation, 1976--1977

Toxicology Information Response Center, Oak Ridge, TN.*Department of Energy. (9500221)
AUTHOR: Warren, H. S.; Huff, J. E.; Gerstner, H. B.
P129534 Fld: 6T, 6F, 57Y*, 68G*, 68A GRAI7915
Nov 78 218p*
Contract: W-7405-ENG-26
Monitor: 18

Abstract: Vinyl chloride (CH sub 2 CHCl) (VC) is a colorless gas, produced and marketed in large volume primarily as the base for its versatile and relatively inert homopolymer, polyvinyl chloride. The toxicological problem posed by VC has broad ramifications rooted in the long interval between the industrialization of the VC/PVC processes and the first recognition of the potential carcinogenicity of the VC monomer. This time delay represents the latent period of the carcinogen within the human organism and may mean that the VC-associated cancer cases detected to date represent only the beginning of a growing clinical statistic. This report on vinyl chloride consists of three parts: Part I provides a review of vinyl chloride and its health-related aspects as summarized from the literature through 1975; Part II comprises an annotated, keyworded, indexed collection of 555 references (1835--1975) which emphasizes biological effects and includes references concerning analysis and control in both workplace and environment; Part III is an updated collection of references which extends the bibliography through September 1977. This bibliography was compiled from the major scientific abstract literature. Current journals in appropriate disciplines were also scanned. References are arranged alphabetically by first author's name. A permuted title index is appended for easy access to the bibliography. (ERA citation 04:024713)

Descriptors: *Bibliographies, Man, Vinyl monomers, Biological effects, Carcinogenesis, Health hazards, Organic chlorine compounds, Reviews

Identifiers: ERDA/560306, ERDA/570000, Abstracts, Humans, *Vinyl chloride, NTISDE

ORNL/TIRC-78/3 NTIS Prices: PC E13/MF A01

R&S 006067

R&S 006068

Summary Characterizations of Selected Chemicals of Near-Term Interest

Environmental Protection Agency, Washington, DC. Office of Toxic Substances.

Final rept.
PB114H4 Fld: 6T, 6J, 68, 68G, 57Y, 57U, 99 GRAI7913
Sep 76 31p
Rept No: EPA/560/4-76/008
Monitor: 18
See also report dated Sep 75, PB-246 356.

Abstract: This report includes summary characterizations of 8 chemicals of near-term concern to EPA. The report summarizes (a) health and ecological effects and environmental behavior, (b) sources, environmental levels and exposed populations, (c) technologic and economic aspects and (d) steps that have been taken and are being taken.

Descriptors: *Environmental surveys, *Chlorine organic compounds, *Dichlorodifluoromethane, *Vinyl chloride, *Phthalic acids, *Chloroform, *Lead(Metal), Lead inorganic compounds, Lead organic compounds, Esters, Ecology, Public health, Sources, Technology, Water pollution, Air pollution, Toxicology, Exposure, Industrial hygiene, Concentration(Composition), Economics, Solid waste disposal

Identifiers: *Ether/bis(chloromethyl), *Butadiene/hexachloro, *Polychlorinated biphenyls, *Biphenyl/perchloro, *Methane/fluoro-trichloro, Freon 11, Freon 12, NTISEPAOTS

PB-292 419/9ST NTIS Prices: PC A03/MF A01

Coal Mine Combustion Products Identification and Analysis--Solvents, Fire Retardants

Ultrasystems, Inc., Irvine, CA.*Bureau of Mines, Washington, DC.

Annual rept. 30 Sep 76-19 Oct 77
AUTHOR: Paciorek, K. L.; Kratzer, R. H.; Kaufman, J.; Nakahara, J. H.
PB-101284 Fld: 8I, 13L, 48A, 99A, 94H GRAI7912
Oct 77 118p
Rept No: SN-8220/A5-F
Contract: H0133004
Monitor: BUMINES-OFR-12-79
See also report dated Sep 76, PB-267 658.

Abstract: The objective of this program was to develop a reliable and meaningful basis for assessing certain health aspects, namely toxicity hazards created prior to combustion by articles employed in underground coal mining operations. The present investigation was concentrated on halogenated materials, specifically solvents, degreasing agents, fire extinguishants, additives, and conveyor beltings.

Descriptors: *Coal mines, *Thermal analysis, *Fire resistant materials, *Solvents, Gas chromatography, Mass spectroscopy, Chemical analysis, Laboratory equipment, Separation, Thermal degradation, Polyvinyl chloride, Additives, Fire extinguishing agents, Mine safety, Halogen organic compounds, Belt conveyors, Degreasing

Identifiers: *Toxic substances, Procedures, NTISDIBM

PB-292 324/1ST NTIS Prices: PC A06/MF A01

R&S 006069

Ambient Water Quality Criteria: Vinyl Chloride

Environmental Protection Agency, Washington, DC. Criteria and Standards Div.
F0802M1 Fld: 6T, 6F, 8A, 57Y*, 57H, 68G*, 68D, 47D GRAI7910
1978 90p*
Monitor: 18

Abstract: Section 304(a) of the Clean Water Act (33 U.S.C. 1314(a)), requires EPA to publish and periodically update water quality criteria. These criteria are to reflect the latest scientific knowledge on the identifiable effects of pollutants on public health and welfare, aquatic life, and recreation. This report presents water quality criteria for vinyl chloride. It presents concentration criteria for the protection of fresh water and saltwater aquatic life. It presents 'safe' concentrations for humans, and in the case of suspect or proven carcinogens, gives various levels of incremental cancer risk. A section 304(a) water quality criterion is a qualitative or quantitative estimate of the concentration of a water constituent or pollutant in ambient waters which, when not exceeded, will ensure a water quality sufficient to protect a specified water use. Under the Act a criterion is a scientific entity, based solely on data and scientific judgment. It does not reflect considerations of economic or technological feasibility nor is it a water quality standard and in itself has no regulatory effect.

Descriptors: *Water quality, *Toxicology, *Vinyl chloride, Alkene compounds, Chlorine aliphatic compounds, Criteria, Toxicity, Water pollution, Aquatic biology, Marine biology, Fresh water biology, Concentration(Composition), Exposure, Carcinogens, Public health, Risk, Food, Experimental data

Identifiers: *Water pollution effects(Humans), *Water pollution effects(Animals), *Toxic substances, *Ethylene/chloro, CAS 75-01-4, Clean Water Act, Environmental health, Maximum permissible exposure, Health risks, Pharmacokinetics, NTISEPAOWP

PB-292 446/2ST NTIS Prices: PC A05/MF A01

R&S 006070

Environmental Monitoring Near Industrial Sites: Brominated Chemicals. Part II: Appendix

Research Triangle Inst., Research Triangle Park, NC.*Environmental Protection Agency, Washington, DC. Office of Toxic Substances. (304 400)

Final rept. 19 Jul-16 Dec 77
AUTHOR: Pellizzari, E. D.; Zweidinger, R. A.; Erickson, M. D.
F0144H3 Fld: 7D, 68, 99A GRAI7902
Jun 78 165p
Contract: EPA-68-01-1978
Monitor: EPA/560/6-78/002A
See also Part 1, PB-286 484.
Also available in set of 3 reports PC E13, PB-286 482-SET.

Abstract: Contents: Analytical protocols--(scanning electron microscopy and energy dispersive x-ray analysis; total bromine and chlorine by neutron activation analysis: analysis for ethylene in ambient air; sampling and direct analysis for methyl chloride and methyl bromide in ambient air; sampling and analysis for methyl chloride, methyl bromide, vinyl chloride and vinyl bromide in ambient air; sampling and analysis for chlorinated and brominated hydrocarbons and other chemicals in ambient air; chlorine/bromine sampling and analysis in ambient air; determination of inorganic fluoride in ambient air; acid mist sampling in ambient air; sampling and analysis of volatile halogenated hydrocarbons in soil, sediment, water, vegetation and milk; sampling and analysis of semi-volatile halogenated hydrocarbons in air, soil, sediment, water and biota; ozone measurements); Atmospheric dispersion modeling; Meteorological data; Hourly ozone concentrations in El Dorado, Arkansas.

Descriptors: *Environmental surveys, *Chemical analysis, *Bromine organic compounds, *Bromine inorganic compounds, Halogen organic compounds, Neutron activation analysis, Concentration(Composition), Monitoring, Atmospheric diffusion, Industrial wastes, Air pollution, Sites, Ozone, Arkansas, Water pollution, Soil analysis, Sediments, Sampling, Laboratory equipment, Food analysis, Fluorides, Vinyl chloride, Chloromethanes, Ethylene, Electron microscopy, X ray analysis, Chlorine, Bromine

Identifiers: Methane/bromo, El Dorado(Arkansas), Ethylene/bromo, NTISEPAOTS

PB-286 483/3ST NTIS Prices: PC A08/MF A01

R&S 006071

Investigation of Standards, Performance Characteristics and Evaluation Criteria for Thermoplastic Piping in Residential Plumbing Systems

National Engineering Lab. (NBS), Washington, D.C.*Department of Housing and Urban Development, Washington, D.C. Assistant Secretary for Policy Development and Research.

Building Science Series (Final)
AUTHOR: Wyly, R. S.; Parker, W. J.; Pierce, E. T.; Rorrer, D. E.; Shaver, J. R.
82245J3 Fld: 13B, 13K, 89E*, 89G, 94 GRAI7821
May 78 153p*
Rept No: NBS-BSS-111
Project: NBS-4624190
Monitor: 18
Library of Congress Catalog Card no. 78-600037. Sponsored in part by Department of Housing and Urban Development, Washington, D.C. Assistant Secretary for Policy Development and Research.

Abstract: The application of the performance concept to the evaluation of piping systems of innovative materials is explored. User needs are considered and several material-related physical parameters are studied that might be used as measures of satisfaction of the user needs. Information was reviewed on usage, performance characteristics and standards for thermoplastic pipe and fittings, and special laboratory tests were made to study selected characteristics and test methods. A number of performance statements and evaluation methods are recommended or discussed that relate to characteristics associated with polyvinyl chloride (PVC), acrylonitrile-butadiene-styrene (ABS) and chlorinated polyvinyl chloride (CPVC). This approach was taken to illustrate the application of performance evaluation methodology t plumbing materials.

Descriptors: *Plastic pipes, *Plumbing, Residential buildings, Performance evaluation, Thermoplastic resins, Polyvinyl chloride, ABS resins, Piping systems, Acoustic properties, Fire safety, Toxicity, Shock resistance, Dimensional stability, Utilization, Standards

Identifiers: NTISCOMNBS

PB-282 495/1ST NTIS Prices: PC A08/MF A01

R&S 006072

Hazard Evaluation and Technical Assistance Report No. TA 77-58, King Soopers, Inc., Colorado Springs, Colorado

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. Hazard Evaluations and Technical Assistance Branch.
AUTHOR: Gunter, Bobby J.
E1355B2 Fld: 6J, 6T, 57U, 57Y, 94D, 68G GSAI7814
Aug 77 9p
Rept No: NIOSH/TP/TA-77/58
Monitor: 18

Abstract: A Hazard Evaluation and Technical Assistance survey was conducted by NIOSH on June 23, 1977, at the King Soopers Inc., Denver, Colorado. The survey was prompted by a request from the management regarding the concern of 6 'affected' employees about possible overexposure during the burning of polyvinyl chloride wrap. Based on the results of air sampling which failed to reveal the presence of detectable levels of polyvinyl chloride decomposition products in the breathing zone of the 4 workers present during the survey, it appears that a toxic situation did not exist at the time of evaluation. Three of the 6 employees did complain of upper respiratory irritation caused by fumes coming from the hot wire used to cut the polyvinyl chloride film. One worker was on workmen's compensation due to overexposure to fumes from the plastic wrap. Recommendations are made for improving working conditions and preventing potential exposure.

Descriptors: *Hazardous materials, *Industrial medicine, *Food industry, *Polyvinyl chloride, *Vinyl chloride resins, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Concentration(Composition), Medical examination, Environmental engineering, Environmental surveys, Food packaging, Packaging material, Air pollution, Respiratory system, Colorado

Identifiers: *Toxic substances, *Occupational safety and health, Threshold limit values, Maximum permissible exposure level, King Soopers Incorporated, Air sampling, Colorado Springs(Colorado), NTISHEWOSH

PB-278 964/2ST NTIS Prices: PC A02/MF A01

R&S 006073

Organic Chemicals in Occupational and Experimental Carcinogenesis (Excluding Most Polycyclic Hydrocarbons Nitroso Compounds)

National Cancer Inst., Bethesda, Md. International Cancer Research Data Bank.

Special listing.
PC A04A2 Fld: 6F, 6J, 57C*, 57U GRAI7805
25 Nov 77 41p*
Rept No: NCI/ICRDB/SL-76/57
Monitor: 18

Abstract: The Special Listing of Current Cancer Research Projects is a service of the International Cancer Research Data Bank (ICRDB) program of the National Cancer Institute. Each listing contains descriptions of ongoing projects in one selected cancer research area. This listing includes research areas in: Cancer risk associated with occupational exposure to specific organic chemicals; carcinogenic effects and metabolism of azo dyes, arylamines and other isocyclic aromatic hydrocarbon derivatives in animal models; carcinogenicity and metabolism of aliphatic hydrocarbon derivatives in animal models; carcinogenicity testing of ethylene halides and other saturated aliphatic halohydrocarbon derivatives; carcinogenicity and metabolism of heterocyclic compounds in animal models; and broad programs, and other studies on chemical carcinogenesis in animal models.

Descriptors: *Malignant neoplasms, *Research projects, *Industrial medicine, *Organic compounds, Carcinogens, Metabolism, Vinyl chloride, Chlorohydrocarbons, Aromatic hydrocarbons, Azo dyes, Arylamines, Aliphatic hydrocarbons, Halides, Ethylenes, Halohydrocarbons, Heterocyclic compounds

Identifiers: *Listings, *Cancer, *Medical research, *Carcinogenesis, Health risks, Ether/Chloromethyl, NTISNIHICR

NTISUB/C/296-004 NTIS Prices: PC A03/MF A01

R&S 006074

A Cross-Sectional Epidemiologic Survey of Vinyl Chloride Workers

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. Div. of Surveillance, Hazard Evaluation and Field Studies.**Bureau of Epidemiology, Atlanta, Ga. Cancer and Birth Defects Div.**North Carolina Univ. at Chapel Hill, N.C. Occupational Health Studies Group.**Montefiore Hospital, Pittsburgh, Pa. Dept. of Medicine.
AUTHOR: Waxweiler, Richard J.; Falk, Henry; McMichael, Anthony; Malloy, Joseph S.; Grivas, A. Scott
EC324K2 Fld: 6J, 57U, 94D, 68G GRAI78C4
Jun 77 50p
Monitor: DHEW/PUB/NIOSH-77/177
Prepared in cooperation with Bureau of Epidemiology, Atlanta, Ga. Cancer and Birth Defects Div., North Carolina Univ. at Chapel Hill, N.C. Occupational Health Studies Group, and Montefiore Hospital, Pittsburgh, Pa. Dept. of Medicine.

Abstract: The extent to which vinyl chloride monomer induces clinical detectable abnormalities among workers occupationally exposed was investigated during a cross-sectional medical survey at a chemical plant which had a polyvinyl chloride polymerization operation, a polyvinyl chloride fabrication operation, and a rubber tire production operation. The survey of 433 predominantly white male employees, divided into four vinyl chloride exposure groups (never, light, heavy, former), determined the prevalence of illnesses and abnormalities based on data gathered by interview, medical examination, blood and pulmonary function tests, liver scans, and hand and chest x-rays. Age-adjusted analyses indicated that hepatomegaly, central nervous system symptoms, diastolic hypertension and spouses' fetal wastage (the latter two statistically significant) were more prevalent among past or present vinyl chloride exposed workers than among controls. There was no excess of respiratory system problems, acroosteolysis, Raynaud's phenomenon, and chromosome aberrations as compared with industrial worker controls.

Descriptors: *Occupational diseases, *Industrial medicine, *Vinyl chloride, *Chemical industry, *Rubber industry, Polyvinyl chloride, Epidemiology, Liver diseases, Nervous system disorders, Hypertension, Pregnancy complications, Abortion, Toxicity, Chlorohydrocarbons

Identifiers: Health surveys, Occupational safety and health, Environmental health, NTISHEWOSH

PB-274 193/2ST NTIS Prices: PC A03/MF A01

R&S 006075

Health Hazard Evaluation/Toxicity Determination Report 76-65-348, Sheller-Globe Corporation, Union City, Indiana. Hardy Division

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (39C 766)
AUTHOR: Salisbury, Stanley A.
EC252E4 Fld: 6J, 6T, 57U, 57Y, 94D, 68G, 68A GRAI7803
Dec 76 9p
Rept No: NIOSH-TR-HHE-76-65-348
Monitor: 18

Abstract: A health hazard evaluation determination performed by NIOSH on July 12 and 13, 1976, at the Hardy Division of the Sheller Globe Corporation in Union City, Indiana revealed that employees working with or near the polyvinyl chloride injection molding process are not exposed to detectable levels of vinyl chloride vapors. The determination was based on direct measurements and collected air samples taken during both normal and purging operations of an injecting molding machine. Hydrogen chloride, a thermal decomposition product of polyvinyl chloride, was also not detected during the injection molding operation.

