

the molten salt coal gasification process development unit. Potential hazards included coal dust, explosions, fires, noise, CO, H₂S, molten Na₂CO₃, Na₂SO₄, SO₂, and asphyxiation from CO₂. The company provided a medical surveillance program that included a complete work and medical history. Annual phys. exams. consisted of blood tests, chest x-rays, audiograms, eye and hearing tests, electrocardiograms, and pulmonary function tests. A phys. capability profile was outlined for each employee which included job restrictions and limitations. Work practices, and safety, and certification programs were provided for employees. Worker exposures were minimized by the utilization of closed system operations. Natural diln. ventilation dissipated process emissions in workplaces. Engineering controls were supplemented by work practices and personal protective equipment as needed. Gasifier stream sampling and maintenance and housekeeping activities are needed.

101: 176735m Current intelligence bulletin 40, 2,3,7,8-tetra-chlorodibenzo-p-dioxin (TCDD, 'dioxin'). National Institute for Occupational Safety and Health (Cincinnati, OH USA). Report 1984, DHHS/PUB/NIOSH-84-104; Order No. PB84-198001, 26 pp. (Eng). Avail. NTIS. From Gov. Rep. Announce. Index (U.S.) 1984, 84(17), 68. In animals, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) [1746-01-6] causes various systemic effects at a wide range of exposure concns., including tumorigenesis, immunol. dysfunction, and teratogenesis. Studies of humans exposed to TCDD-contaminated materials suggest that TCDD is the cause of obsd. chloracne, metabolic disorders (porphyria), and other systemic problems and are suggestive of TCDD's ability to cause cancer. TCDD occurs as a contaminant of materials such as 2,4,5-trichlorophenol [95-95-4], 2,4,5-trichlorophenoxyacetic acid [93-76-5] and 2-(2,4,5-trichlorophenoxy)propionic acid [93-72-1]. Occupational exposure may occur through contact with these materials during use or from the past contamination of workites. The National Institute for Occupational Safety and Health (NIOSH) recommends that TCDD be regarded as a potential occupational carcinogen, that occupational exposure to TCDD be controlled to the fullest extent feasible, and that decontamination measures be used for TCDD-contaminated work environments.

101: 176736n Effects of acute exposure of toluene and methyl ethyl ketone on psychomotor performance. Dick, Robert B.; Setzer, James V.; Wait, Robert; Hayden, Mary Beth; Taylor, Bobby J.; Tolos, Bill; Putz-Anderson, Vern (Public Health Serv., U.S. Dep. Health Hum. Serv., Cincinnati, OH 45226 USA). Int. Arch. Occup. Environ. Health 1984, 54(2), 91-109 (Eng). Org. solvents are used frequently in industry and workers are often exposed to various combinations of these chem. Several are central nervous system (CNS) depressants, and the purpose of this expt. was to assess the behavioral effects of 4-h inhalation exposures to 2 solvents, PhMe [108-88-3] and Me Et ketone (MEK) [78-93-3] alone and combined. EtOH [64-17-5] at 0.08% blood levels was used as a pos. control. Testing was carried out in an exposure chamber, and participants were tested before, during, and after the treatment or control condition on 3 performance tasks. The tasks measured alertness and psychomotor function and produced a total of 28 measures on each individual over ~8 h of testing. PhMe at 100 ppm produced a small but significant impairment on 1 measure of a visual-vigilance task by lowering the percentage of correct hits. MEK at 200 ppm produced no interpretable significant effects on any of these measures. Additivity was not evident when individuals were exposed to MEK (100 ppm) and PhMe (50 ppm) in combination, as no significant performance differences were noted. EtOH at 0.08%, affected both the visual-vigilance and a choice-reaction time task at statistically significant levels on 2 measures, confirming the sensitivity of these 2 tasks to CNS depressants.

101: 176737p Occupational lead exposure. Effects on saccadic eye movements. Glickman, Linda; Valciukas, Joe A.; Lilia, Ruth; Weisman, Irving (Mt. Sinai Sch. Med., City Univ. New York, New York, NY 10029 USA). Int. Arch. Occup. Environ. Health 1984, 54(2), 115-25 (Eng). Quant. measures of saccadic eye movements were examd. in Pb-exposed autobody shop workers and age matched controls with no history of occupational Pb exposure. Three characteristics of saccadic eye movements were studied: (1) saccade accuracy; (2) no. of overshoots, and (3) max. velocity. Workers exposed to inorg. Pb showed a decrease in saccade accuracy and an increase in overshoots compared with controls. Saccade max. velocity was lower in Pb exposed workers than in controls but the difference was just short of statistical significance. Correlations between measures of saccadic eye movements and indicators of Pb absorption, blood Pb (Pb-B) and zinc protoporphyrin (ZPP) [15442-44-5] levels, were analyzed in the Pb exposed workers. Saccade accuracy was neg. correlated with both Pb-B and ZPP levels. Age effects obsd. in the control group were disrupted in Pb exposed workers. Saccadic eye movements in younger workers (<30 yr old) were more affected by exposure to inorg. Pb than were saccadic eye movements in older workers (50 yr and older). These findings are consistent with a relatively rapid buildup of metabolically active Pb burden obsd. in the study group. Quant. assessment of eye movements may be an important tool for studying subclin. central nervous system dysfunction due to inorg. Pb exposure.

