GAPRINDASHVILI, V.N.

Hydrometallurgical treatment of antimony-arsenic ores. Trudy Inst. prikl. khim. i elektrokhim. AN Gruz. SSR 2:147-159 '61. (MIRA 16:8)

(Arsenic ores) (Antimony ores)

GAPRIND~~ASHVILI, V.N.;~~ KILADZE, D.N.; KURDEVANIDZE, M.K.

Problem of the complete treatment of TSnelissk sepentinites.
Trudy Inst.prikl.khim.i elektrokhim.AN Gruz.SSR 3:73-85 '62.
(MIRA 16:1)

(Georgia—Sepentinites)

GAPRINDASHVILI, V.N.; KURDEVANIDZE, M.K.; GVINEPADZE, D.S.

Fractional separation of hydroxides of some metals from solutions obtained in the acid leaching of local serpentinites. Trudy Inst. prikl. khim. i elektrokhim. AN Gruz. SSR 4:45-52 '63.
(MIRA 17:5)

GAPRINDASHVILI, V.N.; GOGICHADZE, L.K.

Nitric acid treatment of Georgian serpentinites. Soob. AN Gruz.
SSR 38 no.2:295-301 My '65. (MIRA 18:9)

1. Institut prikladnoy khimii i elektrokhimii AN GruzSSR.
Submitted August 15, 1964.

KOSHARNYY, I.Ya. [Kosharnyi, I.IA.]; PIDPRIGORSHCHUK, M.V.; GAPSHENKO, I.I.; SKRIPNIK, K.I.; KASHCHEYEV, I.A., red.; KUTSENKO, V.P., red.; NIKOLAYENKO, V.S., red.; POTAYCHUK, I.M. [Potaichuk, I.M.], vidp. red.; SENDZYUK, F.L., red.; FOGT, V.Ya., tekhn. red.

[Soviet Drogobych Province] Radians'ka Drohobychchyna. Drohobych, Drohobyts'ke obl. vyd-vo, 1957. 199 p. (MIRA 11:8)
(Drogobych Province)

GAPTRAKHIMANOVA, K. G.

"Propolis Therapy for Agricultural Animals Suffering From Necrobacillosis." Cand Vet Sci, Kazan' State Veterinary Inst, Kazan', 1954. (RZhBiol, No 5, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

BABKINA, V.Yu.; CHUB, Ye.G.; GAPUNINA, O.V.; SKUDAR', I.K.

Laboratory model of a steaming unit for corrosion tests. Zav. lab. 30 no.1:1280-1281 '64. (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut osnovnoy khimii.

GAPUNIK, M.L.

Heating the rolls with exhaust gases. Sbor. rats. predl. vnedr. v proizv. no.2:19-20 '61. (MIRA 14:7)
(Rolling (Metalwork))

GAPUNIK, M.L.; DUDAREV, V.A.; SPIVAK, E.I.

Operation of heating furnaces of a medium sheet mill. Stal'
22 no.2:176-178 F '62. (MIRA 15:2)

1. Zavod "Amurstal'" i TSentroenergochemet.
(Rolling mills)
(Furnaces, Heating)

KISELEV, T.; DIORDITSA, A.; TYNURIS, E.; CHOGOVADZE, G.; BEGMATOVA, S.; GAPUROV, M.; KAKHAROV, A.

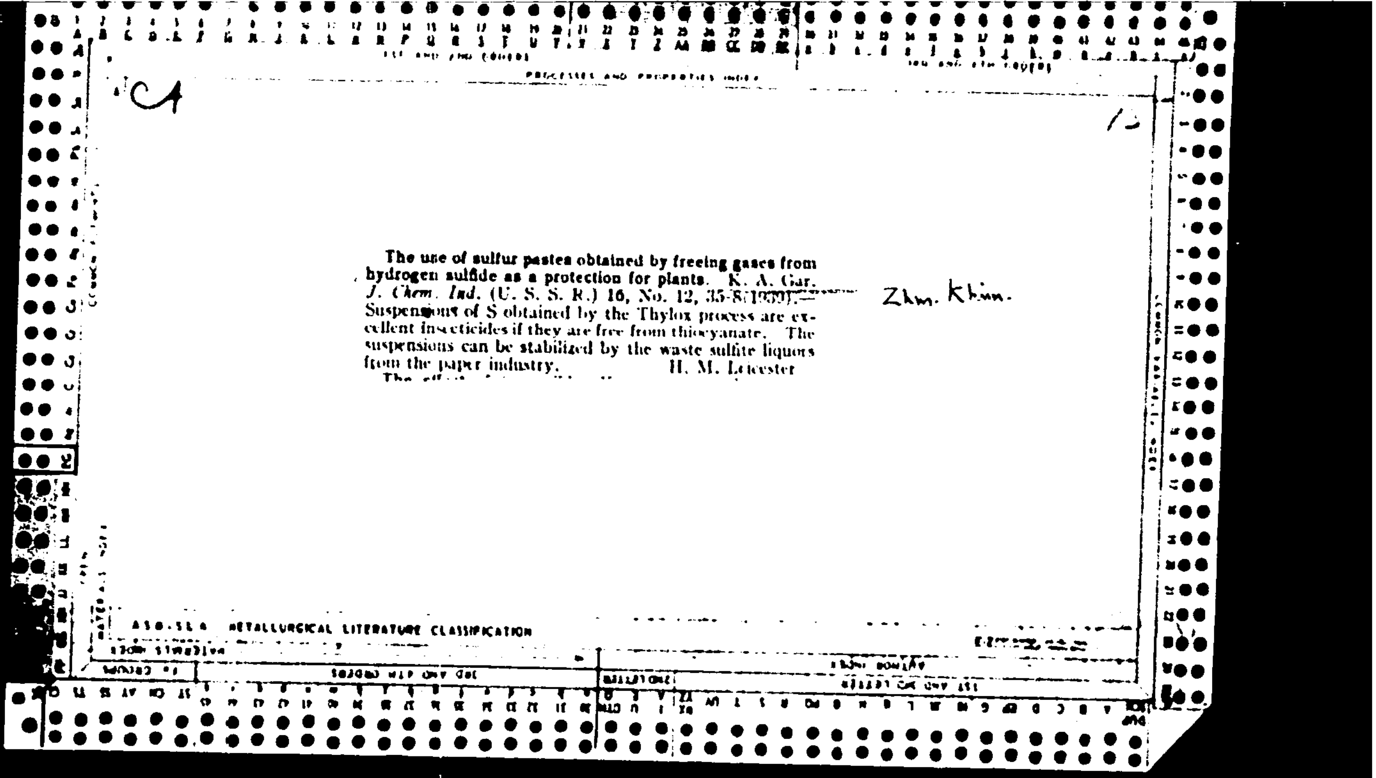
The entire country participates in foreign trade. Vnesh. torg. 43 no.12: 6-12 '63. (MIRA 17:2)

1. Predsedatel' Soveta Ministrov Belorusskoy SSR (for Kiselev). 2. Predsedatel' Soveta Ministrov Moldavskoy SSR (for Dioriditsa). 3. Zamestitel' Predsedatelya Soveta Ministrov Estonskoy SSR (for Tynuris). 4. Zamestitel' Predsedatelya Soveta Ministrov Gruzinskoy SSR (for Chogovadze). 5. Zamestitel' Predsedatelya Soveta Ministrov Kirgizskoy SSR (for Begmatova). 6. Predsedatel' Soveta Ministrov Turkmenskoy SSR (for Gapurov). 7. Predsedatel' Soveta Ministrov Tadzhikskoy SSR (for Kakharov).

GAPUROV, M.; SOPIYEV, I.; KARAYEVA, [illegible]; [illegible], [illegible]; [illegible], K.;
KHALLIYEV, P ; [illegible]ANOV, A.

In the land of sands and creation. Voen. znan. 41 no.2:26-28 F '65.

1. Predsedatel' Soveta Ministrov Turkmenskoy SSR (for Gapurov). 2. Predsedatel' sel'skokhozyaystvennoy arteli "Sovet Turkmenistana" (for Sopiyev). 3. Predsedatel' Leninskogo ispolnitel'nogo komiteta rayonnogo Soveta deputatov trudyashchikhsya Ashkhabada (for Karayeva). 4. Nachal'nik Ashkhabadskoy shkoly grazhdanskoy oborony Vsesoyuznogo obshchestva sodeystviya armii, aviatsii i flotu SSSR (for Avezmuradov). 5. Nachal'nik Ashkhabadskikh kursov grazhdanskoy oborony (for Klychmuradov). 6. Komandir [illegible]. Predsedatel' kolkhoza "[illegible]", Turkmenskaya SSR (for Khalliyev). 7. Sovetnik grazhdanskogo otdela [illegible] oborony [illegible] Turkmenskaya SSR (for [illegible]anov).