Descriptors: *Thermoplastic resins, *Hazardous materials, *Industrial medicine, *Environmental surveys, *Vinyl chloride, *Hydrogen chloride, *Polyvinyl chloride, *Plastics industry, Toxicity, Industrial hygiene, Toxicology, Evaluation, Inspection, Air pollution, Recommendations, Criteria, Vapors, Molding techniques, Interviews, Chlorohydrocarbons, Vinyl resins

Identifiers: *Environmental health, Air sampling, Toxic substances, Occupational safety and health, *Air pollution effects(Humans), Sheller-Globe Corporation, Union City(Indiana), NTISHEWOSH

PB-273 925/8ST NTIS Prices: PC A02/MF A01

R&S 006076

Thermal Stability and Toxicity of Polymers: Polyphosphazenes

Pittsburgh Univ Pa Dept of Metallurgical and Materials Engineering (402241)

Master's thesis
AUTHOR: Sebata, K.; Magill, J. H.; Alarie, Y.
EC225E4 Fld: 11I, 6T, 710, 57Y GRAI7803
4 Nov 77 46p
Rept No: SETEC-MME-77-109, TR-1
Contract: N0CC14-77-C-C31C
Monitor: 18

Abstract: The toxicity of thermal decomposition products (in air) of polyaryloxyphosphazene and polyfluoroalkoxyphosphazene was evaluated in terms of their sensory irritation stress index (S.I.S.I.) using mice to ascertain certain adverse physiological effects. The results are compared with some other polymeric materials (of commercial interest) that have already been investigated elsewhere. A comparison of all these data shows that the hazard rating for the thermal decomposition products of PTFE, PVC-A (PVC resin; 45.5%, phthalate plasticiser; 32%, filler (CACO3); 20.5%, PVC-C (PVC resin: 92%, filler: 2%), polyfluoroalkoxyphosphazene, polaryloxyphosphazene based on the S.I.S.I. was found to be PTPE greater than PVC(A), PVC-C, greater than polyfluoralkoxyphosphazene greater than polyaryloxyphosphazene. Thermogravimetric and differential thermogravimetric analysis were made on these two polyphosphazene resins in a nitrogen atmosphere at different heating rates. The polyfluoroalkoxyphosphazene decomposed with a single activation energy of 39.8 kcal/mole leaving no residue, whereas the polyalkoxyphosphazene exhibited two processes with activation energies of 37.7 kcal/mole and 23.7 kcal/mole respectively. The latter also left a substantial residue which can be associated with its improved behavior over the fluoro-material. (Author)

Descriptors: *Plastics, *Thermal degradation, *Toxic hazards, Phosphazene, Senses(Physiology), Irritation, Mice, Polymers, Decomposition, Thermal stability, Flammability, Polyvinyl chloride, Phthalates, Plasticizers, Fillers, Thermogravimetric analysis, Nitrogen

Identifiers: *Poly(aryloxyphosphazene), *Poly(fluoroalkoxyphosphazene), NTISDODXA

AD-A046 778/7ST NTIS Prices: PC A03/MF A01

R&S 006077

ealth Hazard Evaluation/Toxicity Determination Report 76-28-332, elch Plastics and Manufacturing Company, Columbus, Ohio

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)
AUTHOR: Geissert, J. O.; Herbert, J.
D3161A4 Fld: 6J, 6T, 57U, 57Y, 94D, 68G GRAI7720
Sep 76 25p
Rept No: NIOSH-TR-75-28-332
Monitor: 18

Abstract: Exposures of employees to chemical agents at a molding operation of the Welch Plastics and Manufacturing Company in Columbus, Ohio, were not found to be toxic under the conditions observed by the National Institute for Occupational Safety and Health (NIOSH) hazard evaluation personnel. Worker exposures to benzene, bis-chloromethyl ether, 2,6-ditert-butyl-p-cresol, carbon monoxide, formaldehyde, hydrogen chloride, hydrogen cyanide, particulates, phthalates, styrene and vinyl chloride were determined by personal and area air sampling. The workers experienced upper respiratory and eye irritation associated with the use of a reground polyvinyl chloride and acrylonitrile-butadiene-polystyrene material. The use of this material has been discontinued.

Descriptors: *Hazardous materials, *Industrial medicine, Particles, Hydrogen cyanide, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Exposure, Respiratory system, Eye(Anatomy), Respiratory infections, Personnel, Benzene, Cresols, Carbon monoxide, Formaldehyde, Hydrogen chloride, Phthalates, Styrene, Vinyl chloride

Identifiers: Plastics industry, *Occupational Safety and Health Act of 1970, *Toxic substances, Columbus(Ohio), Air sampling, Threshold limit values, Maximum permissible exposure level, Ether/chloromethyl, NTISFEWOSE

PB-269 111/1ST NTIS Prices: PC A02/MF A01

R&S 0N5070

R&S 006079

Toxicity of Plastic Combustion Products. Toxicological Methodologies to Assess the Relative Hazards of Thermal Decomposition Products from Polymeric Materials

Pittsburgh Univ., Pa. Graduate School of Public Health.*National Bureau of Standards, Washington, D.C. (284 150)

Special rept.
AUTHOR: Alarie, Y.; Barrow, S. C.
D2794I4 Fld: 61, 57Y, 68G GRAI7716
Feb 77 313p
Grant: NBS-5-9005
Monitor: NBS-GCR-77-85

Abstract: Sensory and pulmonary irritation effects of thermal degradation products from natural and synthetic materials were studied using mice. Mice were used to develop a sensory irritation stress index based on changes in respiratory rate. In addition, acute lethality was obtained. Dose-response curves were generated for decomposition products from Douglas Fir, PVC, flexible polyurethane, teflon, and fiberglas reinforced polyester. Similar data were obtained for CO, CO2, low O2, acrolein, HCl and Cl2. Preliminary studies on the pulmonary effects of combustion products using rabbits are also reported.

Descriptors: *Plastics, *Toxicity, *Hazardous materials, *Combustion products, Inhalation, Chlorine, Hydrogen chloride, Toxicology, Methodology, Mice, Laboratory animals, Experimental data, Pyrolysis, Exposure, Tables(Data), Polymers, Lethal dosage, Bioassay, Rabbits, Polyvinyl chloride, Polyurethane resins, Tetrafluoroethylene resins, Fiberglass reinforced plastics, Polyester resins, Carbon monoxide, Carbon dioxide, Oxygen, Acroleins, Douglas fir wood

Identifiers: Toxic substances, Animal models, NTISCOMNBS

PB-267 233/5ST NTIS Prices: PC A14/MF A01

Registry of Toxic Effects of Chemical Substances. 1976 Edition

Tracer Jitco, Inc., Rockville, Md.*National Inst. for Occupational Safety and Health, Rockville, Md. (408 825)

Annual rept.
AUTHOR: Christensen, Herbert E.; Fairchild, Edward J.; Carroll, Geniona S.; Lewis, Richard J. Sr
D2654A3 Fld: 6T, 6J, 57Y*, 57U, 68G*, 44G, 94D* GRA I7715
Jun 76 1358p*
Contract: DHEW-210-75-0034
Monitor: NIOSH-76/191
Supersedes PB-246 557.

Abstract: The 1976 edition of the Registry of Toxic Effects of Chemical Substances, formerly referred to as the Toxic Substances List, is prepared annually by the National Institute for Occupational Safety and Health (NIOSH) in compliance with the Occupational Safety and Health Act of 1970. The 1976 REGISTRY contains some 82,908 listings of chemical substances; 5,228 more than the 1975 edition. Its purpose is to provide basic information on the known toxic and biological effects of chemical substances for use of employers, employees, physicians, industrial hygienists, toxicologists, researchers, and in general, all concerned with safe handling of chemicals. The absence of a substance from the REGISTRY does not indicate that it is not toxic. Drugs or therapeutic chemicals in the REGISTRY have been included if they have been reported to produce a noxious effect.

Descriptors: *Toxicology, *Chemical compounds, *Hazardous materials, Indexes(Documentation), Public health, Dosage, Toxicity, Industrial hygiene, Standards, Chemical properties, Exposure, Asbestos, Pesticides, Carcinogens, Vinyl chloride, Aquatic biology, Regulations

Identifiers: *Toxic substances, *Occupational safety and health, Maximum permissible exposure level, Occupational Safety and Health Act of 1970, NTISHEWCSH

PB-266 295/5ST NTIS Prices: PC A99/MF A01

Health Hazard Evaluation/Toxicity Determination Report Number 75-168-309, Water Well Drilling Companies, Western Tennessee

R&S 006081

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)
AUTHOR: Gilles, D.; Hatch, L.
D2C82K2 Fld: 6J, 6T, 57U, 57Y, 94D, 68G, 44G GRAI7711
Jul 76 10p
Rept No: NIOSH-TR-75-168-309
Monitor: 18

Abstract: On the basis of medical and environmental data collected at the Water Well Drillers in Western Tennessee, the use of polyvinyl chloride (PVC) cement is not found to constitute a health hazard under existing conditions of use. Environmental samples show only low levels of tetrahydrofuran and no detectable levels of cyclohexanone. Responses to medical questionnaires indicate no symptoms associated with exposure to the chemicals.

Descriptors: *Polyvinyl chloride, *Hazardous materials, *Industrial medicine, Wells, Drilling, Cements, Industrial atmospheres, Industrial hygiene, Environmental surveys, Sampling, Chlorohydrocarbons, Cyclohexanones, Toxicology

Identifiers: *Toxic substances, Occupational Safety and Health Act of 1970, NTISHEWCSH

PB-263 859/1ST NTIS Prices: PC A02/MF A01

Research Program on Hazard Priority Ranking of Manufactured Chemicals (Chemicals 21-40)

Stanford Research Inst., Menlo Park, Calif.*National Science Foundation, Washington, D.C. Research Applied to National Needs. (332 500)

Final rept. on Phase 2
AUTHOR: Brown, S. L.; Chan, F. Y.; Jones, J. L.; Liu, D. K.; McCaleb, K. E.
D165512 Fld: 7A, 6T, 68H*, 6E, 99B*, 57Y* GRAI7708
Apr 75 195p*
Project: SRI-ECU-3386
Monitor: NSF/PA/E-190B
See also PB-263 161 and PB-263 163.

Abstract: In Phase II of this two-phase effort, 80 chemicals having the greatest potential for environmental effects were studied. Information was collected on the extent of the exposure of the environment to these chemicals (during manufacture and use) and on the possible environmental effects of this exposure (chemical, physical, and biological properties, persistence, and toxicity). The chemicals studied in this volume are as follows: Benzene (chemical uses), Silicone fluids, Nitrobenzene, Toluenediisocyanate (TDI), Xylenes - mixed total, Aniline, Dimethyl terephthalate, Trichlorofluoromethane, p-Dichlorobenzene, Dithiobis (benzothiazole), o-Dichlorobenzene, Tetrabromoethane, Methylene (bis)-2-chloroaniline, Polyhalogenated biphenyls (Aroclor 1254), Tricresyl phosphate, Fluorescent brightening agents (no. 28), Polyvinyl chloride, Methylene chloride, Dichloropropene, Dichloropropane mixture, and Ethyl chloride. (Portions of this document are not fully legible.)

Descriptors: *Hazardous materials, *Chemical industry, *Environmental impacts, *Organic compounds, Manufacturing, Utilization, Chemical properties, Physical properties, Toxicology, Bioassay, Public health, Tables(Data), Releasing, Air pollution, Water pollution, Chemical analysis, Soil analysis, Benzene, Silicones, Nitrobenzenes, Xylenes, Aniline, Biphenyl, Polyvinyl chloride, Chloroethanes, Fluorescence, Optical brighteners, Industrial wastes, Halogen organic compounds

Identifiers: Methane/trichloro-fluoro, Benzene/dichloro, Ethane/tetra-bromo, Aroclor 1254, Propane/dichloro, Methylene/chloro, Isocyanic acid/(Methylphenylene-ester), Terephthalic acid/(Dimethyl-ester), Benzothiazole thiols, Aniline/N-N-bis(Chloromethyl), Phosphate/tricre-syl, NTISNSFPA, NTISSRI

PB-263 162/0ST NTIS Prices: PC A09/MF A01

R&S 006082

Research Program on Hazard Priority Ranking of Manufactured Chemicals (Chemicals 1-20)

Stanford Research Inst., Menlo Park, Calif.*National Science Foundation, Washington, D.C. Research Applied to National Needs. (332 500)

R&S 006083

Final rept. on Phase 2
AUTHOR: Brown, S. L.; Chan, F. Y.; Jones, J. L.; Liu, D. F.; McCaleb, K. E.
D1655I1 Fld: 7A, 6T, 68H*, 68, 99B*, 57Y* GRAI7708
Apr 75 196p*
Project: SRI-ECU-3386
Monitor: NSF/RA/E-75/190A
See also PB-263 162.

Abstract: In Phase II of this two-phase effort, 80 chemicals having the greatest potential for environmental effects were studied. Information was collected on the extent of the exposure of the environment to these chemicals (during manufacture and use) and on the possible environmental effects of this exposure (chemical, physical, and biological properties, persistence, and toxicity). A questionnaire survey of industry was conducted to determine the amount and types of losses in the manufacturing plants. Information from this survey is tabulated. The following summary reports are submitted for each of the 80 chemicals: (1) A flow diagram showing industrial data on the amounts used for various applications; (2) A one-page assessment of the data gathered on toxicology and environmental persistence; (3) A computer printout of a tubular summary of the important data gathered; and (4) Copies of the 25 most pertinent abstracts found in the area of toxicology. The report is divided into five volumes; included in this volume are chemicals 1-20. (Portions of this document are not fully legible.)

Descriptors: *Hazardous materials, *Chemical industry, *Environmental impacts, *Organic compounds, Manufacturing, Utilization, Chemical properties, Physical properties, Toxicology, Bioassay, Public health, Air pollution, Tables(Data), Releasing, Vinyl chloride, Cresols, Ethyl benzene, Vinylidene chloride, Toluene, Carbon tetrachloride, Water pollution, Soil analysis, Chemical analysis, Dichlorodifluoromethane, Tetraethyl lead, Chlorine aliphatic compounds, Industrial wastes, Phenols, Halogen compounds

Identifiers: Nonanals, Benzopyrenes, Benzene/hexachloro, Ethylene/trichloro, Ethane/trichloro, Ethylene/chloro, Phosphorium chloride/tetrakis(Hydroxymethyl), Butadiene/hexachloro, Ethylene/dibromo, Ethylene/dichloro, Phosphate/tris(Dibromopropyl), NTISNSFRA, NTISSRI

PB-263 161/2ST NTIS Prices: PC A09/MF A01

Research Program on Hazard Priority Ranking of Manufactured Chemicals (Chemicals 21-40)

Stanford Research Inst., Menlo Park, Calif.*National Science Foundation, Washington, D.C. Research Applied to National Needs. (332 500)

Final rept. on Phase 2
Brown, S. L., Chan, F. Y., Jones, J. L., Liu, D. H., McCaleb, K. E.
D1655I2 Fld: 7A, 6T, 68H*, 68, 99B*, 57Y* GRAI7708
Apr 75 195p*
Project: SRI-ECU-3386
Monitor: NSF/RA/E-190B
See also PB-263 161 and PB-263 163.

Abstract: In Phase II of this two-phase effort, 80 chemicals having the greatest potential for environmental effects were studied. Information was collected on the extent of the exposure of the environment to these chemicals (during manufacture and use) and on the possible environmental effects of this exposure (chemical, physical, and biological properties, persistence, and toxicity). The chemicals studied in this volume are as follows: Benzene (chemical uses), Silicone fluids, Nitrobenzene, Toluenediisocyanate (TDI), Xylenes - mixed total, Aniline, Dimethyl terephthalate, Trichlorofluoromethane, p-Dichlorobenzene, Dithiobis (benzothiazole), o-Dichlorobenzene, Tetrabromoethane, Methylene (bis)-2-chloroaniline, Polyhalogenated biphenyls (Aroclor 1254), Tricresyl phosphate, Fluorescent brightening agents (no. 28), Polyvinyl chloride, Methylene chloride, Dichloropropene, Dichloropropane mixture, and Ethyl chloride. (Portions of this document are not fully legible.)