101: 176738q Behavior of plasma and urinary aluminum levels in occupationally exposed subjects. Musai, I.; Calzaferri, G.; Buratti, M.; Alessio, L. (Inst. Occup. Health, Univ. Milan, I-20122 Milan, Italy). Int. Arch. Occup. Environ. Health 1984, 54(2),

155-61 (Eng). Al III urine (AIU) and in plasma (AIP) was detd. in subjects occupationally exposed to environmental concns. of Al below or equal to the TWA (time weighted av.; five mg/m³). The AIU levels in these workers were markedly higher than those found in the control group. The levels of the indicator were definitely higher at the end of the shift than at the beginning of the same working day; also, the AIU levels were higher on Friday morning than on Monday morning. After an interruption in work of 2 wk, the values of the indicator underwent a marked redn. and were then only slightly higher than those of the control group. Occupational exposure to fumes produced higher AIU levels than exposure to dusts, and in the subjects exposed to fumes, the AIU levels were clearly influenced by the degree of exposure. The levels of Al in plasma in the exposed workers on the other hand, hardly differed from the levels found in the control group. These data appear to indicate that, whereas AIU allows daily and weekly exposure to be evaluated, AIP cannot be used as an indicator of occupational exposure, at least in the case of brief exposures to environmental concns. below or equal to the TWA.

101: 176739r Changes in some hematological indexes of acet=aldehyde production workers. Khristeva, V.; Angelova-Gateva, P.; Benvenisti, D.; Kostova, N. (MA, Sofia, Bulg.). Khig. Zdraveopaz. 1984, 27(3), 207-12 (Bulg). Occupational exposure to acetaldehyde (I) [75-07-0], ethylene [74-85-1], HCl, Cl₂, and acetic acid [64-19-7] in workplace air in the manuf. of I caused lymphocytosis in most of the workers examd. There were also significant changes in the indexes of erythrocyte Fe of the workers, as compared to a control group, which indicates that occupational exposure to such chem. toxicants disturbs Fe resorption and decreases Hb satn. with Fe.

101: 176740j Cationic protein levels in granulocytes of agricultural workers. Tsvetkova, T.; Atanasov, K.; Andonova, S. (MA, Sofia, Bulg.). Khig. Zdraveopaz. 1984, 27(3), 216-19 (Bulg). There was a significant decrease in the level of cationic proteins in granulocytes of agricultural workers occupationally exposed to pesticides. The decrease was more pronounced during agricultural work and less pronounced 5 mo after the exposure was terminated, which suggests that pesticides adversely affect the leukopoiesis in exposed workers.

101: 176741k Concentration of alpha-1-antitrypsin and im=munoglobulins A, G, and M in workers occupationally exposed to ceramic dust. Cianiara, Maria; Pagowska, Teresa (Zakl. Zapobiegawczo-Lecz., Cent. Nauk-Prod. Mater. Elektron., 02-673 Warsaw, Pol.). Pol. Tyg. Lek. 1984, 39(4), 107-9 (Pol). In workers, a statistically significant increase in the α-1-antitrypsin [9041-92-3], IgM, IgA, and IgG serum levels were obsd. in comparison with the control. No correlation between the α-1-antitrypsin level and ceramic dust compn. was found. A. Janowski

101: 176742m Effect of furfurole on the respiratory system. Pawlowicz, Anna; Droszcz, Wacław; Garlicki, Adam; Kutyla, Joanna; Kowalczyk, Mariola (Klin. Pneumonol., Akad. Med., Warsaw, Pol.). Med. Pr. 1984, 35(1), 39-45 (Pol). Chronic bronchitis claimed by 12 of 51 workers at a butadiene [106-99-0] plant who were occupationally exposed to furfurole (I) [98-01-1] in concns. not exceeding 7.3 mg/m³, was not supported by spirometric tests, probably because of hypercortisolemia caused by I. J. Geisler

101: 176743n Health status of workers employed in the poly(vinyl chloride) processing plant. II. Results of biochemical tests. Przybyłowski, Jan; Podolecki, Andrzej; Łaka, Leon; Biskupiek, Karol; Pietrzycki, Mieczysław (Klin. Chorob Wewn. Zawodowych, Śląska Akad. Med., Zabrze, Pol.). Med. Pr. 1984, 35(1), 13-20 (Pol). Blood morphol. parameters, Hb level, and activities of asparagine aminotransferase (I) [9074-82-2], alanine aminotransferase (II) [9000-86-6], alk. phosphatase (III) [9001-78-9], acid phosphatase [9001-77-8], and γ-glutamyl transpeptidase [9046-27-9] were detd. in blood of workers of plants processing polyvinyl chloride [9002-86-2]. Increases of I, II, and III activities were found in some groups of workers. No symptoms of plumbism were obsd. but decreases of γ-aminolevulinic acid dehydratase [9036-37-7] activity in erythrocytes were recorded. J. Geisler

101: 176744p Evaluation of the exposure to benzene of gasoline loading dock workers in a refinery. Buchet, J. P.; Van Eyken, J.; Lauwerys, R. (Unite Toxicol. Ind. Med. Travail, Fac. Med., 1200 Brussels, Belg.). Cah. Med. Trav. 1984, 21(1), 25-7 (Fr). Five methods of air sampling (4 passive diffusers and 1 dynamic system) were used simultaneously to evaluate the benzene [71-43-2] concn. near the breathing zone of workers loading gasoline into tank trucks at a refinery. The av. exposure during a work day was <1 ppm, with concn. peaks (30-min. samples) occasionally >5 ppm. The passive samples furnished usable results, though with high precision not required for the low benzene exposures. The results do not permit the recommendation of any particular passive sampler, but if the results of dynamic sampling are taken as a ref., a statistical agreement for both short- and long-term sampling was obsd. with only one of the passive samplers tested.

101: 176745q Analysis of uranium urinalysis and in vivo measurement results from eleven participating uranium mills. Spitz, H. B.; Simpson, J. C.; Aldridge, T. L. (Battelle Pac. Northwest Lab., Richland, WA USA). Report 1984, PNL-4550; Order No. NUREG/CR-2955, 62 pp. (Eng). Avail. NTIS. From