PROCESSES AND PROPERTIES INDEX

CA

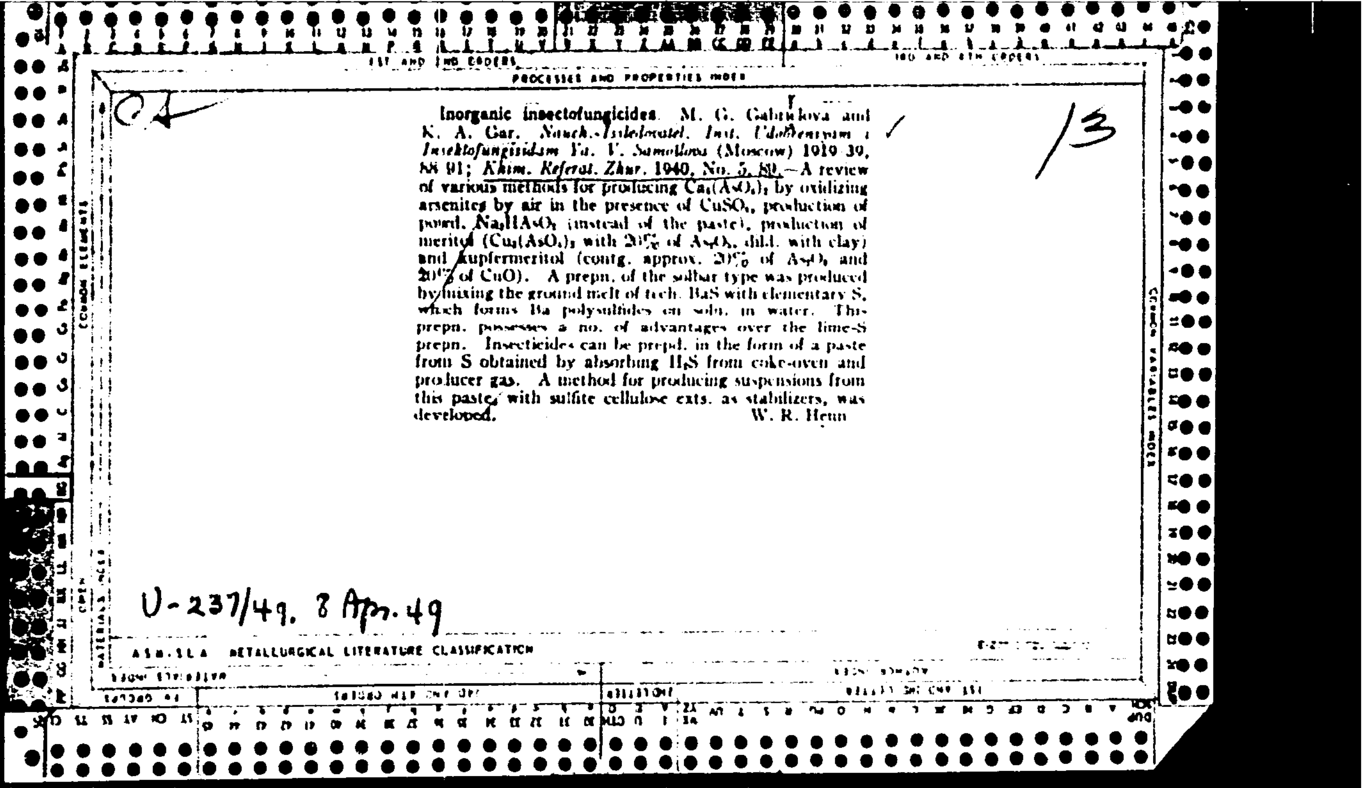
12

The use of sulfur pastes obtained by freeing gases from hydrogen sulfide as a protection for plants. K. A. Gar. *J. Chem. Ind.* (U. S. S. R.) 16, No. 12, 35-8(1939). Zhur. Khim. — Suspensions of S obtained by the Thylox process are excellent insecticides if they are free from thiocyanate. The suspensions can be stabilized by the waste sulfite liquors from the paper industry. H. M. Leicester

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GAR (K. A.). **A method for testing Bordeaux mixture.**—*Sadovod.*, *1940*, 4, p. 38, 1940. [Russian. Abs. in *Chem. Abstr.*, xxxv, 14, p. 4907, 1941.]

An ordinary filter paper is immersed in a 5 or 10 per cent. potassium ferrocyanide solution, dried, and cut into small strips, on which an excess of copper sulphate in the Bordeaux mixture may be detected by a pinkish-brown colour. Up to 0·05 per cent. of free copper sulphate produced a perceptible coloration in the writer's tests, and approximately the same concentration was found to cause scorching of foliage in the U.S.S.R.



1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

O

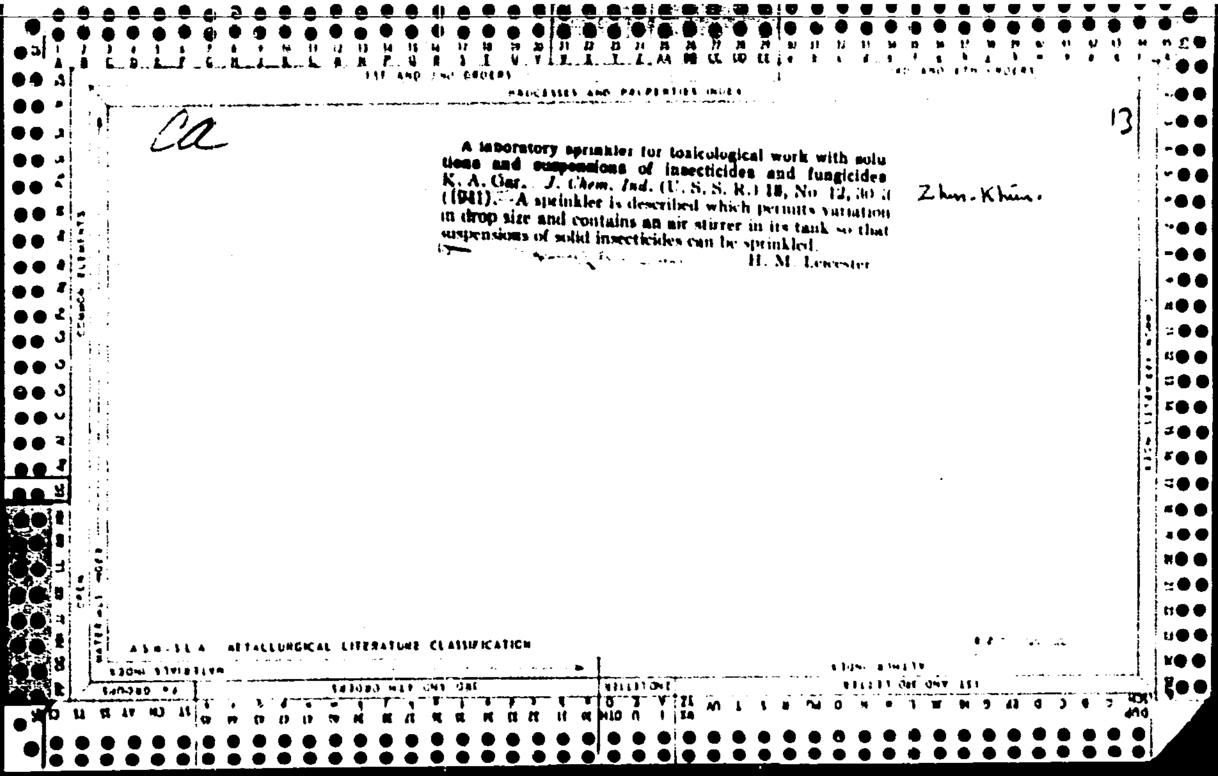
13

Inorganic insectofungicides. M. G. Gabrukova and K. A. Gar. *Nauch.-Issledovatel. Inst. Udobreniyam i Insektofungisidam Ya. V. Samoilova* (Moscow) 1919 39, 88-91; *Khim. Referat. Zhur.* 1940, No. 5, 80.—A review of various methods for producing $Ca_3(AsO_4)_2$ by oxidizing arsenites by air in the presence of $CuSO_4$, production of powd. Na_2HAsO_4 (instead of the paste), production of meritol ($Cu_3(AsO_4)_2$ with 20% of As_2O_5, dild. with clay) and kupfermeritol (contg. approx. 20% of As_2O_5 and 20% of CuO). A prepn. of the solbar type was produced by mixing the ground melt of tech. BaS with elementary S, which forms Ba polysulfides on soln. in water. This prepn. possesses a no. of advantages over the lime-S prepn. Insecticides can be prepd. in the form of a paste from S obtained by absorbing H_2S from coke-oven and producer gas. A method for producing suspensions from this paste, with sulfite cellulose exts. as stabilizers, was developed.

W. R. Henn

U-237/49. 8 Apr. 49

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

Ca

13

A laboratory sprinkler for toxicological work with solutions and suspensions of insecticides and fungicides. K. A. Gar. *J. Chem. Ind.* (U. S. S. R.) 18, No. 12, 30-1 (1941).—A sprinkler is described which permits variation in drop size and contains an air stirrer in its tank so that suspensions of solid insecticides can be sprinkled.

H. M. Leicester

Zhur. Khim.