Descriptors: *Hazardous materials, *Chemical industry, *Environmental impacts, *Organic compounds, Manufacturing, Utilization, Chemical properties, Physical properties, Toxicology, Bioassay, Public health, Tables(Data), Releasing, Air pollution, Water pollution, Chemical analysis, Soil analysis, Benzene, Silicones, Nitrobenzenes, Xylenes, Aniline, Biphenyl, Polyvinyl chloride, Chloroethanes, Fluorescence, Optical brighteners, Industrial wastes, Halogen organic compounds

Identifiers: Methane/trichloro-fluoro, Benzene/dichloro, Ethane/tetra-bromo, Aroclor 1254, Propane/dichloro, Methylene/chloro, Isocyanic acid/(Methylphenylene-ester), Terephthalic acid/(Dimethyl-ester), Benzothiazole thiols, Aniline/N-N-bis(Chloromethyl), Phosphate/tricre-syl, NTISNSFRA, NTISSRI

PB-263 162/0ST NTIS Prices: PC A09/MF A01

R&S 006084

Research Program on Hazard Priority Ranking of Manufactured Chemicals (Chemicals 1-20)

Stanford Research Inst., Menlo Park, Calif.*National Science Foundation, Washington, D.C. Research Applied to National Needs. (332 500)

Final rept. on Phase 2
Brown, S. L., Chan, F. Y., Jones, J. L., Liu, D. H., McCaleb, K. E.
D1655I1 Fld: 7A, 6T, 68H*, 68, 99B*, 57Y* GRAI7708
Apr 75 196p*
Project: SRI-ECU-3386
Monitor: NSF/RA/E-75/190A
See also PB-263 162.

Abstract: In Phase II of this two-phase effort, 80 chemicals having the greatest potential for environmental effects were studied. Information was collected on the extent of the exposure of the environment to these chemicals (during manufacture and use) and on the possible environmental effects of this exposure (chemical, physical, and biological properties, persistence, and toxicity). A questionnaire survey of industry was conducted to determine the amount and types of losses in the manufacturing plants. Information from this survey is tabulated. The following summary reports are submitted for each of the 80 chemicals: (1) A flow diagram showing industrial data on the amounts used for various applications; (2) A one-page assessment of the data gathered on toxicology and environmental persistence; (3) A computer printout of a tubular summary of the important data gathered; and (4) Copies of the 25 most pertinent abstracts found in the area of toxicology. The report is divided into five volumes; included in this volume are chemicals 1-20. (Portions of this document are not fully legible.)

Descriptors: *Hazardous materials, *Chemical industry, *Environmental impacts, *Organic compounds, Manufacturing, Utilization, Chemical properties, Physical properties, Toxicology, Bioassay, Public health, Air pollution, Tables(Data), Releasing, Vinyl chloride, Cresols, Ethyl benzene, Vinylidene chloride, Toluene, Carbon tetrachloride, Water pollution, Soil analysis, Chemical analysis, Dichlorodifluoromethane, Tetraethyl lead, Chlorine aliphatic compounds, Industrial wastes, Phenols, Halogen compounds

Identifiers: Nonanals, Benzopyrenes, Benzene/hexachloro, Ethylene/trichloro, Ethane/trichloro, Ethylene/chloro, Phosphonium chloride/tetrakis(Hydroxymethyl), Butadiene/hexachloro, Ethylene/dibromo, Ethylene/dichloro, Phosphate/tris(Dibromopropyl), NTISNSFRA, NTISSRI

PB-263 161/2ST NTIS Prices: PC A09/MF A01

R&S 006085

R&S 006086

Toxicology of Plastics Having Contact with Blood. Report of Program Progress

Travenol Labs., Inc., Morton Grove, Ill.*National Heart, Lung, and Blood Inst., Bethesda, Md.

Annual rept.
Josephson, A. M.
D1503C4 Fld: 6T, 6L, 57Y, 95C GRAI7707
May 75 22p
Contract: N01-HB-2-2990, PHS-72-2990
Monitor: NIH-N01-HB-2-2990

Abstract: Di-2-ethylhexyl phthalate (DEHP) was extracted from polyvinyl chloride (PVC). This material was diluted in sterile rat plasma and used to inject, IV, groups or rats with a 3.7 mg/kg/injection, which is equivalent to the DEHP dose that a patient would receive from a total exchange transfusion of blood. Growth rates, gross reactions following injections, hematology and serum chemistry parameters, gross organ pathology, absolute and relative organ weights, histopathology, and residual DEHP levels in plasma and tissues were similar for all groups, including plasma control groups. No toxicology significant changes were observed.

Descriptors: *Toxicology, *Plasticizers, *Polyvinyl chloride, Toxicity, Plastics, Medical supplies, Medical equipment, Blood, Bioassay, Rats, Laboratory animals

Identifiers: *Phthalic acid/bis(Ethylhexyl-ester), *Blood compatible materials, Biomaterials, NTISNIHHLI

PB-262 260/3ST NTIS Prices: PC A02/MF A01

Special Listing of Current Cancer Research on Carcinogenic Substances in Food and Drugs (Along with Related Epidemiology)

Smithsonian Science Information Exchange, Inc., Washington, D.C. Current Cancer Research Project Analysis Center.*National Cancer Inst., Bethesda, Md. International Cancer Research Data Bank.
D1492F3 Fld: 6H, 60, 6E, 98H*, 57Q*, 57E, 68G* GRAI7707
24 Nov 76 28p*
Monitor: NCI/ICRDB/SL-76/25
See also PB-261 670.

Abstract: ;Contents: Aflatoxins and other organic naturally occurring carcinogens; Oncogenic food additives, residues, and environmental contaminants; Epidemiology of cancer in relation to diet; Influence of dietary factors on susceptibility to chemical carcinogens in experimental animals; Oncogenic side-effects of drugs.

Descriptors: *Malignant neoplasms, *Carcinogens, *Foods, *Drugs, Etiology, Diet, Food additives, Pollution, Environments, Nitroso compounds, Amines, Vinyl chloride, Esophageal carcinomas, Breast neoplasms, Chemical compounds, Tolerances(Physiology), Epidemiology, Antineoplastic agents, Reserpine

Identifiers: Aflatoxins, Mycotoxins, Biotoxins, Nitrosoamines, *Cancer, Environmental health, NTISNIHNCI

PB-261 671/2ST NTIS Prices: PC A03/MF A01

R&S 006087

Problems of Occupational Hygiene and the State of Health of Workers Employed in Manufacturing Latex Polyvinyl Chloride (Voprosy Gigiery Truda i Sostoyanie Zdorovya Rabochikh, Zanyatykh na Proizvedstve Lateksnoyo Nolivinilkhlorida)

Environmental Protection Agency, Research Triangle Park, N.C. Translation Services Section.
Filatova, V. S., Gronsberg, E. Sh., Smirnova, N. A., Stulova, E. N., Oreshkevich, I. V.
D1345G3 Fld: 6J, 6T d7706
1965 10p
Rept No: EPA-TR-76-366
Monitor: 18
Trans. of Gigiena Truda i Professionalnye Zabolevaniya (USSR) v9 n8 p9-14 1965.

Abstract: Pollution of the air with vinyl chloride and resin dust is possible during the manufacture of latex polyvinyl chloride. Such pollution is caused by disruption of the seal of equipment and by carrying out certain operations manually. During the study of the state of health of the workers, some of them were found to have changes characteristic for the initial forms of chronic vinyl chloride intoxication: slightly pronounced disorders of the vegetative-vascular regulation, symptoms of vegetative polyneuritis and thermoregulatory disorders. An improvement in the conditions of labor of workers employed in manufacturing latex polyvinyl chloride can be attained by means of sealing the equipment, improving technological operations and improving the function of ventilation.

Descriptors: *Polyvinyl chloride, *Industrial hygiene, *Toxicity, *Hazardous materials, Health status, Toxic diseases, Manufacturing, Industrial medicine, Translations, USSR, Toxicology, Industrial atmospheres, Recommendations, Pathology

Identifiers: Occupational safety and health, Toxic substances, *Air pollution effects(Humans), NTISEPAISD

PB-261 764-T/ST NTIS Prices: PC A02/MF A01

R&S 006088

Occupational Vinyl Chloride Intoxication (O Professionalnoi Intoksikatsii Vinilkhloridom)

Environmental Protection Agency, Research Triangle Park, N.C. Translation Services Section.
Antonyuzhenko, V. A.
D1345G2 Fld: 6J, 6T d7706
1968 6p
Rept No: EPA-TR-76-365
Monitor: 18
Trans. of Gigiena Truda i Professionalnye Zabolevaniya (USSR) v12 n3 p50-52 1968.

Abstract: Cases of acute vinyl chloride intoxication in workers are extremely rare and are usually due to massive exposure to the substance during work in closed areas and during accidents. Under the indicated conditions even short-term breathing of vinyl chloride can cause sudden loss of consciousness and a state of narcosis. In those cases when the patient is not immediately removed from the gas-filled room, a coma may develop that is lethal as the result of respiratory arrest. With timely rendering of first aid, patients soon emerge from the comatose condition, but consciousness may remain clouded for a short time. Over the next few days, headache, dizziness, general weakness and an inclination to bradycardia and arterial hypotony are observed. The patient practically recovers in 5-7 days.

Descriptors: *Vinyl chloride, *Industrial hygiene, *Toxicity, *Hazardous materials, *Toxic diseases, Chemical compounds, Translations, Chlorine organic compounds, Industrial medicine, Industrial atmospheres, USSR, Respiration, Gases, Toxicology

Identifiers: Occupational safety and health, *Air pollution effects(Humans), Toxic substances, NTISEPAISD

PB-261 763-T/ST NTIS Prices: PC A02/MF A01

R&S 006089

R&S 006090

Current Awareness Service for Toxic Substances (CATS). Cumulative Report Number 2. Part II

Little (Arthur D.), Inc., Cambridge, Mass.*Environmental Protection Agency, Washington, D.C. Office of Toxic Substances. (208 850)

Annual rept.
D1241B2 Fld: 13B, 6T, 68*, 57Y* GRAI7705
Nov 76 364p*
Rept No: ADL-C-77355-Pt-2
Contract: EPA-68-01-2694
Monitor: EPA/560/7-76/002a
See also report dated Dec 75, PB-250 075 and Part 1, PB-260 360.

Abstract: The scanning topics included in this two part series are the chemicals and subject areas as follows: Acetonitrile, acrylonitrile, arsenic, aryl phosphates (phenyl, cresyl, mixed phenyl-cresyl), asbestos, benzidine, and salts (hydrochloride, sulfate), boron, brominated biphenyls, dichlorobenzidine, dioxane, ethyleneimine, flame retardants, fluorocarbons, haloethers, hexachlorobenzene, hexachlorobutadiene, hydrazine, derivatives, and salts (sym and unsym - dimethyl, monomethyl), isocyanates (organic), liquefaction and gasification of coal, methylenebis (chloroaniline), model ecosystems (environmental fate testing, microecosystems), naphthylamines (alpha, beta, N-phenyl derivatives), nitrilotriacetic acid, optical brighteners (fluorescent whitening agents, fluorescent dyes), perchloroethylene, phthalates (dioctyl, di-2-ethylhexyl), polyurethanes, propiolactone, trichloroethylene, shale oil extraction and refining, vinyl chloride, vinylidene chloride, ethylene dibromide, and nitrosamines.

Descriptors: *Toxicity, *Chemical elements, *Pollution, Vinylidene chloride resins, Acetonitrile, Acrylonitriles, Arsenic, Phosphates, Cresols, Phenols, Asbestos, Nitrosamines, Lactones, Benzidine, Boron, Biphenyl, Dioxanes, Aziridines, Fire resistant materials, Fluorohydrocarbons, Ethers, Halogenorganic compounds, Coal gasification, Hydrazines, Isocyanates, Ecosystems, Amines, Optical brighteners, Phthalates, Polyurethane resins, Naphthalenes, Shale oil, Extraction, Refining, Vinyl chloride

Identifiers: Biphenyl/bromo, Benzidine/dichloro, Coal liquefaction, Benzene/hexachloro, Butadiene/hexachloro, Aniline/N-N-bis(Chloromethyl), Naphthylamines, Acetric acid/nitrilo-tri, Ethylene/chloro, Ethylene/trichloro, Ethylene/dibromo, NTISEPAOTS

PB-260 361/1ST NTIS Prices: PC A16/MF A01

Current Awareness Service for Toxic Substances (CATS). Cumulative Report Number 2. Part I

Little (Arthur D.), Inc., Cambridge, Mass.*Environmental Protection Agency, Washington, D.C. Office of Toxic Substances. (208 85C)

Annual rept.
D1241B1 Fld: 13B, 6T, 68*, 57Y* GRAI7705
Nov 76 407p*
Rept No: ADL-C-77355-Pt-1
Contract: EPA-68-01-2694
Monitor: EPA/560/7-76/002
See also Part 2, PB-260 361.

Abstract: This cumulative report contains 26 current awareness documents prepared biweekly from 25 August 1975 through 9 August 1976 during the second year of a two year project. The purpose of this project was to provide the Office of Toxic Substances (OTS), U.S. Environmental Protection Agency with information on new uses of existing chemical products and with information of obvious potential environmental concern for both new and existing chemical products. For each biweekly document a core list of approximately 80 journals was scanned for information of interest to OTS on more than 30 topics (compounds, classes of compounds, and subject areas, e.g., model ecosystems). Abstracts were prepared for all items selected and these abstracts were presented biweekly under the assigned topics. In addition, a 'General Information' section was added to accommodate abstracts for topics not included in the original list of scanning topics. Biweekly subject indexes were cumulated for this annual compilation, and an author index was added.

Descriptors: *Toxicity, *Pollution, Vinylidene chloride resins, Acetonitrile, Acrylonitriles, Arsenic, Phosphates, Cresols, Phenols, Asbestos, Nitrosamines, Lactones, Benzidine, Boron, Biphenyl, Dioxanes, Aziridines, Fire resistant materials, Fluorohydrocarbons, Ethers, Halogenorganic compounds, Coal gasification, Hydrazines, Isocyanates, Ecosystems, Amines, Optical brighteners, Phthalates, Polyurethane resins, Naphthalenes, Shale oil, Extraction, Refining, Vinyl chloride

Identifiers: Biphenyl/bromo, Benzidine/dichloro, Coal liquefaction, Benzene/hexachloro, Butadiene/hexachloro, Aniline/N-N-bis(Chloromethyl), Naphthylamines, Acetric acid/nitrilo-tri, Ethylene/chloro, Ethylene/trichloro, Ethylene/dibromo, NTISEPAOTS

PB-260 360/3ST NTIS Prices: PC A18/MF A01

R&S 006091

R&S 006092

The So-Called Vinyl Chloride Disease (Ueber die Sogenannte Vinylchlorid-Krankheit)

Environmental Protection Agency, Research Triangle Park, N.C. Translation Services Section.
Juehe, S., Lange, C. -E., Stein, G., Veltman, G.
D0345B1 Fld: 6J, 6T, 57U, 57Y, 68G GRAI7702
1975 15p
Rept No: EPA-TR-75-6
Monitor: 18
Trans. of Deutsche Medizinische Wochenschrift (West Germany) v98 p2034-2037 n.d.

Abstract: Since the first reports on impairments of health of workers in the vinyl chloride (VC) industry appeared in 1958, and of workers in the polyvinyl chloride (PVC) industry in 1963, attention has been repeatedly directed at this branch of the chemical industry by further reports. A syndrome was observed which was similar in its skin and bone changes to scleroderma, while its etiology and pathogenesis remained unresolved. Its principal symptom was the Raynaud syndrome -- nodose or surface hard skin changes and band-shaped osteolyses of the finger end-phalanges. The first observations of this disease pattern was reported in Germany in 1972. The authors have recently made an exhaustive report on the results obtained through the end of 1972, which reveal new aspects in the assessment of the disease. The most important features are summarized.

Descriptors: *Occupational diseases, *Vinyl chloride, *Industrial medicine, *Integumentary diseases, *Toxicology, Dermatology, Chemical industry, Skin diseases, Signs and symptoms, Gases, Pathology, Pathophysiology, Histology, West Germany, Translations

Identifiers: Air pollution effects(Humans), Environmental health, Occupational safety and health, NTISEPAISD

PB-258 838-T/ST NTIS Prices: PC A02/MF A01

Standard Support and Environmental Impact Statement. Volume 2. Promulgated Emission Standard for Vinyl Chloride

Environmental Protection Agency, Research Triangle Park, N.C. Office of Air Quality Planning and Standards.
D0344L3 Fld: 13B, 6J, 6F, 7A, 68H, 68, 68A, 57U, 57H GRAI7702
Sep 76 135p
Rept No: EPA/450/2-75/009b
Monitor: 18
See also PB-249 703.

Abstract: A national emission standard for vinyl chloride emitted from ethylene dichloride-vinyl chloride and polyvinyl chloride plants is being promulgated under the authority of section 112 of the Clean Air Act. Vinyl chloride has been implicated as the causal agent of angiosarcoma and other serious disorders, both carcinogenic and noncarcinogenic, in people with occupational exposure and in animals with experimental exposure to vinyl chloride. Reasonable extrapolations from these findings cause concern that vinyl chloride may cause or contribute to the same or similar disorders at present ambient air levels. The purpose of the standard is to minimize vinyl chloride emissions from all known process and fugitive emission sources in ethylene dichloride-vinyl chloride and polyvinyl chloride plants to the level attainable with best available control technology. This would have the effect of furthering the protection of public health by minimizing the health risks to the people living in the vicinity of these plants and to any additional people who are exposed as a result of new construction. This is estimated to have the effect of reducing emissions from a typical ethylene dichloride-vinyl chloride plant by approximately 94 percent and from a typical polyvinyl chloride plant by approximately 95 percent. This document contains a summary of the public comments on the proposed standard and EPA's responses to the comments. It also contains updated information concerning the environmental and inflationary impacts of the standard.

Descriptors: *Air pollution control, *Environmental impact statements, *Vinyl chloride, *Hazardous materials, Chemical plants, Cost analysis, Economics, Public health, Industrial wastes, Combustion products, Law enforcement, Standards, Industrial hygiene, Particles, Waste water, Water pollution, Pesticides, Aerosols, Testing, Toxicity

Identifiers: Fugitive emissions, Air quality, NTISEPAAWM

PB-258 827/5ST NTIS Prices: PC A07/MF A01

R&S 006093

R&S 006094

Evaluation of Vinyl Chloride Emissions in the Long Beach Area, California

National Field Investigations Center, Denver, Colo.
C7694A3 Fld: 13B, 68A, 68D GRAI7625
May 74 47p
Rept No: EPA/330/2-74/002
Monitor: 18

Abstract: A survey of vinyl chloride emissions from the American Chemical Corporation and B.F. Goodrich Chemical Company showed that vinyl chloride monomer was leaving the plants via water, sludge, and air as well as in the final product, polyvinyl chloride. It is estimated that about 2.3 kg (5 lb)/day of PVC leave the B.F. Goodrich plant, and 10 kg (22 lb)/day leave the American Chemical plant in the wastewater effluents. Smaller quantities were found in the sludge. The report presents a plant evaluation and a sampling program.

Descriptors: *Pollution, *Vinyl chloride, *Polyvinyl chloride, Surveys, Water pollution, Sludge, Air pollution, Infrared spectrometers, Evaluation, Industrial plants, Toxicity, Environmental impacts, Safety, Public health, Assessments, Sampling, California

Identifiers: Long Beach(California), NTISEPAO

PB-257 642/9ST NTIS Prices: PC$4.00/MF$3.00

Toxicity of the Pyrolysis Products of Spacecraft Materials

Tennessee Univ., Memphis.

Annual Report, 1 Aug. 1974 - 31 Jan. 1976.
Lawrence, W. H.
C6915C3 Fld: 06T, 22B, 57Y, 84A STAR1413
29 Mar 76 79
Rept No: NASA-CR-147563, AR-2
Contract: NAS9-13617
Monitor: 18

Abstract: Data is presented which provides guides to (1) approximate temperature necessary to initiate thermodegradation of the polymeric materials tested, (2) the relative toxicity of thermodegradation products from the various materials, (3) the relative importance of carbon monoxide as the primary cause of death (as contrasted to cyanide or other toxic gases), and (4) whether or not the hazards of the fumes are confined to the time of exposure, or whether post-exposure death is likely. Two different experimental methods were employed. (Author)

Descriptors: *Combustion products, *Pyrolysis, *Spacecraft construction materials, *Toxicology, Carbon monoxide, Carboxyhemoglobin, Nylon (Trademark), Polyimides, Polyvinyl chloride, Rats, Thermogravimetry, Urethanes

Identifiers: NTISNASA

N76-22887/3ST NTIS Prices: PC$5.00/MF$2.25

R&S 006095

Sampling and Analysis of Selected Toxic Substances. Task III. Vinyl Chloride, Secondary Sources

Midwest Research Inst., Kansas City, Mo.*Environmental Protection Agency, Washington, D.C. Office of Toxic Substances. (230 350)

Final rept. 1 Nov-31 Dec 75
Going, John E.
C6824L2 Fld: 06T, 06F, 13B, 57Y, 57H, 68A, 68G, 99A GRAI7616
Apr 76 30p
Contract: EPA-68-01-2646
Monitor: EPA/560/6-76/002
See also report dated Sep 75, PB-246 213.

Abstract: A sampling and analysis program was conducted to determine whether and to what extent vinyl chloride was present in ambient air due to the presence of polyvinyl chloride products. Sampling environments were chosen to represent real life, but nonwork situations where a significant exposure to polyvinyl chloride products might occur. A sampling and analysis protocol was developed with a recovery efficiency of greater than 90% and a detection limit of 10 ppb (v/v). The two general categories of environments sampled were vehicles and commercial products. The interior ambient air was sampled from new and used domestic automobiles, foreign automobiles and domestic mobile homes. No evidence of vinyl chloride was found. The following commercial vinyl products, when sampled in their normal environment, did not produce a measurable quantity of vinyl chloride in the ambient air: vinyl wall covering; vinyl swimming pool liners; and vinyl nursery products. A room being painted with a heavily pigmented red paint was found to contain a very low level of vinyl chloride.

Descriptors: *Toxicology, *Carcinogens, *Vinyl chloride, Air pollution, Automotive industry, Sampling, Exhaust emissions, Combustion products, Public health, Vehicles, Paints, Fabrics, Gas chromatography, Gas analysis, Charcoal, Adsorbents, Sites, Sources

Identifiers: *Air pollution sampling, Cancer, Environmental health, Secondary sources, NTISEPAOTS

PB-252 966/7ST NTIS Prices: PC$4.00/MF$2.25

R&S 006096

Toxicity of Components of Plastic Having Contact with Blood

Travenol Labs., Inc., Morton Grove, Ill.*National Heart and Lung Inst., Bethesda, Md. Div. of Blood Diseases and Resources.

Final technical progress rept. Jun 72-Mar 75
Miripol, J. E., Garvin, P. J., Stern, I. J., Wallin, R. F.
C6573C3 Fld: 06T, 06L, 57Y, 95C, 95A GRAI7613
Sep 75 340p
Contract: N01-HB-22990
Monitor: NIH-N01-HB-22990

Abstract: Method of solubilization, dosage form and route of administration are factors which are critical in the distribution and excretion of di-(2-ethylhexyl) phthalate (DEHP), one of the most widely used components employed in the formulation of flexible polyvinyl chloride (PVC). Changes in the apparent volume of distribution of DEHP observed when aqueous suspensions were used for injection of the plasticizer indicated that differences in the systemic disposition and distribution of DEHP were dependent on the physical state of the dosage form. Valid studies of the biological effects of parenterally administered DEHP must be performed with a dosage form of the plasticizer which is like that encountered in clinical situations. Whole body autoradiographic studies performed on mice infused with serum containing 14C-DEHP showed rapid accumulation of labeled carbon in the kidney and liver with rapid excretion into urine, bile and intestine. Essentially all the labeled compound was excreted within 24 hours. Rats infused twice weekly for 60 days with rat plasma containing DEHP extracted from PVC exhibited no toxicologically significant changes when compared to controls. Tissue residue studies in man revealed no relationship between transfusion history and tissue content of DEHP. Copyright National Technical Information Service 1976.

Descriptors: *Plastics, *Toxicology, *Polyvinyl chloride, Blood, Phthalates, Medical supplies, Plasticizers, Toxicity, Toxic tolerances, Dosage, Bioassay, Rats, Mice, Laboratory animals, Absorption(Biology), Excretion

Identifiers: *Blood compatible materials, *Biomaterials, *Phthalic acid/bis(ethylhexyl-ester), NTISNIHHLI

PB-251 742/3ST NTIS Prices: PCS10.00/MFS2.25

R&S 006097

R&S 006098

Toxicology of Plastic Devices Having Contact with Blood

Utah Univ., Salt Lake City. Dept. of Applied Pharmaceutical Sciences.*National Heart and Lung Inst., Bethesda, Md.

Final rept. 24 Aug 72-23 Aug 75
Petersen, Robert V., Lyman, Donald J., Roll, David B., Swinyard, Eva A.
C6282K3 Fld: 06T, 06L, 57Y, 95A, 95C GRAI7610
23 Aug 75 248p
Contract: PHS-73-2908
Monitor: NIH/NHLI-72-6-F
See also report dated 1 May 75, PB-244 753.

Abstract: The project was primarily concerned with toxicological evaluation of polyvinyl chloride and, more specifically, the commonly used plasticizer, di(2-ethylhexyl) phthalate (DEHP). Evaluations are primarily concerned with long range, subtle toxicity potential, although many basic acute and subacute studies were also conducted. The project is divided into twelve tasks including an organizational phase, plastic composition studies, acute toxicity studies, tissue culture studies, subacute toxicity studies, metabolite identification, teratogenic studies, neurologic studies, larger animal studies, analyses of human blood exposed to plastics during hospital procedures, and possible statistical analysis of human patients following extensive exposure of blood to plastics.

Descriptors: *Polyvinyl chloride, *Plastics, *Plasticizers, *Toxicology, Patients, Tissue culture, Bioassay, Laboratory animals, Pathology, Rats, Heart, Phthalates, Body fluids, Neurology, Mice, Reproduction(Biology), Medical supplies, Mechanical organs, Humans, Blood

Identifiers: *Blood compatible materials, Biomaterials, Phthalic acid/bis(ethylhexyl-ester), Metabolites, NTISNIHHLI

PB-250 102/1ST NTIS Prices: PC$8.00/MF$2.25

Standard Support and Environmental Impact Statement: Emission Standard for Vinyl Chloride

Environmental Protection Agency, Research Triangle Park, N.C. Office of Air Quality Planning and Standards.
C6195K4 Fld: 13B, 06J, 06F, 68A*, 68, 57U, 57H GRAI7609
Oct 75 536p*
Rept No: EPA/450/2-75/009
Monitor: 18

Abstract: A national emission standard for vinyl chloride emitted from ethylene dichloride-vinyl chloride and polyvinyl chloride plants is being proposed under the authority of section 112 of the Clean Air Act. Vinyl chloride has been implicated as the causal agent of angiosarcoma and other serious disorders, both carcinogenic and noncarcinogenic, in people with occupational exposure and in animals with experimental exposure to vinyl chloride. Reasonable extrapolations from these findings cause concern that vinyl chloride may cause or contribute to the same or similar disorders at present ambient air levels. The purpose of the proposed standard is to minimize vinyl chloride emissions from all known process and fugitive emission sources in ethylene dichloride-vinyl chloride and polyvinyl chloride plants to the level attainable with best available control technology. This would have the effect of furthering the protection of public health by minimizing the health risks to the people living in the vicinity of these plants and to any additional people who are exposed as a result of new construction. This is estimated to have the effect of reducing emissions from a typical ethylene dichloride-vinyl chloride plant by approximately 94 percent and from a typical polyvinyl chloride plant by approximately 95 percent. Environmental Impact and Inflation Impact Statements quantifying the impacts of the proposed standard and alternative control levels are included in the document.

Descriptors: *Air pollution control, *Hazardous materials, *Vinyl chloride, *Environmental impact statements, Cost analysis, Public health, Combustion products, Law enforcement, Standards, Polymerization, Industrial hygiene, Particles, Filters, Incinerators, Absorbers(Materials), Waste water, Water pollution, Solid waste treatment, Noise reduction, Thermal pollution, Pesticides, Aerosols, Chemical industry, Combustion products, Emission

Identifiers: Air quality, Fabric filters, Fugitive emissions, NTISEPAORD

PB-249 703/0ST NTIS Prices: PC$13.00/MF$2.25

R&S 006099

R&S 006100

Scientific and Technical Assessment Report on Vinyl Chloride and Polyvinyl Chloride

Environmental Protection Agency, Research Triangle Park, N.C.

Final rept.
C6105G3 Fld: 06T, 06J, 13B, 57Y*, 57U, 68G*, 68A, 68D GRAI7608
Dec 75 125p*
Rept No: EPA/600/6-75/004
Monitor: 18
See also PB-246 820.

Abstract: Vinyl chloride (VC) is a chemical of widespread industrial and commercial use. Occupational experience and experimental evidence strongly indicate that it is a carcinogen. Additionally, there is experimental evidence that indicates that it may be a teratogen and mutagen. An increased incidence of liver angiosarcoma, excessive liver damage, and acroosteolysis has been reported among VC workers, and the frequency and severity of the liver pathology is related to the length of exposure. The principal route of exposure is thought to be air inhalation. Sources of increased importance for the general population include food and water. Tumors at multiple and diverse sites have been observed in all species of experimental animals tested for carcinogenicity by inhalation and ingestion of VC. In addition to the health effects of VC, this document also considers the sources, distribution, and control technology.

Descriptors: *Polyvinyl chloride, *Vinyl chloride, *Toxicology, *Industrial medicine, Air pollution, Public health, Liver, Malignant neoplasms, Carcinogens, Mutagens, Water pollution, Food chains, Humans, Laboratory animals, Experimental data, Chemical compounds, Chemical industry

Identifiers: *Air pollution effects(Humans), *Environmental health, Teratogens, Air pollution control, Water pollution effects(Humans), NTISEPAORD

PB-249 461/5ST NTIS Prices: PC$5.50/MF$2.25

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 74-94-253, Armstrong Cork Company, Jackson, Mississippi

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept. Dec 74-Jul 75
Flesch, Jerome P., Rostand, Robert A.
C6104L3 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Dec 75 16p
Rept No: NIOSH-TR-HHE-74-94-253
Monitor: 18
See also PB-249 432.

Abstract: An environmental-medical evaluation was conducted by NIOSH at a plant manufacturing vinyl asbestos floor tiles. Environmental air samples were obtained, medical records were reviewed, and non-directed medical interviews were administered. It was determined that exposure to airborne chrysotile asbestos was in excess of the proposed OSHA standard and that there was a potential for exposure to trace concentrations of airborne vinyl chloride monomer. Worker exposures to other toxic materials were below levels believed to be potentially toxic. Review of medical records revealed no findings suggestive of lung cancer (noting that malignant manifestations of asbestos exposure may take 10-40 years to develop after the exposure has ceased.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Asbestos, *Silicon dioxide, *Limestone, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Exposure, Barium, Lead(Metal), Chromium, Zinc, Titanium, Carcinogens, Interviews

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, Ethane/trichloro, NTISHEWOSH

PB-249 433/4ST NTIS Prices: PC$3.50/MF$2.25

R&S 006101

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 75-81-252, Artex Manufacturing Company, Inc., Overland Park, Kansas

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept. May-Jun 75
Hervin, Raymond L.
C6104L2 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Dec 75 11p
Rept No: NIOSH-TR-HHE-75-81-252
Monitor: 18
See also PB-249 431.

Abstract: A health hazard evaluation was conducted by NIOSH at a plant involved in the silk screen dyeing of decals onto various textile garments. It was determined that employees in the two main production areas were not exposed to toxic concentrations of vinyl chloride and organic solvents, including 1,1,1-trichloroethane, toluene, xylene, and petroleum naphtha. It was further determined that the clean room operator was exposed to potentially toxic concentrations of organic solvents from cleaning silk screens with an organic solvent containing primarily naphtha.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Toluene, *Xylenes, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Fumes, Organic solvents, Exposure, Chloroform, Naphthas, Textile industry

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, NTISHEWOSH

PB-249 432/6ST NTIS Prices: PC$3.50/MF$2.25

R&S 006102

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 74-24,92,95-246, Uncle Bill's Pick-N-Pay Market, No. 10, Middleburg Heights, Ohio, Madsen's Valu Center, Mankato, Minnesota, and Kroger Company, Logan, West Virginia

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
Vandervort, Robert, Brooks, Stuart M.
C6104J4 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Dec 75 31p
Rept No: NIOSH-TR-HHE-74-24-246, NIOSH-TR-HHE-74-92-246
Monitor: 18
Also available as report no. NIOSH-TR-HHE-74-95-246. See also PB-249 925.