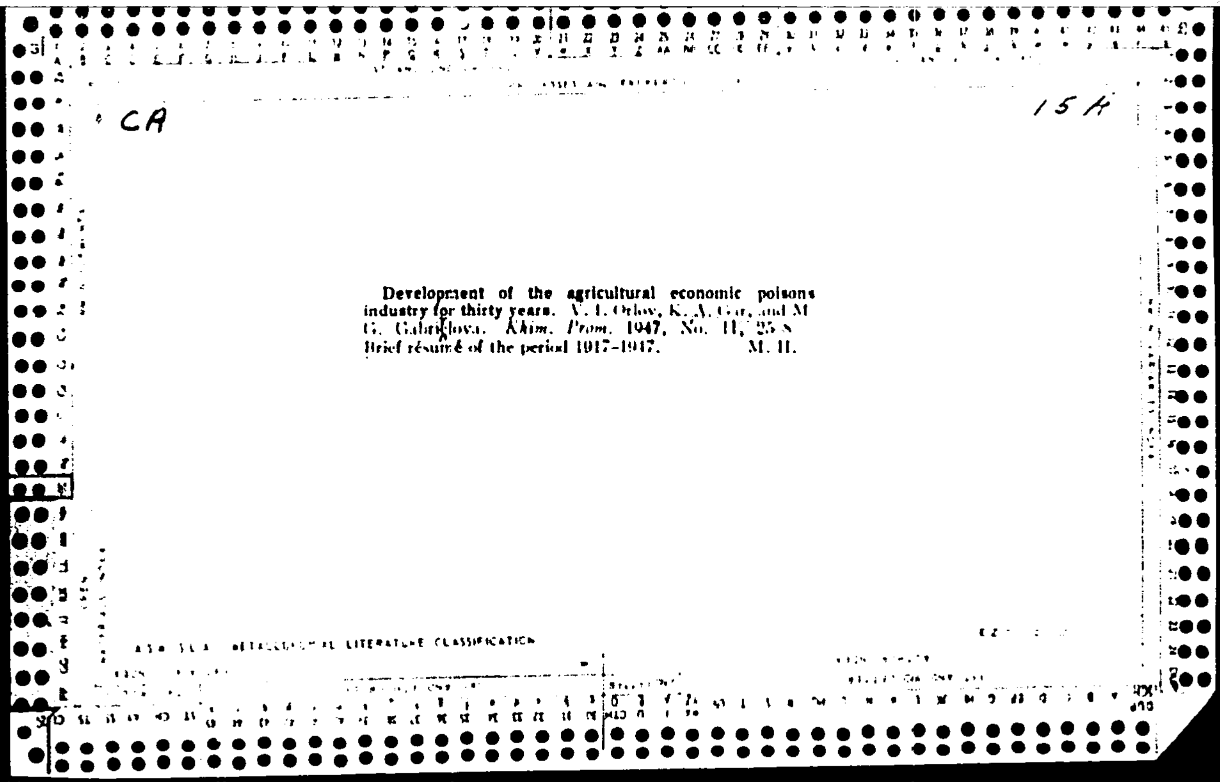
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

15A

Dustability and hygroscopicity of calcium arsenate. K. A. Gat. *Khim. Prom.* 1946, No. 11, 11-12. This study concerned the hygroscopicity of $Ca_3(AsO_4)_2$ and its agglomeration at various moisture contents. A special app. (described) was used to det. the no. and size of agglomerates at various moisture contents. Up to 5% of H_2O, $Ca_3(AsO_4)_2$ could be dusted without difficulty. The presence of 0.5% of NaOH or NaCl raised the hygroscopicity of $Ca_3(AsO_4)_2$. The presence of NaOH and Na_2CO_3 in the arsenate should be avoided. M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

15 A

Development of the agricultural economic poisons industry for thirty years. V. I. Orlov, K. A. Gar, and M. G. Gabriklova. *Khim. Prom.* 1947, No. 11, 25-8. Brief résumé of the period 1917-1947. M. H.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

GAR, K. A.

USSR/Medicine - Insecticides
Medicine - Agriculture

Nov 47

"Development of the Agricultural Insecticide Industry in Thirty Years," V. I. Orlov, Cand Tech Sci, K. A. Gar, Cand Agr Sci, M. G. Gabriyelova, Cand Tech Sci, 3½ pp

"Khimicheskaya Promyshlennost'" No 11 - p. 341-44

Historical account of development in the insecticide industry. Persons important in chemical research work in insecticides are listed and some examples are presented of the technological progress and development of insecticide products.

PA 34T48

PA 33/49T16

USSR/Chemistry - Arsenates, Toxicity Oct 48
Chemistry - Insecticides

"Experimental Study of Relation Between Solubility and Toxicity of Thermic Arsenates of Calcium," K. A. Gar, Cand Agr Sci, Sci Inst for Fertilizers and Insectofungicides imeni Prof Ya. V. Samoylov, 7 pp

"Dok v-s Ak Selkhoz Nauk" No 10

Determined relationship between solubility of intestinal fungicides for various pH and their toxicity to various type insects. Subject material dissolved poorly in alkali, and was less potent in

33/49T16

USSR/Chemistry - Arsenates, Toxicity (Contd) Oct 48

such mixtures. Overheating arsenate compound during manufacture lowered its toxicity. Recommends that insecticides containing arsenic be tested for toxicity on basis of solubility in water and in solutions with varying pH of 4 - 10. Submitted 31 Jan 48.

33/49T16

GAR, K. A.

6

Structure and insecticidal activity of some mixed esters of dithiophosphoric acid. K. A. Gar, N. N. Mel'nikov, Yu. N. Fadeev, and K. D. Shvetsova-Shilovskaya. *Doklady Akad. Nauk S.S.S.R.* 94, 241-4(1954); cf. *Zhur. Obshchei Khim.* 23, 1352(1953).—Insecticidal tests against *Calandra oryzae* with the following dithiophosphates indicated that mixed aliphatic aromatic esters are relatively weakly active and the activity drops with increase of the aliphatic radicals of the ester; hydroxyalkyl, acetoxyalkyl, and aldehydoalkyl esters have very low activity. The activity of trialkyl dithiophosphates rises significantly when a H atom of the alkyl group is replaced by a group like CN or CO_2R. The following esters are reported (b., d_{20}, n_D^{20}, concn. in % giving 50% mortality after 3 days exposure to aq. emulsion): $(MeO)_2PS_2CH_2CH_2Ph$, $b_{0.4}$ 128-32°, 1.2108, 1.5705, 0.1; *di-Et ester*, $b_{0.15}$ 135-7°, 1.1444, 1.5498, 0.118; *di-Pr ester*, $b_{0.1}$ 129-31°, 1.01990, 1.5381, >1; *di-iso-Pr ester*, $b_{0.3}$ 121-4°, 1.0066, 1.5305, >1; *di-Bu ester*, $b_{0.05}$ 137-40°, 1.0890, 1.5320, nontoxic; *di-iso-Bu ester*, $b_{0.4}$ 117-22°, 1.0860, 1.5301, nontoxic; $(BuO)_2PS_2CH_2CH_2CH_2OH$, $b_{0.05}$ 90-5°, 1.0401, 1.4835, over 0.5; $(MeO)_2PS_2CH_2CH_2OAc$, b_4 100-2°, 1.1558, 1.5265, 4.7; *di-Et ester*, $b_{1.5}$ 115-17°, 1.1517, 1.4948, 1.68; *di-Pr ester*, $b_{0.4}$ 80-1°, 1.0084, 1.5075, nontoxic; *di-iso-Pr ester*, $b_{0.1}$ 72-4°, 1.0816, 1.4335, nontoxic; *di-Bu ester*, $b_{0.1}$ 109°, 1.0916, 1.4858, nontoxic; *di-iso-Bu ester*, $b_{0.05}$ 104°, 1.0086, 1.4915, nontoxic; $(iso\text{-}PrO)_2PS_2CH_2CH_2CHO$, $b_{0.15}$ 74°, 1.1348, 1.5095, nontoxic; *di-Bu ester*, $b_{0.05}$ 75-7°, 1.0758, 1.4055, nontoxic; $(EtO)_2PS_2CH_2CH_2CN$, $b_{1.5}$ 134-42°, 1.1704, 1.5195, 0.03; *di-Pr ester*, $b_{0.4}$ 116-20°, 1.0506, 1.5008, 0.25; *di-iso-Pr ester*, $b_{0.05}$ 98-9°, 1.0182, 1.5020, over 0.25; *di-Bu ester*, $b_{0.05}$ 121-3°, 1.0816, 1.5050, 0.36; *di-iso-Bu ester*, $b_{0.4}$ 122-3°, 1.0093, 1.5010, over 0.30; $(MeO)_2PS_2CH_2CH_2CO_2Me$, b_3 145°, 1.2625, 1.5100, over 0.3; *di-Et analog*, $b_{1.5}$ 107°, 1.1011, 1.5050, 0.084; *di-iso-Pr analog*, $b_{0.05}$ 93-7°, 1.1420, 1.4918, over 0.5; *di-iso-Bu analog*, $b_{0.4}$ 124-9°, 1.1162, 1.4915, 0.6; $(MeO)_2PS_2CH_2CHMeCO_2Me$, b_3 133-5°, 1.2330, 1.5100, 0.15; *di-Et analog*, b_4 154.5°, 1.1577, 1.4995, over 0.15; *di-iso-Pr analog*, $b_{0.05}$ 84-5°, 1.1203, 1.4935, nontoxic; *di-Bu ester*, $b_{0.05}$ 110°, 1.1132, 1.4918, nontoxic; *di-iso-Bu analog*, $b_{0.4}$ 115-16°, 1.1133, 1.4915, nontoxic; $(EtO)_2PS_2CH(CH_2Ph)CO_2Et$, $b_{0.05}$ 114°, 1.1309, 1.5341, nontoxic; $(MeO)_2PS_2CH(CO_2Me)CH_2CO_2Me$, $b_{0.3}$ 134.5°, 1.2384, 1.5070, 0.007-0.013; $(MeO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, $b_{1.5}$ 160-70°, 1.2070, 1.4900, 0.0033; $(MeO)_2PS_2CH(CO_2CHMe_2)CH_2CO_2CHMe_2$, $b_{0.4}$ 113°, 1.1824, 1.4810, 0.003; $(MeO)_2PS_2CH(CO_2CH_2CHMe_2)CH_2CO_2CH_2CHMe_2$, $b_{0.3}$ 127-8°, 1.1483, 1.4835, nontoxic; $(EtO)_2PS_2CH(CO_2Me)CH_2CO_2Me$, $b_{0.05}$ 110-20°, 1.2237, 1.4070, 0.0010-0.0021; $(EtO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, b_4 157-63°, 1.1742, 1.4910, 0.021; $(EtO)_2PS_2CH(CO_2CHMe_2)CH_2CO_2CHMe_2$, $b_{0.05}$ 117-21°, 1.1493, 1.4816; 0.0034; $(EtO)_2PS_2CH(CO_2CH_2CHMe_2)CH_2CO_2CH_2CHMe_2$, $b_{0.4}$ 124-8°, 1.1008, 1.4775, nontoxic; $(PrO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, $b_{0.1}$ 145°, 1.1706, 1.4890, 0.069; $(PrO)_2PS_2CH(CO_2CHMe_2)CH_2CO_2CHMe_2$, $b_{0.05}$ 135-8°, 1.1146, 1.4785, nontoxic; $(PrO)_2PS_2CH(CO_2Bu)CH_2CO_2Bu$, $b_{0.05}$ 143-8°, 1.0047, 1.4822, about 0.5; $(iso\text{-}PrO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, b_4 151°, 1.0703, 1.5140, 0.25; $(BuO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, $b_{0.05}$ 125-8°, 1.1078, 1.4801, >0.5; $(iso\text{-}BuO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, $b_{0.4}$ 117-30°, 1.0642, 1.4855, >0.5.