Abstract: At the request of employees from several supermarkets, NIOSH conducted health hazard surveys to evaluate exposures to substances emitted by hot-wire cutting of polyvinyl chloride meat-wrapping films and thermal activation of meat package price labels. Meat department employees were interviewed and given physical examinations and pulmonary function tests. Blood samples were also obtained. Environmental air sampling was also conducted. Based upon these medical and environmental data and upon other information regarding meat wrapping and labeling operations, it was determined that hot wire cutting of PVC meat wrapping films and thermal activation of price labels can release irritant substances into the work environment. No health hazard exists from vinyl chloride monomer however.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Hydrogen chloride, *Polyvinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Exposure, Composite wrapping

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, Phthalic anhydrides, NTISHEWOSH

PB-249 426/8ST NTIS Prices: PC$4.00/MF$2.25

R&S 006103

R&S 006104

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 73-173-244, Borden Chemical Company, Leominister, Massachusetts

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
Polakoff, Phillip Lee
C6104J2 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Dec 75 14p
Rept No: NIOSH-TR-HHE-73-173-244
Monitor: 18

Abstract: NIOSH investigated an alleged health hazard from trypsin, a proteolytic enzyme, and Nekal B-78, a surfactant, in a plant manufacturing polyvinyl chloride resins. Employees were administered non-directed medical questionnaires, skin tests and pulmonary function tests. It was determined that a number of employees had developed allergic sensitization to trypsin, resulting in respiratory impairment. Some employees who have not been sensitized have still developed mild upper respiratory tract irritation. It was also determined that several employees who handled the surfactant Nekal B-78 had periodically experienced upper airway irritation, gagging, and shortness of breath. This problem was judged to be the result of poor work practices and no serious health consequences from this exposure were observed or anticipated.

Descriptors: *Hazardous materials, *Industrial medicine, *Polyvinyl chloride, *Trypsin, *Surfactants, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Exposure, Respiratory system, Chemical industry, Allergic diseases

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, NTISHEWOSH

PB-249 424/3ST NTIS Prices: PC$3.50/MF$2.25

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 75-90-236, Russell Corporation Alexander City, Alabama

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
Geissert, Jack O.
C6104H2 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Nov 75 12p
Rept No: NIOSH-TR-HHE-75-90-236
Monitor: 18
See also PB-249 415.

Abstract: Air sampling for vinyl chloride and medical interviews were conducted by NIOSH to determine if a health hazard existed from the use of polyvinyl chloride-based inks in the screen-printing of garments. The potential health hazard of mineral spirits used in cleaning the screens was also evaluated based upon environmental data and information collected during confidential employee interviews. No health hazard was found to exist from vinyl chloride, however, mineral spirits was found to cause skin problems following worker contact.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Polyvinyl chloride, *Inks, *Printing inks, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Textile industry, Interviews, Solvents, Skin diseases

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, *Mineral spirits, NTISHEWOSH

PB-249 416/9ST NTIS Prices: PC$3.50/MF$2.25

R&S 006105

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 74-61-232, Gates Rubber Company, Denver, Colorado

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept. Jun 74-May 75
Gunter, Bobby J., Lucas, James B.
C6104G2 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Nov 75 16p
Rept No: NIOSH-TR-HHE-74-61-232
Monitor: 18
See also PB-249 413.

Abstract: A plant manufacturing extruded hose, principally from the extrusion of polyvinyl chloride, was investigated by NIOSH to evaluate employee exposures to cyclohexanone, TDI, trichloroethylene, Estane thermoplastic polyurethane, methylene chloride, Nigrosine, Di-2-ethyl hexyl phthalate (DOP oil), dust, and vinyl chloride. It was determined that a potential health hazard may exist from exposure to cyclohexanone, and that several cases of primary irritant dermatitis had occurred following repeated exposure to solvents. Although only one of 38 vinyl chloride samples was found to exceed the Federal Standard action level, it was recommended that airborne concentrations be reduced to levels not detected by the recommended analytical techniques.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride resins, *Cyclohexanones, *Solvents, Organic solvents, Polyvinyl chloride, Isocyanates, Polyurethane resins, Plastics, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Chloromethanes, Hoses, Manufacturing, Dermatitis, Carcinogens

Identifiers: *Occupational Safety and Health Act of 1970, *Chemical hazards, Air sampling, NTISHEWOSH

PB-249 412/8ST NTIS Prices: PC$3.50/MF$2.25

R&S 006106

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 75-120-220, Storm Products Company, Palo Alto, California

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
Okawa, Melvin T.
C6104D2 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Sep 75 5p
Rept No: NIOSH-TR-HHE-75-120-220
Monitor: 18
See also PB-249 401.

Abstract: NIOSH conducted a health hazard survey at a plant producing finished cables. A small extruder is used to coat wire with PVC plastic or other coating materials. Environmental air samples were collected for vinyl chloride analysis and no detectable amounts were found on any of the samples. It was concluded that a potential health hazard from vinyl chloride gas does not exist under conditions found during this evaluation.

Descriptors: *Hazardous materials, *Industrial medicine, *Polyvinyl chloride, *Vinyl chloride resins, Plastic coatings, Gases, Carcinogens, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-249 400/3ST NTIS Prices: PC$3.50/MF$2.25

R&S 006107

R&S 006108

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 75-94-219, Proto Production Plastics, Inc., Boulder, Colorado

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
Ruhe, Raymond L.
C6104D1 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Sep 75 6p
Rept No: NIOSH-TR-HHE-75-94-219
Monitor: 18
See also PB-249 400.

Abstract: A plant manufacturing polyvinyl chloride telephone switchbox covers by means of an injection molding process was investigated by NIOSH to evaluate exposure of employees to vinyl chloride. Air samples were obtained for vinyl chloride analysis and there were no detectable amounts of vinyl chloride found. Non-directed medical questionnaires were also administered and on the basis of medical and environmental data, it was determined that a health hazard did not exist at the time of this evaluation.

Descriptors: *Hazardous materials, *Industrial medicine, *Polyvinyl chloride, Vinyl chloride resins, Plastics industry, Carcinogens, Gases, Exposure, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-249 399/7ST NTIS Prices: PC$3.50/MF$2.25

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 74-118-218, General Tire and Rubber Company, Marion, Indiana

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept. Dec 74-Jan 75
Roper, C. Paul, Cormer, John W. Jr
C6104C4 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Aug 75 20p
Rept No: NIOSH-TR-HHE-74-118-218
Monitor: 18
See also PB-249 399.

Abstract: A plant which manufactured molded urethane cushions for automobile seats and bulk urethane foam for a variety of commercial purposes was investigated by NIOSH to evaluate employee exposure to toluene 2,4-diisocyanate, polyvinly chloride resins, and mold release wax. Environmental measurements were performed, medical interviews and pulmonary function tests were administered, and work practices were observed. It was determined that airborne concentrations of toluene 2,4-diisocyanate are potentially toxic to employees at the foam line in the Slab Department but not in the Molded Foam Department. Particles of mold release wax were found to cause temporary irritant symptoms in some workers. Exposure to polyvinyl chloride resins was not believed to pose any health hazard under conditions observed during this evaluation.

Descriptors: *Hazardous materials, *Industrial medicine, *Polyvinyl chloride, *Mold release agents, Plastics industry, Isocyanates, Urethanes, Waxes, Exposure, Molding materials, Gases, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Carcinogens, Vinyl chloride resins

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, *Isocyanic acid/(methylphenylene-ester)di, Air sampling, NTISHEWOSH

PB-249 398/9ST NTIS Prices: PC$3.50/MF$2.25

R&S 006109

R&S 006110

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 74-59-217, Goodyear Tire and Rubber Company, St. Marys, Ohio

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept. Jul 74-Mar 75
Vandervort, Robert
C6104C3 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Aug 75 6p
Rept No: NIOSH-TR-HHE-74-59-217
Monitor: 18
See also PB-249 398.

Abstract: NIOSH evaluated employee exposures to vinyl chloride monomer in the mixing and film casting processes during the manufacture of clear plastic films by the solvent casting method. Air samples were obtained and no detectable levels of vinyl chloride were found. It was determined that a health hazard did not exist at the time of this evaluation.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Polyvinyl chloride, Plastics industry, Carcinogens, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-249 397/1ST NTIS Prices: PC$3.50/MF$2.25

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 74-125-215, Monaghan Company, Denver, Colorado

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept. Dec 74-May 75
Gunter, Bobby J., Butler, George, Lucas, James B.
C6104C1 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Jul 75 8p
Rept No: NIOSH-TR-HHE-74-125-215
Monitor: 18
See also PB-249 396.

Abstract: A health hazard survey was conducted by NIOSH to evaluate worker exposure to vinyl chloride in a plant utilizing powdered, pelletized, and film PVC. Based on the results of environmental measurements, employee interviews, limited physical examinations, observation of work practices, and a review of literature pertaining to the toxicity of vinyl chloride, it was determined that a health hazard did not exist at the time of this investigation.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride resins, *Polyvinyl chloride, Plastics industry, Carcinogens, Gases, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-249 395/5ST NTIS Prices: PC$3.50/MF$2.25

R&S 006111

Health Hazard Evaluation/Toxicity Determination Report, H.H.E. 75-20-209, Richdel Corporation, Carson City, Nevada

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept. Mar-Apr 75
Okawa, Melvin T.
C6104A3 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
Jul 75 8p
Rept No: NIOSH-TR-HHE-75-20-209
Monitor: 18
See also PB-249 390.

Abstract: A regrinding operation in a plant manufacturing molded plastic valves was studied by NIOSH. Based upon environmental air sampling measurements, analysis of work practices, and on available information regarding the toxicity of vinyl chloride, it was determined that a potential health hazard does exist.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Carcinogens, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Plastics, Valves, Moldings

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-249 389/8ST NTIS Prices: PC$3.50/MF$2.25

R&S 006112

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 75-1-194

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
Okawa, Melvin T.
C6103I4 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
May 75 6p
Rept No: NIOSH-TR-HHE-75-1-194
Monitor: 18
See also PB-249 375.

Abstract: An extrusion operation for wire cable was studied by NIOSH to evaluate employee exposure to vinyl chloride. It was determined that vinyl chloride gas may be potentially toxic at the concentrations measured during the NIOSH evaluation. This determination was based on exposure times, work practices, and the carcinogenic potential of vinyl chloride.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Carcinogens, *Cables(Ropes), Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Plastics, Wire, Extrusions, Exposure

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, NTISHEWOSH

PB-249 374/0ST NTIS Prices: PC$3.50/MF$2.25

R&S 006113

Health Hazard Evaluation/Toxicity Determination Report H.H.E. 74-134-193, PHC Industries, Inc., Camden, New Jersey

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
Gilles, Dawn
C6103I3 Fld: 06J, 06T, 57U, 94D, 68G GRAI7608
May 75 6p
Rept No: NIOSH-TR-HHE-74-134-193
Monitor: 18
See also PB-249 374.

Abstract: NIOSH conducted a health hazard evaluation at a plant which manufactured handles from PVC resins. On the basis of environmental sampling conducted at the molding and extrusion processes, it was determined that a health hazard from exposure to vinyl chloride monomer did not exist at the time of this evaluation.

Descriptors: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Polyvinyl chloride, *Carcinogens, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Extrusion, Exposure, Moldings, Polymers

Identifiers: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-249 373/2ST NTIS Prices: PC$3.50/MF$2.25

R&S 006114

VC-PVC Crisis: A Systematic Approach to Toxicological Problems

California Univ., Berkeley Lawrence Berkeley Lab. (1112800)
Kland, M. J.
A7265F3 Fld: 06T, 57Y ERA0104
Aug 75 34p
Rept No: CONF-750673-3
Contract: W-7405-ENG-48
Monitor: 18

Abstract: For abstract, see ERA 01 04, number 05829.

Descriptors: (*PVC, *Health hazards), (*Vinyl monomers, Health hazards), (*Carcinogens, Health hazards), (*Organic chlorine compounds, Health hazards), Biological effects, Carcinomas, Human populations, Neoplasms, Reviews, Toxicity

Identifiers: ERDA/560306, NTISERDA

LBL-3275 NTIS Prices: PC$4.00/MF$2.25

NO ABSTRACT AVAILABLE

R&S 006115

Epidemiology Studies. Task III. Vinyl Chloride

American Public Health Association, Washington, D.C.*Environmental Protection Agency, Washington, D.C. Office of Toxic Substances.

Final rept.
AUTHOR: Landau, Emanuel, Brinkman, Charles P., Manos, Nicholas E.
C5875H1 FLD: 06J, 57U*, 68G* USGRDR7605
Nov 75 106p*
CONTRACT: EPA-68-01-2490
MONITOR: EPA/560/6-75/002

ABSTRACT: Using data from the 1970 Census of Population estimates of the number of people living within a 5 mile radius of industrial plants producing vinyl chloride and vinyl chloride resins was prepared. Findings are reported. The sex, and age characteristics are provided.

DESCRIPTORS: *Epidemiology, *Vinyl chloride, *Industrial medicine, *Public health, Vinyl chloride resins, Industrial plants, Exposure, Populations, Demography, Tables(Data), Environments

IDENTIFIERS: NTISEPAOTS

PB-248 426/9ST NTIS Prices: PC$5.50/MF$2.25

R&S 006116

Health Hazard Evaluation/Toxicity Determination Report 74-151-181, Western Forge Corporation, Colorado Springs, Colorado

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
AUTHOR: Butler, George J.
C5793I1 FLD: 06J, 06T, 57U, 94D, 68G USGRDR7604
Apr 75 7p
REPT NO: NIOSH-TR-HHE-74-151-181
MONITOR: 18

ABSTRACT: NIOSH conducted an environmental survey of a forge manufacturing hand tools. Employees were exposed to vinyl chloride gas in the assembly and packing area arising from the vinyl chloride coating applied to packing containers. It was determined that employees were exposed to potentially toxic levels of vinyl chloride at the time of this evaluation. Recommendations were made regarding reduction of airborne concentrations and the use of respiratory protective equipment.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Polyvinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Protectors, Exposure, Forging, Thresholds(Perception), Toxic tolerances, Films, Packaging materials, Respirators

IDENTIFIERS: *Occupational Safety and Health Act of 1970, *Toxic hazards, Metalworking industry, Maximum permissible exposure, Air sampling, NTISHEWOSH

PB-246 497/2ST NTIS Prices: PC$3.50/MF$2.25

R&S 006117

Health Hazard Evaluation/Toxicity Determination Report 74-149-180, Protecto Wrap Company, Denver, Colorado

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
AUTHOR: Butler, George J.
C5793H4 FLD: 06J, 06T, 57U, 94D, 68G USGRDR7604
Apr 75 7p
REPT NO: NIOSH-TR-HHE-74-149-180
MONITOR: 18

ABSTRACT: The environmental survey of a plant manufacturing a polyvinyl chloride backed material by NIOSH investigators revealed potentially hazardous levels of vinyl chloride gas. It was recommended that airborne concentrations of vinyl chloride be reduced to non-detectable levels and that respirators be worn by exposed employees until control measures are effective.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Polyvinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Exposure, Evaluation, Plastics industry, Respirators, Gases, Surveys

IDENTIFIERS: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-246 496/4ST NTIS Prices: PC$3.50/MF$2.25

R&S 006118

Health Hazard Evaluation/Toxicity Determination Report 74-96-173, Richdel Corporation, Carson City, Nevada

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
AUTHOR: Okawa, Melvin T.
C5793H2 FLD: 06J, 06T, 57U, 94D, 68G USGRDR7604
Feb 75 8p
REPT NO: NIOSH-TR-HHE-74-96-173
MONITOR: 18

R&S 006119

ABSTRACT: A plant involved in injection molding of polyvinyl chloride was studied by NIOSH to evaluate employee exposures to vinyl chloride and trichloroethylene, which is used as a degreaser. It was determined that a potential health hazard from exposure to vinyl chloride did exist in the Regrind Room, and a potential hazard may also exist in the injection molding areas. Trichloroethylene was judged to be not toxic at the concentrations measured at the degreasing operation.

DESCRIPTORS: *Injection molding, *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Polyvinyl chloride, *Chlorohydrocarbons, *Degreasing, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Respirators, Exposure, Protectors, Plastics industry, Evaluation, Toxic tolerances, Thresholds(Perception), Surveys, Gases

IDENTIFIERS: *Occupational Safety and Health Act of 1970, *Toxic hazards, *Ethylene/trichloro, Air sampling, Maximum permissible exposure, NTISHEWOSH

PB-246 494/9ST NTIS Prices: PC$3.50/MF$2.25

Health Hazard Evaluation/Toxicity Determination Report 74-89-189, New York Telephone and Telegraph Company, New York, N.Y

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
AUTHOR: Straub, Wesley E.
C5793H1 FLD: 06J, 06T, 57U, 94D, 68G USGRDR7604
Apr 75 7p
REPT NO: NIOSH-TR-HHE-74-89-189
MONITOR: 18

ABSTRACT: NIOSH conducted an environmental survey to determine employee exposure to vinyl chloride, styrene, benzene, and hydrogen chloride during the application of heat shrinkable tape to telephone cables. It was determined that air concentration levels were below detectable levels for all substances tested and therefore were judged to be not toxic under the conditions noted during this evaluation.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Styrene, *Benzene, *Hydrogen chloride, *Vinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Evaluation, Exposure, Coatings, Polyvinyl chloride, Thresholds(Perception), Toxic tolerances

IDENTIFIERS: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, Maximum permissible exposure, NTISHEWOSH

PB-246 493/1ST NTIS Prices: PC$3.50/MF$2.25

R&S 00120

Health Hazard Evaluation/Toxicity Determination Report 74-85-185, M. H. Gall Company, Lancaster, Pennsylvania

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
AUTHOR: Straub, Wesley E.
C5793G4 FLD: 06J, 06T, 57U, 94D, 68G USGRDR7604
Apr 75 10p
REPT NO: NIOSH-TR-HHE-74-85-185
MONITOR: 18

ABSTRACT: A health hazard survey was conducted by NIOSH to investigate a potential health hazard at a company performing lamination of printed material on a job basis. The laminate is a polyvinyl chloride based product which is layered with the printed material, then the layers are heated for curing. It was determined that a potential health hazard exists at the lamination press from vinyl chloride gas, based on environmental measurements, observation of work practices and a review of past medical reports.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Polyvinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Exposure, Evaluation, Gases, Laminates, Carcinogens, Liver, Thresholds(Perception), Toxic tolerances, Ventilation, Surveys

IDENTIFIERS: *Occupational Safety and Health Act of 1970, *Toxic hazards, Lamination, Air sampling, Cancer, Maximum permissible exposure, NTISHEWOSH

PB-246 492/3ST NTIS Prices: PC$3.50/MF$2.25

R&S 006121

Health Hazard Evaluation/Toxicity Determination Report 74-71-142, Delco Remy Division, Anaheim, California

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
AUTHOR: Okawa, Melvin T.
C5793G1 PLD: 06J, 06T, 57U, 94D, 68G USGRDR7604
Sep 74 5p
REPT NO: NIOSH-TR-HHE-74-71-142
MONITOR: 18

ABSTRACT: An operation in which polyvinyl chloride was being used to manufacture the separators used in automobile batteries was studied by NIOSH investigators. It was determined that vinyl chloride vapors were not toxic at the concentrations measured during normal operating conditions. This determination was based upon the environmental levels of chloride, the conditions of use of polyvinyl chloride, and current information available on the toxicity of vinyl chloride.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Vinyl chloride, *Battery separators, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Vapors, Exposure, Evaluation, Electric batteries

IDENTIFIERS: *Occupational Safety and Health Act of 1970, *Toxic hazards, Battery industry, Air sampling, NTISHEWOSH

PB-246 489/9ST NTIS Prices: PC$3.50/MF$2.25

R&S 006122

Health Hazard Evaluation/Toxicity Determination Report 74-29-161, Ethyl Visqueen Division of Ethyl Corp., Terre Haute, Indiana

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept.
AUTHOR: Butler, George J., Bodner, Arnold H.
C5793E2 FLD: 06J, 06T, 57U, 94D, 68G USGRDR7604
Nov 74 10p
REPT NO: NIOSH-TR-HHE-74-29-161
MONITOR: 18

ABSTRACT: A manufacturer of polyvinyl chloride pipe was investigated by NIOSH to evaluate worker exposures to polyvinyl chloride. Crystals of polyvinyl chloride resin are mixed with other materials and then extruded into pipe. Air samples were collected, workers were given medical interviews, and blood samples were taken to be analyzed for serum glutamic-oxaloacetic transaminase. It was determined that a health hazard from vinyl chloride monomer did not exist at the time of the survey but that a potential carcinogenic hazard did exist in the blending room areas of the plant.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Polyvinyl chloride, *Vinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Evaluation, Surveys, Interviews, Blood analysis, Pipes(Tubes), Carcinogens, Plastics industry, Dust, Statistical data, Chemical industry

IDENTIFIERS: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-246 482/4ST NTIS Prices: PC$3.50/MF$2.25

R&S 006123

R&S 006124

Toxicology of Plastic Devices Having Contact with Blood

Children's Hospital Medical Center, Boston, Mass.*National Heart and Lung Inst., Bethesda, Md. (082 790)

Comprehensive rept. Sep 72-Sep 75
AUTHOR: Kevy, Sherwin V., Button, Lawrence N., Jacobson, May S.
C5751F1 FLD: 06T, 13I, 06L, 57Y*, 710, 95C USGRDR7603
Oct 75 112p*
CONTRACT: PHS-72-2968
MONITOR: NIH/NHLI-72-2969-CR
See also PB-244 753.

ABSTRACT: The objectives of this research were twofold: (1) the utilization of an animal model to evaluate the functional effect of Di-2-ethylhexylphthalate (DEHP) accumulation, and (2) the development of an in vitro testing procedure that could be correlated with the animal studies. The rate of extraction of DEHP from polyvinyl chloride (PVC) is dependent upon both the temperature during storage and the lipid content of the medium. DEHP so obtained is in true solution, with particle sizes less than 0.22 micron. Tissue culture studies demonstrate that solubilized DEHP in varying concentrations inhibits the growth and ultimately kills human diploid fibroblasts. PVC and siliconized glass transfused rhesus had abnormalities in liver histopathology and liver functions for up to 14 months following cessation of transfusions. DEHP or silicon persisted in the tissues for up to 14 months post-transfusion. Both the control rhesus and those transfused with platelets processed in polyethylene containers were normal.

DESCRIPTORS: *Plastics, *Toxicology, *Polyvinyl chloride, Blood, In vitro analysis, In vivo analysis, Tissue culture, Body fluids, Blood plasma, Blood serum, Blood cells, Plasticizers, Polymers, Blood transfusion, Liver, Spleen, Tissues(Biology), Histology, Pathology, Monkeys, Experimental data, Accumulation

IDENTIFIERS: *Biomaterials, *Blood compatible materials, Animal models, *Phthalic acid/bis(ethylhexyl-ester), Histopathology, Bioaccumulation, NTISNIHHLI

PB-247 168/8ST NTIS Prices: PC$5.50/MF$2.25

Recommended Standard for Occupational Exposure to Vinyl Chloride

National Inst. for Occupational Safety and Health, Rockville, Md. (407 192)
C5674J3 FLD: 06J, 06T, 57U, 94D, 68G USGRDR7602
1975 10p
MONITOR: 18
See also PB-246 692.

ABSTRACT: The report includes: Background (events and toxicological finds) of the standard; scope and application; definitions of terms; requirements for regulated areas; routine operations; reactor and vessel entry; maintenance and decontamination; hygiene measures; signs; information and training; environmental monitoring and record keeping; reports; medical surveillance. Despite the fact that animal experiments have shown no liver tumors at atmospheric concentrations of 50 ppm, the concept of an allowable working level is rejected. Since there is measurable concentrations of vinyl chloride personnel should wear an air-supplied respirator because chemical cartridge respirators do not afford adequate protection against vinyl chloride vapors.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Vinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Industrial atmospheres, Chlorohydrocarbons, Chlorine alaphatic compounds, Protection, Safety, Requirements, Evaluation, Carcinogens

IDENTIFIERS: *Occupational Safety and Health Act of 1970, *Toxic hazards, Air sampling, NTISHEWOSH

PB-246 691/0ST NTIS Prices: PC$3.50/MF$2.25

R&S 006125

Registry of Toxic Effects of Chemical Substances. 1975 Edition

National Inst. for Occupational Safety and Health, Rockville, Md.
AUTHOR: Christensen, H. E., Luginbyhl, T. T., Carroll, B
C5673A3 FLD: 06T, 06J, 57Y*, 57U, 68G* USGRDR7602
Jun 75 1399p*
REPT NO: NIOSH-TSL-75
CONTRACT: PHS-CDC-99-74-92
MONITOR: 18

ABSTRACT: The 1975 Edition of the Registry of Toxic Effects of Chemical Substances, formerly known as the NIOSH Toxic Substances List, is the fifth Edition prepared in compliance with the requirements of the Occupational Safety and Health Act of 1970 (PL-91-596). This Registry contains toxicity information on approximately 17,000 unique chemical substances along with about 48,000 synonyms. Information is given on route of entry, toxic dose and toxic effects including an indication of existing evidence of the substance may be carcinogen, mutagen, teratogen, etc.

DESCRIPTORS: *Toxicity, *Chemical compounds, *Hazardous materials, Indexes(Documentation), Public health, Dosage, Industrial medicine, Standards, Chemical properties, Exposure, Asbestos, Pesticides, Carcinogens, Vinyl chloride, Mutagens, Aquatic animals, Toxicology

IDENTIFIERS: Occupational Safety and Health Act of 1970, Maximum permissible exposure, Teratogens, *Occupational safety and health, NTISHEWOSH

PB-246 557/3ST NTIS Prices: PC$41.75/MF$2.25

R&S 006126

The Physiological and Toxicological Aspects of Smoke Produced During the Combustion of Polymeric Materials

Utah Univ., Salt Lake City. Flammability Research Center.*National Science Foundation, Washington, D.C. Research Applied to National Needs.

Annual rept. 1972-73
AUTHOR: Einhorn, I. N., Birky, M. M., Grunnet, M. L., Packham, S. C., Petajan, J. H.
C5384L3 FLD: 06T, 06P, 57Y, 57S, 71 USGRDR7524
24 Sep 73 160p
REPT NO: FRC/UU-12, UTEC-73-161
GRANT: NSF-GI-33650
MONITOR: NSF/RA/E-73-196

ABSTRACT: A study was undertaken at the Flammability Research Center of the University of Utah to determine the physiological and toxicological effects of smoke. Four classes of materials were selected for study: cellulosics, urethanes, polyvinyl chlorides, and Douglas fir. Smoke chambers and animal exposure chambers were developed for the analysis of smoke and its components and the observation of effects of combustion products on animals. The effects of combustion products on survival response in rats were measured, and toxicological studies of rats under exposure to smoke were made. The effects of combustion on the eyes of the animals are the subject of continuing experimentation. Small-scale laboratory fire experiments are being correlated with full-scale fire tests conducted at the National Bureau of Standards. Selected case histories of fire injuries are being studied to determine the medical history of victims until recovery.

DESCRIPTORS: *Toxicology, *Combustion products, Flammability, Materials, Smoke, Fumes, Physiological effects, Responses, Experimental data, Laboratory animals, Rats, Polyvinyl chloride, Chemical analysis, Urethanes, Injuries, Cellulose, Fir wood

IDENTIFIERS: NTISNSFRA

PB-244 876/9ST NTIS Prices: PC$6.25/MF$2.25

R&S 006127

R&S 006128

Toxicology of Plastic Devices Having Contact with Blood

Utah Univ., Salt Lake City. Dept. of Applied Pharmaceutical Sciences.*National Heart and Lung Inst., Bethesda, Md.

Annual rept. 1 May 74-30 Apr 75
AUTHOR: Petersen, Robert V., Lyman, Donald J., Roll, David B., Swinyard, Ewart A.
C5332D3 FLD: 06T, 06L, 57Y*, 95A*, 95C USGRDR7523
1 May 75 116p
CONTRACT: PHS-73-2908
MONITOR: NIH/NHLI-72-6
See also PB-233 701.

ABSTRACT: The project is concerned with toxicological evaluation of polyvinyl chloride (PVC) and, more specifically, the commonly used plasticizer, di-(2-ethylhexyl) phthalate (DEHP). Selected findings indicate that (1) the acute and subacute LD50 of a metabolite of DEHP (mono-(2-ethylhexyl) phthalate) given intravenously or intraperitoneally in mice or rats is highly toxic and irritant. (2) Analysis of particle size distribution of DEHP dispersed in fetal calf serum by sonication indicates that the vast majority of particles are less than 2 microns diameter. (3) DEHP appears to have some effect on chromosomes in human leukocytes and human fetal lung cells in tissue culture. (4) DEHP prolongs hexobarbital sleep. Phthalate-contaminated sheets caused greater adhesion and aggregation of platelets than methanol-cleansed PVC when exposed to sheep blood in ex-vivo experiments.

DESCRIPTORS: *Polyvinyl chloride, *Plastics, *Plasticizers, *Toxicology, Lethal dosage, Pathology, Body fluids, Blood, Laboratory animals, Tissue culture, Bioassay, Humans, Phthalates, Medical supplies, Mechanical organs

IDENTIFIERS: *Blood compatible materials, Biomaterials, Phthalic acid/bis(ethylhexyl-ester), NTISNIHHLI

PB-244 753/0ST NTIS Prices: PC$5.25/MF$2.25

Three Week Intravenous Administration in the Dog DI (2 - Ethylhexyl) Phthalate

Hazleton Labs. America, Inc., Vienna, Va.*National Heart and Lung Inst., Bethesda, Md.

Final rept. 9 Jul 74-28 Feb 75
AUTHOR: Rutter, Henry A. Jr
C5254F1 FLD: 06T, 57Y USGRDR7522
9 Apr 75 55p
CONTRACT: N01-HB-2-2991
MONITOR: 18
Sponsored in part by National Heart and Lung Inst., Bethesda, Md. See also PB-224 376.

ABSTRACT: A repeated dose of approximately 0.50, 0.75, and 1.4 mg/kg/day of di(2-ethylhexyl) phthalate in canine plasma was administered to beagles for 21 days. No consistent compound-related alterations were observed in animal behavior or hematological and clinical chemical parameters. Terminal body weights, organ weights, and organ/body weight ratios were acceptable normal limits and comparable to control values. Compound-related histomorphologic alterations were not observed in dogs receiving various concentrations of di(2-ethylhexyl) phthalate leached from PVC blood bags during storage.

DESCRIPTORS: *Toxicity, *Phthalates, *Plasticizers, Dogs, Bioassay, Laboratory animals, Dosage, Medical equipment, Medical supplies, Tables(Data), Experimental data, Animal behavior, Histology, Morphology, Polyvinyl chloride, Pathology

IDENTIFIERS: Biomaterials, NTISNIHHLI

PB-244 262/2ST NTIS Prices: PC$4.25/MF$2.25

R&S 006129

Ambient Air Measurements of Vinyl Chloride in the Niagara Falls Area

National Environmental Research Center, Research Triangle Park, N.C. Chemistry and Physics Lab.

Environmental monitoring series
AUTHOR: Gay, Bruce W. Jr, Noonan, Richard C.
C5175A3 FLD: 13B, 07A, 06F, 68A, 99B, 57U USGRDR7521
May 75 19p
REPT NO: EPA/650/4-75/020
PROJECT: EPA-ROAP-21AKC
MONITOR: 18

ABSTRACT: A 6-day survey was conducted in the Niagara Falls area to determine the concentration of vinyl chloride in the atmosphere. Samples were obtained in a residential area adjacent to the chemical plants where vinyl chloride emissions were suspected, in areas around the plants, and in other areas of Niagara Falls. The highest concentration of vinyl chloride measured was 40 ppb for a 5-hour integrated sample observed at a residential area two blocks east of a vinyl chloride polymerization plant. Grab samples taken downwind of chemical plants exhibited a high of 28 ppb. Samples taken from downtown Niagara Falls and upwind north of the chemical plants contained no detectable vinyl chloride. The areas surrounding the chemical plants, including the adjacent residential areas, are also affected by emissions into the atmosphere of chlorine and other halogenated compounds as exhibited by the deterioration of metal surfaces, particularly aluminum windows and doors.

DESCRIPTORS: *Air pollution, *Vinyl chloride, *Chemical plants, New York, Angiosarcomas, Chlorine organic compounds, Halohydrocarbon Aluminum, Buildings, Corrosion, Sampling, Public health

IDENTIFIERS: Air quality, Niagara Falls(New York), *Air pollution sampling, Air pollution effects(Materials), Air pollution effects(Humans), NTISEPAORD

PB-243 695/4ST NTIS Prices: PC$3.25/MF$2.25

R&S 006130

A Framework for the Control of Toxic Substances (A Compilation of Speeches)

Environmental Protection Agency, Washington, D.C. Office of Toxic Substances.
AUTHOR: Schweitzer, Glenn E.
C5104A1 FLD: 06T, 06J, 68G, 68A, 68D, 57Y, 57U, 99 USGRDR7520
Apr 75 57p
REPT NO: EPA/560/4-75-004
MONITOR: 18

ABSTRACT: This collection of speeches in large measure reflects the evolution of the interests, policies, and programs of the Office of Toxic Substances from April 1973 to March 1975. The speeches deal with questions that are of broad national concern: the identification of chemical hazards, the need for development of toxicological and other data on chemicals, the pending Toxic Substances Control Act, and need for regulation to control toxic chemicals.