G. M. Kosolapoff

Translation F 139 R, 16 Jun 54

Translation 2524467, 30 Dec 54

GAR, K.A.

Use of labelled atoms for studying the stability of insecticide dusts containing organic thiophosphates. K. A. Gar, N. N. Mel'nikov, Ya. A. Mandel'baum, V. I. Chernetsova, and K. D. Shvetsova-Shilovskaya (*Dokl. Akad. Nauk SSSR*, 1954, 94, 729—732).—The rate of loss of P from 1% dusts of diethyl *p*-nitrophenylthiophosphate containing ^{32}P and/or ^{35}S is greater, at the same temp., than that from ethyl *pp'*-dinitrodiphenylthiophosphate, and for both compounds increases with temp. (measurements at 15, 22, and 45°); it is also greater in the light than the dark. The decrease in toxicity runs parallel to the loss of P. The major part of the toxicity of these preparations will have vanished after 4 days' exposure on crops under normal conditions.

R. C. MURRAY.

Gar, K.A.

An application of the method of labeled atoms in the study of resistance of Eurygaster integriceps to two organophosphorus insecticides and experimental study of their penetration into the plants. K. A. Gar, Ya. A. Mandel'baum, N. N. Mel'nikov, K. D. Shvetsova-Shilovskaya, and V. I. Chernetsova. *Doklady Akad. Nauk S.S.S.R.* 94, 1189-92(1954).—P^{32}-Labeled specimens of $(EtO)_2PS(OC_6H_4NO_2\text{-}p)$ and $EtOPS(OC_6H_4NO_2\text{-}p)_2$ were used in 1% dusts which were applied to male and female specimens of the insects. Females were generally more resistant to both insecticides than the males. A direct relation was found between the amt. of P which penetrates the insect body and the degree of poisoning within each exptl. group. Death occurs with lower level of the di-Et deriv. than mono-Et deriv., but this is caused not by a mere difference of diffusion, since in dead specimens the difference in permeability disappears between females and males. Chrysanthemum plants were allowed to absorb through the roots aq. emulsions of the di-Et deriv. (0.05–0.2%) and the penetration to the leaves was studied radiometrically. A spraying with even 0.2% emulsion failed to give complete control of *Aulacorthum pelargonii*, although the amt. of the insecticide which penetrated the plant mass reached 0.003% of the green mass at room temp. This corresponds to 20-30 mg./kg. At lower temp. when this value reached 60 mg./kg. a considerable degree of control was attained and the insects contained up to 22 mg./kg. of the di-Et deriv. The penetration into chrysanthemum was substantially like that found in beets. However, on cabbage cultures no control was achieved by this method against *Brevicoryne brassicae*, although withering of leaves was observed at 0.05% concn. of the emulsion, or higher. In cabbage and chrysanthemum expts. considerable hydrolysis of the insecticide took place and after 30 days only the hydrolysis products remained; this process is accelerated by sunlight. Dusting with 1% dust on shaded kidney beans showed 42% hydrolysis after 10 days; in sunlight almost all was hydrolyzed in 4 days. On wheat the process takes but 2 days. Thus parathion is not truly a systemic insecticide, owing to its poor penetration and stability in the plant.

G. M. Kosolapoff

GAR, K. A.

"Research by Means of Radioactive Isotopes Concerning Penetration and Residues of Phosphoorganic Insecticides in Plants," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

GAR, K. A.

USSR/ Medicine - Physiology

Card 1/1 Pub. 22 - 46/49

Authors : Gar, K. A.; Sazonova, N. A.; and Fadeyev, Yu. N.

Title : Decomposition and separation of diethyl-4-nitrophenylthiophosphate from the organism of a rabbit during intravenous introduction

Periodical : Dok. AN SSSR 102/1, 185-187, May 1, 1955

Abstract : Experiments were conducted on rabbits injected intravenuously with a toxic phosphor-organic compound (diethyl-4-nitrophenylthiophosphate) to determine the rate of decomposition of the toxin and its separation from the living organism of the animal. Results obtained are listed. Five USA references (1950-1953). Graph.

Institution : Sc. Res. Inst. of Fertil'. and Insectofungicides im. Ya. V. Samoylov

Presented by : Academician Ye. N. Pavlovskiy, December 29, 1954

Translation D-383035
" D-457707

GAR, K. A.

USSR/ Medicine - Physiology

Card 1/1 Pub. 22 - 46/46

Authors : Gar, K. A.; Sazonova, N. A.; and Fadeyev, Yu. N.

Title : Penetration of dimethyl-4-nitrophenylthiophosphate into the blood stream and its effect on the activity of cholinesterase during oral poisoning of rabbits

Periodical : Dok. AN SSSR 103/1, 173-176, Jul 1, 1955

Abstract : Experiments were conducted on rabbits to determine the degree of penetration of dimethyl-4-nitrophenylthiophosphate (administered orally) into the blood stream of the animals and to study its effect on the activity of cholinesterase during the poisoning of the rabbits. Results are described. Eleven references: 8 USA and 3 Eng. (1951-1953). Table; graphs.

Institution : Sc. Inst. on Fertil. and Insectofungicides im. Ya. V. Samoylov

Presented by: Academician V. A. Engel'gardt, April 12, 1955

Translation D 383035
" D 457707

GAR, K.A.

Study of factors influencing the effectiveness of various types of DDT dusts in controlling shield bugs. [Trudy] NIUIF no.156: 36-45 '55.
(MLRA 9:10)

(DDT (Insecticide)) (Eurygasters)

GAR, K.A.

Dispersibility and sedimentation of DDT and hexachloran dusts. K. A. Gar. *Trudy, Nauch. Inst. Udobren. i Insektofungisid. im. Ya. V. Samoilova* 1955, No. 166, 45-64.—A high degree of dispersion is essential to the toxicity of DDT and hexachloran dusts. Adherence increases with specific surface $S = 6v/d$, but drift is also increased. Shelikhovskii showed that sedimentation of fume particles is much slower than expected from Stokes' formula. This is explained by the virtual viscosity A of moving air: $A = 5.5\ \alpha^2v^2$, where α is an index of the air turbulence, and v is air velocity, in m./sec. When $v = 1$, the virtual viscosity of the air is about 350 times the molecular; 200,000 times when $v = 6$. But air movements are turbulent, and there are moments of standstill when dust sedimentation follows Stokes' law; the probability of such moments decreases from 0.6 to 0.05 when wind velocity increases from 0 to 2 m./sec. Real speed of sedimentation S', in cm./sec., is expressed by the equation: $S' = (2/9)gP\delta r^2/\mu$, where g is acceleration due to gravitation (981 cm./sec.), P is probability of the viscosimetric standstill of atm., δ is d. of particles in g./cc., r is radius of particles in cm., and μ is mol. viscosity of the air in g./cm./sec. Speed of sedimentation is inversely proportional to the degree of dispersion. Expts. in an aerodynamic tube confirmed the above formula. Deviations observed with kaolin dusts are explained by the agglomeration of dust particles. Addn. of talc to kaolin (1:1) improves dispersion and slows sedimentation. Field expts. showed that the deposition of DDT and hexachloran dusts with kaolin is much better than of these with talc. The deposition of dusts with kaolin and talc (1:1) is much poorer than of these with talc alone. This is explained by better dispersion of the kaolin-talc mixt. and important losses of tiny kaolin particles by drift. The aerodynamic tube, with automatic recorders, appeared to be a very useful tool in the search for optimum particle size of insecticidal dusts. 2 references.

J. Vcba

GAR, K.A.; CHERNETSOVA, V.I.

Stability in the toxic action of hexachloro-cyclohexane and DDT dusts under various conditions. [Trudy] NIUIF no.156:55-64 '55.
(MLRA 9:10)

(DDT (Insecticide))
(Benzene hexachloride)

GAR, K.A.; MOLCHANOV, A.V.; BEZOBRAZOV, Yu.N.; DUBOVITSKIY, A.M.

Using the ash from Cottrell filters of electric power stations as filler in preparing dusts. [Trudy] NIUIF no.156:73-89 '55.
(MLRA 9:10)

(Insecticides) (Ash (Technology))

<u>GAR, Konstantin Arkad'yevich</u>

Khimicheskiye Preparaty Dlya Zashchity Rasteniy (Chemicals for Plant Protection)

Moskva, Sel'khozgiz, 1956.

115 p. illus., tables.

"Literatura"; p. (114)

KAMSHILOV, N.A.; ANTONOV, M.V.; BAKHAREV, A.N.; BLINOV, L.F.; BORISOGLEBSKIY, A.D.; GAR, K.A.; GARINA, K.P.; GORSHIN, P.F.; GUTIYEV, G.T.; DELITSINA, A.V.; DUBROVA, P.F.; YEVTUSHENKO, A.F.; YEGOROV, V.I.; YEREMENKO, L.L.; YEFINOV, V.A.; ZHILITSKIY, Ya.Z.; ZHUCHKOV, N.G., prof.; ZAYETS, V.K.; ISKOL'DSKAYA, R.B.; KOLESNIKOV, V.A., prof.; KOLESNIKOV, Ye.V.; KOSTINA, K.F.; KRUGLOVA, V.A.; LEONT'YEVA, M.N.; LESYUK, Ye.A.; MUKHIN, Ye.N.; NAZARYAN, Ye.A.; NEGRUL', A.M., prof.; ODITSOV, V.A.; OSTAPENKO, V.I.; PETRUSEVICH, P.S.; PROSTOSERDOV, N.N., prof.; RUKAVISHNIKOV, B.I.; RYABOV, I.N.; SABUROV, N.V.; SABUROVA, T.N.; SAVZDARG, V.E.; SEMIN, V.S.; SIMONOVA, M.N.; SMOLYANINOVA, N.K.; SOBOLEVA, V.P.; TARASENKO, M.T.; FETISOV, G.G; CHIZHOV, S.T.; CHUGUNIN, Ya.V., prof.; YAZVITSKIY, M.N.; ROSSOSHCHANSKAYA, V.A., red.; BALLOD, A.I., tekhn.red.

[Fruitgrower's dictionary and handbook] Slovar'-spravochnik sadovoda. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 639 p. (MIRA 11:1)

(Fruit culture--Dictionaries)

GAR, K. A.

USSR / General and Specialized Zoology. Insects. Insect and Mite Pests. P

Abs Jour : Ref Zhur - Biol., No 10, 1958, No 44846

Authors : Gar, K. A.; Granin, Ye. F.
Inst : Not given
Title : The Testing of New Preparations for Presowing Treatment of Sugar-Beet Seeds.

Orig Pub : Zashchita rast. ot vredit. i bolezney, 1957, No. 1, 46.

Abstract : Chlordane, heptachlor, aldrin, dieldrin, isodrine and endrine were tested in experiments on small plots. Ethalone - HCCH (technical and enriched with gamma-isomer to 99-100 percent). The effectiveness was determined at various periods (up to 9 days) after sprouts appeared in glass containers on the plots The dead beetles were counted 1 1/2 and 3 days after adding them to the plant containers. All the insecticides tested led

Card 1/2

GAR, K.A.

"Preparations Tested Against Suctorial Cotton Pests," by A. V. Flyagina, Senior Scientific Collaborator at the All-Union Scientific Research Institute of Cotton Growing, Tashkent, Zashchita Rasteniy ot Vrediteley i Bolezney, Moscow, Vol 2, No 1, Jan/Feb 57, p 47

Tests were carried out to determine the comparative effectiveness of organophosphorus insecticides and chlorinated terpene insecticides when applied for the control of suctorial pests which attack cotton plants. The tests were conducted at the Station for the Protection of Plants of the Soyuz Scientific Institute of Fertilizers and Insectofungicides. The insecticides that were tested were synthesized at the All-Union Scientific Research Institute of Cotton Growing and included toxaphene, chlorten, chlorten with DDT, polychlorpinene, polytoxaphene, vofatoks, a 30-percent emulsion of thiofos, and a mixture of lime-sulfur decoction with anabazine sulfate. All tests established that the organophosphorus insecticides were considerably more effective than the chlorinated carbon insecticides, and the use of the latter is not recommended.

[Comment: Chlorten is obtained by the photochemical chlorination of a-pinene, and contains no less than 64 percent of chlorine; vofatoks, also known as metafos, is diamethyl-4-nitrophenylthiophosphate, according to Khimicheskiye Preparaty dlya Zashchity Rasteniy (Chemical Preparations for the Protection of Plants) by K. A. Gar, Moscow, 1956, pp 40 and 28]

Sum. 1305

GAR, K.A.

BEZOBRAZOV, Yuriy Nikolayevich; MOLCHANOV, Andrey Vasil'yevich; GAR, Konstantin Arkad'yevich; RATMANSKIY, N.S., red.; SHPAK, Ye.G., tekhn.red.

[Hexachloran, its characteristics, its manufacture, and uses] Geksakhloran, ego svoistva, poluchenie i primenenie. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1958. 315 p. (MIRA 11:5)
(Benzene hexachloride)

USSR/General and Specialized Zoology - Insects. Harmful Insects and Acarids. Chemical Means in the Control of Harmful Insects and Acarids. P

Abs Jour : Ref Zhur Biol., No 6, 1959, 25404

Author : Gar, K.A.
Inst : -
Title : Industrial Experiments of 65% Concentration of Chlorthene

Orig Pub : V. sb.: Organ. insecto-fungitsidy i gerbitsidy. M., Goskhimizdat, 1958, 208-230

Abstract : Of all the chlorthene (Ch) preparations obtained by the photochemical method, the most acceptable was the preparation containing about 64% of Cl. The reduction of Cl in Ch decreases the toxicity and increases the phytocidic property of the preparation. An increase of Cl in Ch from 64% to 68% slightly increases the toxicity, has little effect on the phytocidic property and somewhat increases the atability of the preparation. On the basis

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USSR/General and Specialized Zoology - Insects. Harmful Insects and Acarids. Chemical Means in the Control of Harmful Insects and Acarids. P

Abs Jour : Ref Zhur Biol., No 6, 1959, 25404

of experiments carried out in various USSR zones, there were histed the species of mites and insects and the effectiveness of concentrated emulsions of 65% Ch preparation (they accepted for introduction into practice) used for their control. Effective concentrations of Ch emulsions are not phytocidic to plant species. Pests in the control of which Ch is slightly effective are indicated. The treatment of vegetable cultures in closed ground with aerosols of a 2% solution of technical Ch in green oil was very effective in controlling spider mites on cucumbers and other cultures, calla palustiu and aphids at an outlay of 5-20 cm^3/m^3 of the solution. A.P. Adrianov

Card 2/2

Insects P

USSR/General and Specialized Zoology - Insects. Harmful Insects and Acarids. Chemical Means in the Control of Harmful Insects and Acarids. P

Abs Jour : Ref Zhur Biol., No 6, 1959, 25405

concentration against caterpillars of the apple and lilac mining moths, and in 0.5 and 1% concentrations against the maple leaf roller. Both concentrate emulsions were highly effective in the control of mites, plum aphids and pear psyllas. When plants were sprayed with emulsions of Ch and DDT not in one case were there observed scaldings of the leaves. -- A.P. Adrianov

Card 2/2

IVANOV, I.I., agronom-entomolog(Khaybullinskiy rayon, Bashkirskoy SSR);
LEVIN, B.I.; GAR, K.A.