DESCRIPTORS: *Public health, *Toxicology, *Environmental impacts, *Industrial medicine, Environmental surveys, Government policies, National government, Legislation, Economic impacts, Inorganic compounds, Organic compounds, Vinyl chloride, Regulations, Decision making, Hazards

IDENTIFIERS: *Hazardous materials, Toxic Substances Control Act, NTISEPAOTS

PB-243 459/5ST NTIS Prices: PC$4.25/MF$2.25

R&S 006131

R&S 006132

Evaluation of Vinyl Chloride Associated with Heat Sealing PVC Products

Environmental Health Lab Mcclellan AFB Calif (407609)

Final rept.
AUTHOR: Smith, Billy S., Burnett, Ronald D., Diamond, Philip, Greathouse, Jack E.
C4745F3 FLD: 6J, 57U USGRDR7515
Dec 74 70p
REPT NO: EHL-74M-17
PROJECT: HAF-351
MONITOR: 18

ABSTRACT: Potential vinyl chloride (VC) exposures were evaluated during meat packaging and during welding operations using heat to join polyvinyl chloride (PVC) sheets or film. The potential for VC exposure was evaluated by analyzing the PVC materials for entrained or encapsulated VC and by analyzing air samples collected during the meat wrapping and welding operations for VC. The results of all analyses are shown. The potential for exposure to vinyl chloride monomer at the 0.1 ppm level was not found to exist in either of the two operations studied. No vinyl chloride monomer was detected in the PVC materials.

DESCRIPTORS: *Industrial hygiene, *Packaging, *Welding, Exposure(Physiology), Polyvinyl chloride, Gas analysis, Meat, Food processing

IDENTIFIERS: *Vinyl chloride, Indoor air pollution, Gas sampling, Air pollution standards, NTISDODAF

AD-A009 997/8ST NTIS Prices: PC$4.25/MF$2.25

Preliminary Assessment of the Environmental Problems Associated with Vinyl Chloride and Polyvinyl Chloride

Environmental Protection Agency, Washington, D.C. Office of Toxic Substances.

Interim rept.
C4385E4 FLD: 13B, 68G* USGRDR7509
Sep 74 106p*
REPT NO: EPA/560/4-74-001
MONITOR: 18
Report on the Activities and Findings of the Vinyl Chloride Task Force.

ABSTRACT: The report summarizes the activities and findings of a task force to assess the character and extent of the problems associated with the production, distribution, use, and disposal of vinyl chloride and polyvinyl chloride. The first Section discusses the nature and magnitude of problems. The second discusses previous and planned activities within the Federal Government of particular significance and the role of industry. The report concludes with some specific recommendations.

DESCRIPTORS: *Air pollution, *Water pollution, *Toxicity, *Vinyl chloride, *Polyvinyl chloride, Surveys, Problem solving, Health, Ecology, Tests, Industrial relations

IDENTIFIERS: Air pollution abatement, NTISEPAOTS

PB-239 110/0ST NTIS Prices: PC$5.25/MF$2.25

R&S 006133

R&S 006134

Experimental Data Serving as a Basis for Separate Permissible Concentrations of Dibutylphthalate

National Institutes of Health, Bethesda, Md. Translation Unit.*Environmental Protection Agency, Research Triangle Park, N.C. Translation Services Section.
AUTHOR: Spasovski, Mincho
C4045C2 FLD: 06J, 06T USGRDR7504
Jul 73 8p
REPT NO: NIH-73-370C
MONITOR: EPA-TR-29-74
Trans. of Khigiena, Epidemiologiya i Mikrobiologiya (Bulgaria) v7 p38-44 1964.

ABSTRACT: Based on experiments using animals subjected to single and multiple inhalatory, oral and skincoating dosages, and which are supported by mathematical and analogical methods, the separate permissible standard for concentrations of industrial dibutylphthalate heated above 140C is 0.001 milligrams per liter of atmosphere. The toxicity of dibutylphthalate depends upon the modality of its introduction to the organism. Most toxic are its fumes heated above 140C which penetrate and consume the lungs. The substance is weakly toxic in oral application. It does not possess skin absorptive capability. Dibutylphthalate possesses a highly cumulative effect in inhalation and ingestion. The cumulative coefficient falls just short of one, which explains the hypersensitivity associated with it.

DESCRIPTORS: *Phthallates, *Toxicology, *Plastics, *Industrial medicine, Industrial atmospheres, Polyvinyl chloride, Bulgaria, Translations, Lung, Laboratory animals, Experimental data, Exposure, Permissible dosage, Fumes

IDENTIFIERS: Phthallic acid/(dibutyl-ester), Indoor air pollution, NTISEPAISD, NTISNIH

PB-237 886-T/ST NTIS Prices: PC$3.25/MF$2.25

The Effect of Dibutyl- and Dioctylphthalates on Rats with Oral Feeding during Prolonged Testing. Part I. Application and Toxicological Properties of Dibutyl- and Dioctyl-Phthlates

National Institutes of Health, Bethesda, Md. Translation Unit.*Environmental Protection Agency, Research Triangle Park, N.C. Translation Services Section.
AUTHOR: Piekacz, Hanna
C3994L4 FLD: 06T USGRDR7503
1974 10p
REPT NO: NIH-73-374C
MONITOR: EPA-TR-28-74
Trans. of Roczniki Panstwowego Zaklada Higieny (Poland) v22 p55-61 1971.

ABSTRACT: The use of dibutyl- and dioctyl-phthalates is discussed a propos of legislation in various countries, as well as their toxicological properties. This study serves as an introduction to research on hyperacute and extended toxicity of both phthalates.

DESCRIPTORS: *Phthalates, *Toxicology, Chemicals, Polyvinyl chloride, Manufacturing, Poland, Translations

IDENTIFIERS: Phthalic acid/(dioctyl-ester), Phthalic acid/(dibutyl-ester), NTISEPAISD, NTISNIH

PB-237 885-T/ST NTIS Price: PC$3.25/MF$2.25

R&S 006135

R&S 006136

Accumulation of DI-2-Ethylhexyl Phthalate (DEHP) in Whole Blood, Platelet Concentrates, and Platelet-Poor Plasma

Naval Blood Research Lab Chelsea Mass (387481)
AUTHOR: Contreras, T. J., Sheibley, R. H., Valeri, C. R.
C3611I1 FLD: 6L USGRDR7424
4 Sep 73 15p
PROJECT: MR041.02
TASK: MR041.02.01
MONITOR: 18
Revision of report dated 30 Mar 73. See also AD-766 554.
Availability: Pub. in Transfusion, v14 n1 p34-46 Jan/Feb 74.

ABSTRACT: The concentration of the plasticizer, di-2-ethylhexyl phthalate (DEHP), in the plasma was measured after storage of the whole blood in polyvinyl chloride plastic bags at 4C for up to 38 days in either ACD or CPD. The plasma from ACD-stored whole blood contained more DEHP than that from CPD-stored whole blood. The continuous-flow centrifugation washing procedures removed about 98 per cent of the DEHP from ACD whole blood stored for 33 days at 4C. DEHP was assayed in the platelet-rich plasma, platelet-poor plasma, supernatant of the platelet concentrate, washed platelets, and washed red blood cells prepared from CPD whole blood. Very little DEHP was found in the washed red blood cells and platelets, a small amount was found in the platelet-poor plasma, and a large amount in the supernatant of the platelet concentrate. A greater amount of DEHP accumulated in the platelet concentrates that were stored at 22C than in those stored at 4C. When platelet concentrates from CPD whole blood were stored at 22C for 72 hours, the amount of DEHP was about four times that observed after 4C storage for the same length of time. (Author)

DESCRIPTORS: *Blood, *Phthalates, *Plasticizers, *Polyvinyl chloride, Plastics, Bags, Blood plasma, Blood platelets, Accumulation, Blood banks, Storage, Blood transfusion, Toxicity

IDENTIFIERS: Phthalic acid/bis(ethylhexyl-ester), NTISDODN

AD-786 253/5SL NTIS Price: Reprint

Toxicology of Plastic Devices Having Contact with Blood

Children's Hospital Medical Center, Boston, Mass.

Annual rept. Sep 73-18 Jun 74
AUTHOR: Kevy, Sherwin V., Button, Lawrence N., Jacobson, May S.
C3284H1 FLD: 6T, 6L, 57Y, 95A, 95C USGRDR7419
21 Jun 74 52p*
MONITOR: NIH/NHLI-72-2969

ABSTRACT: Continued studies are presented that evaluate the possible toxicological effect of DI-2-ethylhexyl phthalate (DEHP) extracted from poly-vinyl chloride (PVC) plastic by blood and biologic fluids. Specific studies are outlined in four areas: The preparation of an antibody to phthalate in rabbits for use in immuno-fluorescent studies and a radioimmunoassay for detection of phthalate; bi-weekly platelet transfusions after storage for 48 hours at 4 and 22C in PVC, polyethylene and siliconized glass is a natural and clinically oriented method of phthalate administration; evaluation of these animals for hepatic, splenic and pulmonary functions by means of nuclear medicine techniques, liver function tests and compartmental BSP analysis; tissue analysis of tranfused and non-transfused patients for DEHP; and quantitative analysis of liver tissue for DEHP of multi-transfused Rhesus monkeys.

DESCRIPTORS: *Plastics, *Toxicology, *Plasticizers, *Polyvinyl chloride, Blood, Tissue culture, Medical supplies, Mechanical organs, Experimental data, Antibodies, Phthlates, Bioassay, Humans, Laboratory animals, Blood transfusion

IDENTIFIERS: *Blood compatible materials, *Phthalic acid/bis(ethylhexyl-ester), Biomaterials, NTISHEWHLI

PB-233 857/2 NTIS Prices: PC$5.75/MF$1.45

R&S 006137

R&S 006138

Toxicology of Plastic Devices Having Contact with Blood

Utah Univ., Salt Lake City. Coll. of Pharmacy.

Interim rept. 24 Aug 72-1 May 74
AUTHOR: Lyman, Donald J., Roll, David B., Swinyard, Ewart A.
C3283I1 FLD: 6T, 6L, 57Y*, 95A*, 95C USGRDR7419
May 74 206p*
GRANT: PHS-73-2908
MONITOR: NIH/NHLI-73-2908-B

ABSTRACT: The project is primarily concerned with toxicological evaluation of polyvinyl chloride and, more specifically, the commonly used plasticizer, di(2-ethylhexyl) phthalate (DEHP). Evaluations are concentrated on long range, subtle toxicity potential, although basic acute and subacute studies are also utilized. Plastic composition studies, acute toxicity studies, tissue culture studies, subacute toxicity studies, metabolite identification, teratogenic studies, neurologic studies, larger animal studies, analyses of human blood exposed to plastics during hospital procedures, and possible statistical analysis of human patients following extensive exposure of blood to plastics are included. Selected findings indicate that: Plastic components which contain DEHP as a plasticizer are toxic to L-929 cells in tissue culture; DEHP appears to prevent implantation of fertilized ova in rats and mice; DEHP affects rate and amplitude of contractions in isolated rat hearts; DEHP is hydrolyzed in vitro by liver microsomes and mitochondria but not by cytosol.

DESCRIPTORS: *Polyvinyl chloride, *Plastics, *Toxicology, *Plasticizers, Blood, Medical supplies, Tissue culture, Mechanical organs, Experimental data, Phthalates, Laboratory animals, Humans, Bioassay, Neurology

IDENTIFIERS: *Blood compatible materials, *Pathalic acid/bis(ethylhexyl-ester), Biomaterials, NTISHEWHLI

PB-233 701/2 NTIS Prices: PC$5.75/MF$1.45

Dynamics of Hygenic Working Conditions and Occupational Disease Incidence among Workers in Suspension Polyvinyl Chloride Production over a Number of Years

National Institutes of Health, Bethesda, Md. Translation Unit.
AUTHOR: Filatova, V. S., Antonyuzhenko, V. A.
C3214A2 FLD: 6J, 6T USGRDR7418
Jul 74 7p
REPT NO: NIH-74-352C
MONITOR: 18
Trans. of Gigiena Truda i Professionalnye Zabolevaniya (USSR) v15 n4 p32-34 1971.

ABSTRACT: The occupational disease incidence in workers resulting from vinyl chloride air pollution was studied over a period of 17 years (1953-1969). Although industrial conditions have improved, there still occurs new cases of chronic occupational poisoning. Various clinical manifestations of chronic vinyl chloride poisoning, as a function of environmental air pollution have been established. A series of measures designed to improve air quality in work areas is suggested.

DESCRIPTORS: *Industrial hygiene, *Occupational diseases, *Industrial atmospheres, *Polyvinyl chloride, Air pollution, Toxicity, Toxic diseases, USSR, Translations

IDENTIFIERS: Air quality, NTISNIH, NTISHEWIHL

PB-233 614-T NTIS Prices: PC$4.00/MF$1.45

R&S 006139

R&S 006140

Health Hazard Evaluation/Toxicity Determination. John Morrell Company, Sioux Falls, South Dakota

National Inst. for Occupational Safety and Health, Cincinnati, Ohio (390 766)

Final rept. Oct 72-Jan 73
AUTHOR: Polakoff, Phillip L., Vandervort, Robert
C3084E2 FLD: 6J, 6T, 57U, 94D, 68G USGRDR7416
Oct 73 15p
REPT NO: NIOSH-TR-089-74, HHE-71-29-89
MONITOR: 18

ABSTRACT: In response to a request received from a representative of employees, the National Institute for Occupational Safety and Health (NIOSH) conducted a health hazard survey to evaluate exposure to thermal decomposition products of polyvinyl chloride meat packaging film at John Morrell Company, Sioux Falls, South Dakota. Based on medical evidence compiled during a limited study of meat wrapping employees it was determined that air contaminants generated by the thermal cutting of polyvinyl chloride packaging films in conjunction with the wrapping of meat are potentially toxic to some meat wrapping employees. Symptoms range from mild eye, nose and throat irritation to more serious respiratory problems for meat wrappers who have an underlying predisposition to respiratory difficulties. Recommendations have been suggested to management regarding preemployment examinations and work practices.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Polyvinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Packaging, Pyrolysis, Respiratory infections

IDENTIFIERS: *Occupational Safety and Health Act of 1970, Packaging materials, *Meat packing industry, *Toxic hazards, Air pollution effects(Humans), NTISNIOSH

PB-232 578/5 NTIS Prices: PC$4.00/MF$1.45

Health Hazard Evaluation/Toxicity Determination. Seattle, Washington

National Inst. for Occupational Safety and Health, Cincinnati, Ohio. (390 766)

Final rept. Aug 72-Jan 73
AUTHOR: Polakoff, Phillip L., Vandervort, Robert
C2705I4 FLD: 6J, 57U, 57Y, 94D, 68G USGRDR7411
Sep 73 23p
REPT NO: NIOSH-TR-070-74, HHE-72-53-70
MONITOR: 18
Also includes Rept. nos. HHE-72-54-71 thru HHE-72-58-75.

ABSTRACT: In rsponse to a received from a representative of employees the National Institute for Occupational Safety and Health (NIOSH) conducted a health hazard survey to evaluate exposure to thermal decomposition products a polyvinyl chloride (PVC) meat packaging film at six retail grocery companies in the Seattle, Washington area. Based on medical evidence compiled during this limited study of meat wrapping employees it was determined that air contaminants generated by the thermal cutting of polyvinyl chloride packaging films in conjunction with the wrapping of meat are potentially toxic to meat wrapping employees. Symptoms range from mild eye, nose and throat irritation to more serious respiratory problems for meat wrappers who have an underlying predisposition to respiratory difficulties. Recommendations have been suggested to management regarding pre-employment examinations and work practices.

DESCRIPTORS: *Hazardous materials, *Industrial medicine, *Polyvinyl chloride, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Pyrolysis, Packaging, Hazards, Respiratory diseases, Air pollution

IDENTIFIERS: *Occupational Safety and Health Act of 1970, NIOSH

PB-229 709/1 NTIS Prices: PC$4.25/MF$1.45

R&S 006141

Coal Mine Combustion Products: Identification and Analysis

Ultrasystems, Inc., Irvine, Calif. (407 617)

Annual rept. FY 1972-73
AUTHOR: Paciorek, K. L., Kratzer, R. H., Kaufman, J., Nakahara, J. H.
C2314G2 FLD: 7D, 21B, 8I, 11I, 11L, 48A, 71O, 99F, 81A, 71R
USGRDR7406
Aug 73 160p
REPT NO: SN-8220/A1
CONTRACT: H0133004
MONITOR: BuMines-OFR-8-74

ABSTRACT: The toxic products formed during thermal oxidative degradation of neoprene and polyvinyl chloride compositions, urethane foams and various untreated and treated woods were determined quantitatively on a g/g basis. Quiescent and dynamic decomposition conditions were employed. Analyses were performed using high vacuum separations, gas chromatography, mass spectrometry, infrared spectroscopy, and wet chemical methods. The main toxic species found were among others CO, HCl, HCN, SO2, anhydride, aniline, and furfural. Thermogravimetric analyses were performed on all the compositions, and the data were correlated to available formulating information and product formation.