Letters to the editor. Zashch.rast.ot vred.i bol. 4 no.3:60
My-Je '59. (MIRA 13:4)

1. Zaveduyushchiy punktom sluzhby ucheta i prognozov Irkutskoy oblasti (for Levin).
(Plants, Protection of)

17 (2)

AUTHORS: Gar, K. A., Yevteyeva, N. V., Andreyeva, Ye. I. SOV/20-127-6-41/51

TITLE: On the Fungicidal Activity of the δ-Isomer and of the Mixtures of δ- and γ-Isomers of Hexachlorocyclohexane

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 6, pp 1290 - 1293 (USSR)

ABSTRACT: The outstanding insecticidal properties of the γ-isomer of the compound mentioned in the title facilitated the production of a number of chemical insecticides for agriculture as well as for veterinary and sanitary disinfection (insect killing). Commercial hexachlorocyclohexane contains 6 isomers. The content of γ-isomer, which is practically the only insecticide, amounts to 10-12%. Many procedures have recently been developed for the purpose of raising the content of γ-isomer. The non-toxic isomers are mostly removed by means of extraction by organic solvents. They may then be further used. Preparations enriched in this way are not only more active but they also change the taste of the crops less than commercial hexachlorocyclohexane. These enriched preparations are particularly important and valuable for seed treatment. In this connection, and in view

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On the Fungicidal Activity of the δ-Isomer and of the Mixtures of δ- and γ-Isomers of Hexachlorocyclohexane SOV/20-127-6-41/51

of the hypothesis on the poisoning of living organisms by K. A. Gar (Ref 1), the authors carried out a thorough investigation of the remaining isomers, particularly of their fungi- and bactericidal activity. The results obtained were not only interesting but they instigated further investigations of this problem. It was ascertained that the α- and β-isomers have practically no activity whereas the γ-, and particularly the δ-isomers possess fungicidal properties, the toxicity of the latter being very specific for microorganisms. Figure 1 shows photographs of the Petri dishes in which spores and mycelia of the fungi Fusarium and Diplodia were sown upon potato-dextrose-agar with addition of 0.05; 0.01 and 0.002% γ- and δ-isomers. The addition of γ-isomer to the nutrient medium inhibited the growth of the colonies only in the case of Diplodia zeae (Schw.) Lev. The δ-isomer, on the other hand, caused either a complete or an extensive suppression of growth in all species of fungi investigated (D.zeae, Fusarium oxysporum, Botrytis sp., a species of penicillium, yeast, etc). The strongest inhibition by medium concentrations is worth mentioning. This particular effect of the two isomers suggests the capability of

On the Fungicidal Activity of the δ-Isomer and of the Mixtures of δ- and γ-Isomers of Hexachlorocyclohexane SOV/20-127-6-41/51

forming so-called tong-like complex compounds with some metals which participate in these or other ferment systems (Ref 3). On the basis of the results obtained, informative field experiments were carried out at the Dolgoprudnaya agrokhimicheskaya stantsiya (Dolgoprudnaya Agrochemical Station) of the Institute mentioned under "Association" (Tables 1 and 2). The treatment of the wheat- and linseeds favored their germinating power, and greatly reduced the affection by fusariosis, or fusariosis and polysporosis respectively. Wheat was fully relieved of wheat smut (Tilletia tritici). The effect was even better than that of the mercury preparations. Doctor R. Smrzh, Yu. N. Bezobrazov, and A. V. Molchanov supplied samples of the preparations. There are 1 figure, 2 tables, and 3 Soviet references.

ASSOCIATION: Nauchnyy institut po udobreniyam i insektofungicidam (Scientific Institute of Fertilizers and Insectofungicides)

PRESENTED: May 5, 1959, by S. I. Vol'fkovich, Academician

SUBMITTED: April 29, 1959

Card 3/3

SHOGAM, S.M.; FEN'KOVA, Ye.I.; GAR, K.A.; POSLAVSKIY, Yu.M.; GOLUBEVA, Z.Z.

Investigation of fillers and selection of appropriate machinery for the production of new organic powder insecticides. [Trudy] NIUIF no.164:3-5 '59. (MIRA 15:5)

(Insecticides)

GAR, K.A.; DOBROKHOTOVA, N.M.; YEVTEYEVA, N.V.

Studying the processes of penetration and metabolism of some organic insecticides in insects and plants. [Trudy] NIUIF no.164:5-6 '59. (MIRA 15:5)
(Insecticides) (Succinic dehydrogenase)

GAR, K.A.; GULENKOVA, L.P.

Selection and evaluation of preparations for controlling the Colorado beetle. [Trudy] NIUIF no.164:6 '59. (MIRA 15:5)
(Insecticides)

MEL'NIKOV, N.N.; VOL'FSON, L.G.; KUZNETSOVA, K.V.; SAPOZHKOV, Yu.N.;
GAR, K.A.; GRANIN, Ye.F.; FARBER, M.S.

Insecticides based on hexachlorocyclopentadiene. [Trudy] NIUIF no.164:8-11 '59. (MIRA 15:5)

(Cyclopentadiene)

GAR, K.A.; CHEKALINA, V.I.

Investigation of the toxicity of chlorinated terpenes. [Trudy] NIUIF no.164:40-41 '59. (MIRA 15:5)
(Terpenes) (Insecticides)

GAR, K.A.

Organization of investigations on insecticides and fungicides in the Chinese People's Republic. Zashch. rast. ot vred. i bol. 5 no.1:45-46 Ja '60. (MIRA 14:6)
(China--Insecticides)
(China--Fungicides)

S/020/60/132/02/28/067
B011/B002

AUTHORS: Boldyrev, B. G., Gar, K. A., Yevteyeva, N. V.

TITLE: Esters of Thiosulfonic Acids as New Fungicides

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 346-348

TEXT: Esters (I) of thiosulfonic acids are effective against microorganisms within a wide range. They also stimulate the development of plants thus increasing harvest. The authors investigated the fungicidal properties of methyl esters of alkanethiosulfonic acids (III), and the trichloromethyl esters (IV) of these acids. The authors do not agree with the American investigators (Ref. 3) as regards the assumption that the fungicidal effects of trichloromethyl esters of different thiosulfonic acids are the same, regardless of the nature of the radical (Formula IV). This was disproved by the authors (see below). They also tested some aryl esters (V) and (VI) of alkane- and arene-thiosulfonic acids. The fungicidal action of all these esters was tested in the toksikologicheskaya laboratoriya (Toxicological Laboratory) of the Institute imeni Ya. V. Samovlov (see Association) in the following species of fungi: Diplodia zeae, Alternaria radicina, Verticilium dahliae, Fusarium vasinfectum and Fusarium

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oxysporum. Certain concentrations of these preparations dissolved in acetone, were introduced into agar nutritive media, into which the fungi then were sown. The action of the esters was determined after 5 days. Similar experiments with equal concentrations of Figon, Kaptan, and Tsineb were conducted for comparison. Table 1 shows that trichloromethyl esters of alkanethiosulfonic acids are the most effective among all substances examined (I). During experiments in vitro they had a much better effect than similar esters of arenethiosulfonic acids. This action, however, is not due to the trichloromethyl group; the substitution of chlorine atoms by hydrogen atoms influences the activity of the compounds under consideration. The special effect of the nature of the acid radical R becomes evident during transition into the aryl esters of thiosulfonic acids (V) and (VI). While the aryl esters of methane- and ethanethiosulfonic acids (Table 1, No. 10-13) are still strongly fungicidal and even surpass the trichloromethyl esters of arenethiosulfonic acids (No. 7-9) in their action, aryl esters (VI) are considerably less active than other esters (I). Some of them, however, are not inferior to fungicides as active as Kaptan. The esters discussed here, particularly those of alkanethiosulfonic acids are thus highly active fungicides and are worth further investigation. The action of the fungicides was investigated in the Institut mikrobiologii AN USSR (Institute of

Esters of Thiosulfonic Acids as New Fungicides

S/020/60/132/02/28/067
B011/B002

Microbiology of the Academy of Sciences, UkrSSR). There are 1 table and 2 Soviet references.

ASSOCIATION: L'vovskiy politekhnicheskiy institut (L'vov Polytechnical Institute). Nauchnyy institut po udobreniyam i insektofungitsidam im. Ya. V. Samoylova (Scientific Institute of Fertilizers and Insecto-fungicides imeni Ya. V. Samoylov)

PRESENTED: January 13, 1960, by S. I. Vol'fkovich, Academician

SUBMITTED: January 3, 1960

Card 3/3

GAR, K.A.; GUSAKOVA, M.V.; CHEKALINA, V.I.

Investigation of the toxicity and phytocidal capacity of the distillates of some chlorinated terpenes. [Trudy] NIUIF no.171:74-80 '61. (MIRA 15:7)
(Chlorine organic compounds) (Insecticides--Toxicology)

POSLAVSKIY, Yu.M.; GOLUBEVA, Z.Z.; GAR, K.A.

Application of DDT dust combined with chlorinated terpenes against cotton bollworms. [Trudy] NIUIF no.171:81-83 '61. (MIRA 15:7)

(Bollworm) (DDT (Insecticide)) (Chlorine organic compounds)

GAR, K.A.

Against plant diseases and pests. Priroda 52 no.4:60-62 '63.
(MIRA 16:4)

1. Nauchno-issledovatel'skiy institut po ubodreniyam i insektofungitsidam im. Ya.V.Samoylova, Moskva.
(Fungicides) (Insecticides)

PEYVE, Ya.V.; PETERBURGSKIY, A.V., doktor sel'khoz. nauk, prof.; GAR, K.A., kand. sel'khoz. nauk; GOLYSHIN, N.M., kand. biol. nauk; KOROTKIKH, G.I., kand. sel'khoz. nauk; CHESALIN, G.A., kand.sel'khoz.nauk; RAKITIN, Yu.V., doktor biol. nauk; ZEZYULINSKIY, V.M., kand. sel'khoz.nauk; DEVYATKIN, A.I., kand. sel'khoz. nauk; VENEDIKTOV, A.M., kand.sel'khoz. nauk; TARANOV, M.G., kand. biol. nauk; BORISOVA, L.G.; BEREZNIKOV, V.V., kand. tekhn.nauk; KONDRATENKO, R.V., st. nauchn.sotr.; BORISOV, F.B., st. nauchn.sotr.

[Chemistry in agriculture] Khimiia v sel'skom khoziaistve. Moskva, Kolos, 1964. 381 p. (MIRA 17:9)

1. Chlen-korrespondent AN SSSR (for Peyve). 2. Nachal'nik laboratorii Nauchno-issledovatel'skogo instituta plastmass (for Borisova). 3. Nauchno-issledovatel'skiy institut plastmass (for Kondratenko, Borisov).

GAR, Konstantin Arkad'yevich; BOBNEVA, N.P., red.; ZOTOVA, L.A., red.

[Chemistry protects crops] Khimiia zashchishchaet urozhai. Moskva, Izd-vo "Znanie," 1964. 27 p. (Novoe v zhizni, nauke, tekhnike. V Seriia: Sel'skoe khoziaistvo, no.12) (MIRA 17:7)

SOLOMKO, Z.F.; GLUSHKO, L.P.; MALINOVSKIY, M.S.; GAR. K.A.

Sulfanilides. Part 20: Ethyl esters of N-arylsulfonyl-N-arylcarbamic acid. Zhur. org. khim. 1 no.1:121-124 Ja '65. (MIRA 18:5)

1. Dnepropetrovskiy gosudarstvennyy universitet.

L 15091-66 EWT(1)/EWA(j)/EWA(b)-2 RO

ACC NR: AP6000390 (A,N) SOURCE CODE: UR/0348/65/000/010/0033/0036

AUTHOR: Gar, K. (Doctor of Agricultural Science)

45
44
B

ORG: VNIIKHSZR

TITLE: Pesticide compatability

SOURCE: Zashchita rasteniy ot vrediteley i bolezney, no. 10, 1965, 33-36

TOPIC TAGS: plant disease control, pesticide, fungicide, chemical reaction, organic phosphorus compound, organic sulfur compound, calcium compound, copper compound, insect control

ABSTRACT: The problem of pesticide compatability appears when two or more chemical compounds with different properties are required for simultaneous treatment of plants. The present paper discusses the compatability of 27 different pesticides and fungicides in relation to one another indicating when mixing is required, recommended, not advisable, or ineffective. Anabasin- or nicotine-sulfates require the addition of soft soap, lime, or alkali to improve wetting and to break down the sulfate molecule for higher toxicity. Mixing is recommended when the toxic effect can be intensified, as in the case of DDT and

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UDC: 632.981.5

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ACC NR: AP6000390

polychlorpinene against leaf eating bugs, or when several harmful pests can be destroyed with fewer treatments, as in the case of sulfur and copper fungicides against mildew and oidium on grape vines. Mixing of organic fungicides (captan, zineb and dichlone) with mineral oil preparations is not recommended because this may cause burning of plants. For the same reason, mineral oil preparations should not be combined with preparations containing sulfur. Also, calcium arsenate which contains lime cannot be mixed with preparations that break down under its effect, such as copper oxychloride and hexachloran. In some cases, mixing is ineffective because the preparations produce similar effects; and, with simultaneous application, the effect is not intensified due to action mechanism differences, as in the case of anabasin- or nicotine-sulfate preparations mixed with organophosphorus preparations or DDT with calcium arsenate. Combined application of chemical preparations, particularly herbicides with insecticides or fungicides, should be approached carefully. Orig. art. has: 1 table.

SUB CODE: 06, 02/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2

S/832/62/000/000/013/015
D424/D307

AUTHORS: Gar, P.P., Gundyrev, A.A., Nametkin, N.S., Panchenkov, G.M. and Topchiyev, A.V.

TITLE: Refractometric investigations of some organosilicon compounds

SOURCE: Issledovaniya v oblasti kremniyorganicheskikh soyedineniy; sintez i fiziko-khimicheskiye svoystva. Sbornik statey. Inst. neftekhim. sint. AN SSSR. Moscow. Izd-vo AN SSSR, 1962, 228 - 234

TEXT: The refractive indices at 20°C for the C and F lines of hydrogen (for the first time) and for the D line of sodium have been measured for 46 compounds of the following classes: the hexaalkyl derivatives of disilylmethane, disilylethane, and disilylpropane, and of disiloxane, aryltrialkylsilanes, diaryldialkylsilanes, and linear and cyclic polyethoxysilanes. From the results, the individual, mean and specific dispersions, and the

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molecular refraction for the D line, have been calculated. As a rule, in any one class of alkylarylsilanes those in which the alkyl group is ethyl have the highest refractive index. The refractive indices of dialkyldiarylsilanes are about 0.05 units higher than those of the aryltrialkylsilanes with the same alkyl and aryl groups. In the case of the phenyltrialkylsilanes, the introduction of a methyl group into the 4- position of the phenyl ring and then a second methyl group into the 3- position increases the refractive index, while the situation is reversed in the case of the aryltrialkylsilanes. The specific dispersions of aryltrialkylsilanes are 15 - 20 % lower than those of the corresponding diaryldialkylsilanes. The refractive indices of the hexaalkyl derivatives of disilylmethane, disilylethane, and disiloxane increase with a rise in the molecular weight, those of the disiloxanes being less than those of the corresponding members of the other classes. On passing from hexamethyldisilylmethane to the corresponding ethane and propane derivatives, the refractive index increases by 0.0025 units per CH_2 group added, while the specific dispersion is decreased. The change in the specific dispersion of the hexaalkyldisiloxanes is anomalous, the ethyl compound having the lowest value. The refractive indices of polyethylsiloxanes increase by 0.007 per diethylsiloxy group and are much higher than those of the corresponding polymethyl compounds. Dialkylsilanes have much higher refractive indices and specific dispersions than the corresponding hydrocarbons. The molecular refractions of all the compounds investigated were calculated by Sauer's method (J.Amer.Chem.Soc., 68, 691 (1946)) from established group and bond values and the results were found to be in good agreement with those calculated from the experimental data. There are 3 tables.

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S/062/62/000/003/010/014
B117/B144

AUTHORS: Mironov, V. F., Dzhurinskaya, N. G., Gar, T. K., and Petrov, A. D.

TITLE: Reactions of allyl halogenides and benzyl chloride with germanium hydrides

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1962, 460-465

TEXT: The recently discovered reaction (Izv. AN SSSR Otd. khim. n. 1960, 2066) of trichlorogermaniumhydride with halogenides of the allyl type, in which halogen is substituted by the trichlorogermyl group, was studied in detail. The reactions of allyl iodide and methallyl bromide with trichlorogermaniumhydride were found to proceed exclusively as condensation. Methallyl chloride, similar to allyl chloride, requires, of course, the presence of ether, since essentially without it an addition takes place. In the reactions investigated, high-boiling by-products were always formed which may also contain products of the addition of the second $HGeCl_3$ molecule at alkenylgermaniumhalogenides. Besides condensation,

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Reactions of allyl halogenides and...

S/062/62/000/003/010/014
B117/B144

which only occurs in the presence of H_2PtCl_6, other reactions also take place during the reaction of trialkylgermaniumhydrides with allyl halogenides. An experiment to extend the condensation also to saturated and aromatic halogenides was without success so far. With benzyl chloride and tertiary butyl chloride, however, this reaction proceeded successfully, good yields in benzyl trichlorogermaniumhydride and tertiary butyltrichlorogermaniumhydride being obtained. Raman spectra of the new substances whose properties are listed in Table 2 correspond to standards. It was pointed out finally that no similar reactions exist in the chemistry of organic compounds of other elements of group IV. L.A.Leytes is thanked for conducting the spectral analyses. There are 2 tables and 7 references: 6 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: A. J. Vogel, W. T. Cresswell, J. Leicester, J. Phys. Chem. 58, 174 (1954).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: October 20, 1961

Card 2/4

MIRONOV, V.F.; GAR, T.K.

Reaction of trichlorogermane with butadiene. Izv.AN SSSR.Otd. khim.nauk no.3:578 Mr '63. (MIRA 16:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Germanium hydrides) (Butadiene)

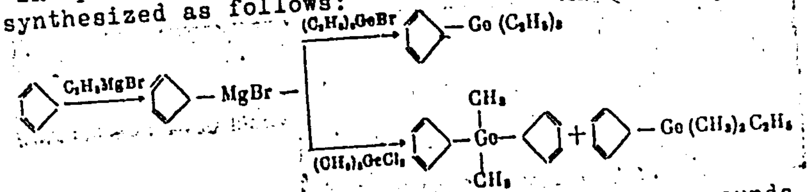
S/062/62/000/008/006/016
B117/B180

AUTHORS: Mironov, V. F., Gar, T. K., and Leytes, L. A.

TITLE: Synthesis and spectra of organogermanium compounds containing cyclopentadienyl, cyclopentenyl and cyclopentyl radicals

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1962, 1387-1392

TEXT: The above compounds have been synthesized for the first time and their IR spectra studied. Compounds containing cyclopentadienyl radicals were synthesized as follows:



(1)

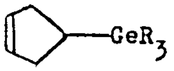
between 500-600 cm^{-1} the spectra of these three compounds show lines

Card 1/3

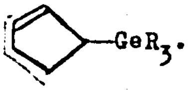
Synthesis and spectra of ...