DESCRIPTORS: *Combustion products, *Plastics, *Wood, *Coal mining, Mining equipment, Chloroprene resins, Polyvinyl chloride, Polyurethane resins, Carbon monoxide, Decomposition reactions, Hydrogen chloride, Sulfur dioxide, Hydrogen cyanide, Anhydrides, Anilines, Furfurals, Toxicity, Thermal analysis, Gas chromatography, Mass spectroscopy, Chemical analysis, Oxidation, Safety, Organic compounds

IDENTIFIERS: BM

PB-226 944/7 NTIS Prices: PC$11.00/MF$1.45

R&S 006142

A Toxicological Evaluation of Certain Heparin-Quaternary Ammonium Complexes

Battelle Columbus Labs., Ohio. (407 080)

Annual rept. 1 Oct 72-30 Nov 73
AUTHOR: Grode, G. A., Crowley, J. P., Falb, R. D., Leininger, R. I.
C2313K1 FLD: 6T, 6L, 7C, 57Y*, 95A*, 99C USGRDR7406
26 Dec 74 33p*
CONTRACT: PHS-73-2918
MONITOR: 18

ABSTRACT: Physical and chemical characterizations show that the heparin-quaternary ammonium salt complexes can be reproducibly prepared from a given lot of a quaternary ammonium salt. Local toxicity studies also indicate that both the tridodecyl methyl ammonium chloride-heparin and tricapryl methyl ammonium chloride-heparin complexes elicit qualitatively similar responses, while quantitatively, the TCMAC-heparin complex produced a locally more severe response. Single-dose toxicity studies of the heparin complexes, carried out in mice, show that the TDMAD-heparin complex is the more toxic with an LD50 value of 3.3 mg/kg, as compared to an LD50 of 195 mg/kg for the TDMAC-heparin complex. This toxicity gradient is perhaps the reflection of increasing solubility of the complexes in the biological medium with the (C9) capryl-based heparin complex (TCMAC-heparin) being the most soluble. Experimental evidence indicates that the toxicity of TDMAC-heparin treated poly(vinyl chloride) devices is very low.

DESCRIPTORS: *Heparin, *Mechanical organs, *Mechanical hearts, Surface properties, Toxicology, Blood plasma, Plastic coatings, Ammonium compounds, Polyvinyl chloride, In vitro analysis, Anticoagulants, Surface chemistry

IDENTIFIERS: *Quaternary ammonium salts, *Blood compatible materials, Ammonium/methyl-tridodecyl, Ammonium/methyl-tridecanoyl, NHLI

PB-226 886/0 NTIS Prices: PC$3.25/MF$1.45

R&S 006143

Toxicology of Plastic Devices Having Contact With Blood

Utah Univ., Salt Lake City. (326 900)

Interim rept. for 24 Aug 72-15 Sep 73
AUTHOR: Petersen, Robert V., Lyman, David J., Roll, David B., Swinard, Ewart A.
C1901C4 FLD: 6T, 6L, 57Y*, 95A*, 95C USGRDR7324
Sep 73 117p*
CONTRACT: NIH-NHLI-73-2908-B
MONITOR: NIH/NHLI-72-6

R&S 006144

ABSTRACT: The project is primarily concerned with toxicological evaluation of polyvinyl chloride and, more specifically, the commonly used plasticizer, di(2-ethylhexyl) phthalate (DEHP). The project is divided into twelve tasks including an organizational phase. Plastic composition studies, acute toxicity studies, tissue culture studies, subacute toxicity studies, metabolite identification, teratogenic studies, neurologic studies, larger animal studies, analyses of human blood exposed to plastics during hospital procedures, and possible statistical analysis of human patients following extensive exposure of blood to plastics. Selected findings indicate that: DEHP is poorly absorbed from i.p. = intraperitoneal administration of massive doses; the 30-day subacute i.v. = intravenous LD50 of DEHP in mouse serum is 355 mg/kg in mice; DEHP accumulates in lungs of dogs for at least 2 weeks during daily i.v. = intravenous administration; an efficient method for analyzing DEHP by gas chromatography utilizing an internal standard has been developed; and some components of renal dialysis and cardiac bypass units are toxic to L929 cells by tissue culture methods. Portions of this document are not fully legible.

DESCRIPTORS: (*Plastics, *Blood), (*Toxicology, Plastics), (*Plasticizers, Toxicology), Medical supplies, Polyvinyl chloride, Addition resins, Elastomers, Thermoplastic resins, Tissue culture, Medical equipment, Mechanical organs, Experimental data, Phthalates, Bioassay, Humans, Laboratory animals

IDENTIFIERS: Phthalic acidbis(ethylhexyl-ester), Biocompatible materials, *Blood compatible materials, NHLI

PB-224 558/7 NTIS Prices: PC$4.25/MF$1.45

Incineration of Plastics Found in Municipal Wastes

Syracuse Univ. Research Corp., N.Y. (339 750)

Final rept.
AUTHOR: Heimburg, R. W., Colella, A. R., Jones, D., Rausch, J. H., Macrina, M.
C1725L1 FLD: 13B, 68C*, 68A USGRDR7322
Sep 73 246p*
GRANT: EP-00304
MONITOR: EPA-670/2-73-087

ABSTRACT: The purpose of this project was to determine the combustion efficiency of plastics when burned in several types of laboratory incinerators. These laboratory units were designed to simulate the primary flame zones of municipal incinerators. The parameters of efficiency considered were: Percent of material consumed, the chemical 'cleanliness' of the gaseous effluent, the rate of production of flyash, and the more obvious environmental effects of the gaseous effluent, flyash, and residue-ash. Several pure resins were burned individually in several laboratory incinerators. Also, several mixtures of plastics and a garbage recipe were burned. Results are presented here from analyses of the effluent along with the effects of each effluent on rats and plants for 1- to 8-hour exposures.

DESCRIPTORS: (*Plastics, *Combustion), (*Solid waste disposal, Plastics), (*Incinerators, Plastics), Garbage, Fly ash, Air pollution, Combustion products, Polyethylene, Polystyrene, Polyvinyl chloride, Acrylonitrile copolymers, Polypropylene, Polycarbonate resins, Polyurethane resins, Urea formaldehyde resins, Melamines, Toxicology, Rats, Plants(Botany)

IDENTIFIERS: NERC

PB-223 651/1 NTIS Prices: PC$5.75/MF$1.45

R&S 006145

Combustion Products from the Incineration of Plastics

Michigan Univ., Ann Arbor. School of Public Health.

Final rept.
AUTHOR: Boettner, E. A., Ball, G. L., Weise, B.
C1501A3 FLD: 13B, 7C, 68C*, 68A, 59H USGRDR7319
1973 154p*
CONTRACT: EP-00386
MONITOR: EPA-670/2-73-049

ABSTRACT: Analysis of the combustion products of plastics was undertaken to provide scientists and engineers with information needed to design incinerators in order to maximize their efficiency while minimizing maintainance and pollution, to identify products of incomplete combustion potentially recoverable for their fuel or crude chemical value; and to identify products of incomplete combustion which would be acutely toxic in an accidental fire. Plastics studied were polyvinyl chloride, polysulfone, polyurethanes, polyimide, Lopac, Barex, phenol formaldehyde, urea formaldehyde, polyethylene, polypropylene, polystyrene, polycarbonate, polyphenylene oxide, polyester, synthetic fabrics (Dacron, Orlon, nylon), and natural products (wood and wool). (Modified author abstract)

DESCRIPTORS: (*Plastics, *Combustion products), (*Air pollution, Combustion products), (*Incinerators, Air pollution), (*Solid waste disposal, Plastics), Decomposition reactions, Incinerators, Chemical analysis, Gas chromatography, Infrared spectroscopy, Mass spectrometers, Data, Polyvinyl chloride, Thermogravimetric analysis, Polyurethane resins, Polyimide resins, Urea formaldehyde resins, Polyethylene, Polypropylene, Polystyrene, Polycarbonate resins, Polyester resins

IDENTIFIERS: NERC

PB-222 001/0 NTIS Prices: PC$8.00/MF$1.45

R&S 006146

R&S 006147

Coal Mine Combustion Products, Identification and Analysis

Ultrasystems, Inc., Irvine, Calif. (407 617)

Final rept. 8 Jul 71-7 Jul 72
AUTHOR: Paciorek, K. L., Kratzer, R. H., Kaufman, J.
C0345E2 FLD: 11I, 7C, 8I, 710, 71H, 57H, 64I USGRDR7305
Jul 72 165p*
CONTRACT: H0122009
MONITOR: BuMines-OFR-1-73

ABSTRACT: Little data is available on oxidative degrative behavior of materials used in coal mines under truly dynamic conditions approximating the mine environment. However, because of the possible danger involved with the formation of toxic gases, the authors studied the decomposition of various materials. Tests were performed on: Polyvinyl chloride-containing materials; Neoprene compositions; Rigid foams (urethanes, isocyanates); Miscellaneous materials (including jute, fiber glass and polyethylene) using a stagnation burner arrangement. It was found that the chlorine-containing materials evolved hydrogen chloride very readily, its rate of evolution being strongly temperature dependent. The fluorocarbon propellant and CO2 were the main products found on decomposition of the foams, whereas among other products jute compositions liberated methyl chloride. The analyses were performed using mass spectrometry and infrared spectroscopy. A review of the combustion products of various polymers is also included.

DESCRIPTORS: (*Combustion products, *Polymers), (*Coal mines, *Fire safety), (*Polyvinyl chloride, Combustion products), (*Chloroprene resins, Combustion products), (*Cellular plastics, Combustion products), (*Jute, Combustion products), (*Polyurethane, Combustion products), Glass fibers, Polyethylene, Smoke, Gas analysis, Hazardous materials, Infrared spectroscopy, Mass spectroscopy, Decomposition, Reviews, Cellulose, Polyamide resins, Polyester resins, Epoxy resins, Toxicology, Corrosive gases

IDENTIFIERS: *Mine safety

PB-214 124/0 NTIS Prices: PC$6.00/MF$0.95

Chemical and Physical Properties and Thermal Decomposition Products of Certain Natural Products and Synthetic Materials

Environmental Health Lab Kelly AFB Tex (300925)

Technical rept.
AUTHOR: Melvin, Walter W. Jr
C0072I2 FLD: 11I, 11E, 13L, 710, 71H, 71I, 83C USGRDR7302
May 72 170p*
REPT NO: EHL(K)-72-14
PROJECT: EHL-70-7
MONITOR: 18

R&S 006148

ABSTRACT: A limited review of the literature including the early history and current data on deaths, injuries and costs due to the combustion and pyrolysis of resins, plastics and natural materials is provided. There is a limited discussion of the chemistry and physical properties of plastics. Applications of these materials in wearing apparel, construction trades, the aircraft industry, and others are discussed. Experimental data on the pyrolysis products of five synthetic and natural fiber carpets are presented. An extensive collection of tables from a number of sources give data on the trade name, type of plastic and manufacturer, physical and chemical properties, decomposition products, and other information. (Author)

DESCRIPTORS: (*Plastics, *Combustion), (*Textiles, Combustion), (*Floor coverings, Combustion), Reviews, Burning rate, Toxicity, Clothing, Nylon, Corrosive gases, Fire resistant materials, Pyrolysis, Thermal properties, Woolen textiles, Polyvinyl chloride, Plasticizers, Carbon monoxide

IDENTIFIERS: Fire safety, *Carpets, *Flammability testing, Smoke, Hydrogen chloride, Hydrogen cyanide

AD-751 899 NTIS Prices: PC$3.00/MF$0.95

Materials Based on Polyvinylchloride for Packaging Food Products (Materialy na Osnove Polivinilkhlorida dlya Upakovki Pishcherykh Produktuv)

Army Foreign Science and Technology Center Charlottesville Va (038300)
AUTHOR: Chantseva, A. S., Chernovskaya, R. P., Ovchinnikov, Yu. V.
A2752E3 FLD: 11I, 13D, 52D, 710 USGRDR7119
14 Jul 71 10p
REPT NO: FSTC-HT-23-886-71
Trans. from Plasticheskie Massy (USSR) n6 1970.

ABSTRACT: The physical, mechanical and toxic properties of various types of polyvinyl chloride films suitable for use as food wrapping materials are presented. (Author)

DESCRIPTORS: (*Polyvinyl chloride, *Packing materials), (*Food, Packing materials), Films, Mechanical properties, Toxicity, Additives, Thermal stability, Viscosity, Tensile properties, USSR

IDENTIFIERS: *Food packaging, *Polymeric films, Translations

AD-728 150 NTIS Prices: PC$3.00 MF$0.95

R&S 006149

R&S 006150

ON THE QUESTION OF IMPROVING SOME POLYVINYL CHLORIDE POLYMERS AND A METHOD OF IMPROVING THEIR TOXICITY

Air Force Systems Command, Wright- Patterson AFB, Ohio. Foreign Technology Div.
AUTHOR: Gorban, G. M.
6011F1 FLD: 11G STAR0709
Apr 68 13p
REPT NO: AD-680924, FTD-HT-23-1464-67
Tran- Transl. Into English From Kosmich. Biol. Med. (USSR), V. 1, No. 2, 1967 P 47-51

DESCRIPTORS: *Electrical properties, *Plastic tapes, *Polyvinyl chloride, *Ureas, Degassing, Electrical insulation, Nitrogen compounds

N69-20342 CFSTI Prices: PC$3.00 MF$0.95

ABSTRACT:

A method is developed for improving the polyvinyl chloride tapes for the purpose of decreasing their gas emanation. The overall gas emission of organic substances from the improved specimens of polyvinyl chloride tapes as a result of the treatment with 50% urea solution is reduced by a factor of 2-1/2. The improved polyvinyl chloride tapes give off volatile chemical substances in small concentrations, which with long duration of their action on the organism cause only a weak biilogical effect. As a result of the treatment with a solution of urea there is an improvement in the electrical insulation properties of the polyvinyl chloride tapes serving the purpose for which the materials are intended without change in their strength characteristics.

THE EFFECTS OF STORAGE CONDITIONS OF PLASTIC BLOOD CONTAINERS ON THE ANTICOAGULANT (ACD) AND THE PRESERVATION OF WHOLE BLOOD AND ITS DERIVATIVES

Texas Univ., Austin. Drug Plastic Research and Toxicology Lab.

Terminal rept.
AUTHOR: Guess, Wallace L.
5842I2 FLD: 6L, 6T, 13D USGRDR6909
1968 41p*
CONTRACT: PH-43-68-97

ABSTRACT: On the basis of this study, it was concluded that there is clear evidence of a toxicity potential from some PVC blood bags currently available. There is insufficient evidence at the present time to evaluate the effects of storage conditions beyond a one year period, but the study indicated no drastic alterations due to the one year storage period at temperatures up to 50 degrees C. (Author)

DESCRIPTORS: (*Blood, Storage), (*Bags(Containers), Blood), (*Polyvinyl chloride, Toxicity), Plastics, Bags(Containers), Anticoagulants, Preservation, Mice, Rabbits, Chromatographic analysis, Temperature, Pathology

PB-182 732 CFSTI Prices: PC$6.00 MF$0.95

R&S 006151

ON THE QUESTION OF IMPROVING SOME POLYVINYL CHLORIDE POLYMERS AND A METHOD OF IMPROVING THEIR TOXICITY

Foreign Technology Div Wright-Patterson AFB Ohio (141600)
AUTHOR: Gorban, G. M., Yablochkin, V. D.
5603E1 FLD: 11I, 22A USGRDR6906
15 Apr 68 12p
REPT NO: FTD-HT-23-1464-67
Unedited rough draft trans. of Kosmicheskaya Biologiya i Meditsina (USSR) v1 n2 p47-51 1967, by E. Harter.

R&S 006152

ABSTRACT: A method is developed for 'improving' the polyvinyl chloride tapes for the purpose of decreasing their gas emanation. The overall gas emission of organic substances from the 'improved' specimens of polyvinyl chloride tapes as a result of the treatment with 50% urea solution is reduced by a factor of 2 1/2. The 'improved' polyvinyl chloride tapes give off volatile chemical substances in small concentrations, which with long duration of their action on the organism cause only a weak biological effect. As a result of the treatment with a solution of urea there is an improvement in the electrical insulation properties of the polyvinyl chloride tapes serving the purpose for which the materials are intended without change in their strength characteristics. (Author)

DESCRIPTORS: (*Polyvinyl chloride, Processing), Tapes, Gases, Urea, Spacecraft cabins, Carbon dioxide, Aldehydes, Carbon monoxide, Hydrocarbons, Toxicity, Degasification, USSR

IDENTIFIERS: Translations

AD-680 924 CFSTI Prices: PC$3.00 MF$0.95

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