S/062/62/000/008/006/016
B117/B180

appropriate for the valence fluctuations of the Ge-C bond. Besides this, they all showed a series of lines obviously corresponding to vibrations of the cyclopentadienyl ring bound with the germanium atom. Analysis of the spectra, which resemble those of cyclopentadienyl silane, shows that cyclopentadienyl germanes have covalent structures and are therefore not sandwich compounds. Compounds containing cyclopentenyl or cyclopentyl radicals were synthesized by addition of trichloro germane to cyclopentadiene or cyclopentene. Intense lines in the 370-430 cm^{-1} range, corresponding to the vibrations of the Ge-Cl bonds, were detected in the spectrum of cyclopentenyl trichloro germane. In the cyclopentyl trimethyl germane spectrum, the valence vibrations of the Ge-C bonds appeared as bright lines in the 550-610 cm^{-1} band. Above 900 cm^{-1} the two spectra are similar. Lines typical of the cyclopentane ring were found in the following bands: 890-910 cm^{-1}, 1030 cm^{-1} (Raman spectrum), 1450-1460 cm^{-1}, 2860-2870 cm^{-1}. It was not possible from the spectra to decide whether the compounds were



or



. There are 7 figures and 1 table.

Card 2/3

Synthesis and spectra of ...

S/062/62/000/008/006/016
B117/B180

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: February 19, 1962

Card 3/3

MIRONOV, V.F.; GAR, T.K.

Interaction of trichlorogermane with conjugated dienes. Dokl. AN SSSR 152 no.5:1111-1114 O '63. (MIRA 16:12)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

L 14462-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP4044706 S/0062/64/000/008/1515/1518

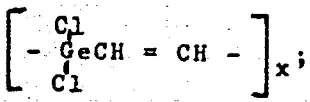
AUTHOR: Mironov, V. F.; Gar, T. K.

TITLE: Reaction of trichlorogermane with acetylene and its derivatives

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1964, 1515-1518

TOPIC TAGS: trichlorogermane, acetylene, bis(trichlorogermyl)ethane, 1,2 bis(trichlorogermyl)ethylene

ABSTRACT: A study of the reaction of trichlorogermane with acetylene showed that different products are obtained, depending on reaction conditions: 1) the bubbling of acetylene through trichlorogermane yields the addition product 1,2-bis(trichlorogermyl)ethane; 2) the addition of trichlorogermane to acetylene-saturated hexane yields trichlorovinylgermane in addition to 1,2-bis(trichlorogermyl)ethane; 3) the addition of trichlorogermane to acetylene-saturated ethyl ether yields the polymer



$$\left[-\overset{Cl}{\underset{Cl}{Ge}}CH=CH-\right]_x;$$

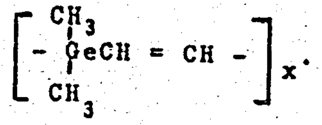
Card 1/2

L 14462-65

ACCESSION NR: AP4044706

2

4) the bubbling of acetylene through trichlogermane etherate yields, in addition to this polymer, 1,2-bis(trichlorogermyl)ethylene. The reaction of 1,2-bis(trichlorogermyl)ethylene with methylmagnesium chloride yields 1,2-bis(trimethylgermyl)ethylene and the polymer



$$\left[-\overset{\displaystyle CH_3}{\underset{\displaystyle CH_3}{Ge}}CH=CH-\right]_x.$$

The structure of the synthesized compounds was studied by recording Raman, IR, UV, and NMR spectra and measuring dipole moments. Orig. art. has: 4 figures.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, AN SSSR)

SUBMITTED: 03Jan64

ENCL: 00

SUB CODE: GC

NO REF SOV: 010

OTHER: 000

Card 2/2

MIRONOV, V.F.; GAR, T.K.

Interaction of trichlorogermane with acetylene and its derivatives. Izv. AN SSSR. Ser. khim. no.8:1515-1518 Ag '64. (MIRA 17:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

RM

L 24840-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 S/0062/64/000/010/1887/1889

20
18
13

ACCESSION NR: AP4047402

AUTHOR: Mironov, V. F.; Gar, T. K.

TITLE: Reaction of dichloromethane with germanium

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1964, 1887-1889

TOPIC TAGS: organogermanium compound, synthesis, dichloromethane germanium reaction, methyltrichlorogermane, cyclic organogermanium compound

ABSTRACT: Dichloromethane was reacted with metallic germanium (in a glass tube filled with a mixture of 35 gm germanium and 12 gm copper, heated to 370-390C, 230 gm dichlormethane fed at the rate of 38 gm/hr) to form 27% methyltrichlorogermane, 23% bis(trichlorogermyl)methane and 19% Ge-hexachloro-1,3,5-germancyclohexane. The latter two compounds were converted with methylmagnesium chloride to bis(trimethylgermyl)methane and Ge-hexamethyl-1,3,5-germancyclohexane. The IR, Raman and NMR spectra of the cyclic compounds were obtained. "We thank L. A. Leytes for taking the IR and Raman spectra and

L 24840-65
ACCESSION NR: AP4047402

2

A. M. Yegorochkin for the NMR spectrum." Orig. art. has: 3 figures and 1 equation.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 24Feb64 ENCL: 00

SUB CODE: GC, OC NO REF SOV: 004 OTHER: 001

Card 2/2

L 19604-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 AS(mp)-2/AFWL/RAEM(a)/ESD(gs)/
ESD(t) RM
ACCESSION NR: AP5003148 S/0020/64/158/002/0400/0403

B

AUTHOR: Leytes, L. A.; Gar, T. K.; Mironov, V. F.

TITLE: Appearance of sigma, pi-conjugation in the spectra of beta-alkenylgermanes as a function of steric factors

SOURCE: AN SSSR. Doklady, v. 158, no. 2, 1964, 400-403

TOPIC TAGS: Raman spectrum, germanium compound, pi bonded organometallic compound, conjugage bond system, beta spectroscopy

Abstract: The line intensity in the Raman spectrum of various alkenylgermanes with the Ge atom in the beta-position with respect to the C=C bond was studied. Of five such compounds synthesized, three were by a new condensation reaction discovered by the authors: $RCl + HGeCl_3 \xrightarrow{ether} R\text{-}GeCl_3 + HCl$. It was also demonstrated that the addition of $HGeCl_3$ to cyclopentadiene results in the formation of a compound with germanium in the beta-position to the double bond. The frequencies and line intensities corresponding to C=C vibration in the Raman spectra of alkenyl-germanes indicated that the "beta effect" is not specific for compounds of Si, Ge, Sn, but is a particular case of the special properties of allyl and benzyl systems, i.e., the very high reactivity of these systems in ionic addition reactions, their stability in radical reactions, and the ability of allyl

Card 1/2

L 19604-65

ACCESSION NR: AP5003148

hydrogen to be exchanged readily for deuterium, explained by sigma-pi conjugation of the 1-2 and 3-4 bonds in the system C=C-C-M. An analysis of the Raman spectra of the planar rings of two of the compounds synthesized indicated tha the "beta effect" is a particular case of sigma-pi conjugation according to Nesmeyanov. It was also found that the induction effect (replacement of the electropositive group (CH_3) 2Ge ∠ by the electronegative Cl_2Ge ∠) exerts essentially no influence on $I_{C=C}$. Orig. art. 5 formulas, 2 graphs, and 1 table.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 08Apr64 ENCL: 00 SUB CODE: OC, OP

NO REF SOV: 016 OTHER: 000 JPRS

Card 2/2

L 38623-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM
ACCESSION NR: AP5008107 S/0062/65/000/002/0291/0300

23
21
B

AUTHOR: Mironov, V. F.; Gar, T. K.

TITLE: Reactions of trichlorogermane with alkyl, alkenyl, and alkynyl halides

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1965, 291-300

TOPIC TAGS: heteroorganic compound, organogermanium compound, trichlorogermane, alkyl halide, alkenyl halide, alkynyl halide, alkylgermane synthesis, infrared spectrum

ABSTRACT: The condensation of trichlorogermane ($HGeCl_3$) with allyl halides, consisting of the substitution of the trichlorogermyl group for the halogen, may be extended to saturated tertiary halides. Secondary and normal alkyl halides do not enter into this reaction, as was shown by experiments using n- and sec-butyl chloride. Propargyl chloride and bromide also condense with trichlorogermane, but this reaction is associated with an addition reaction. The preparation of the following compounds is described: t-butyltrichlorogermane, t-butyltrimethylgermane, triphenylmethylchlorogermane, β-butenyltrichlorogermane, β-butenyltrimethylgermane, γ-chlorobutylchlorogermane, and γ-chlorobutyltrimethylgermane, and

Card 1/2

L 38623-65
ACCESSION NR: AP5008107

2

some others. The infrared spectra of these compounds are illustrated. The possibility of the condensation reaction is apparently determined both by an easy ionization of the C-Cl bond in the organic halides and mainly by the possibility of protonation of the Ge-H bond in trichlorogermane, which, in contrast to $HSiCl_3$, is an equilibrium mixture of compounds of tetra-and divalent germanium. "We express our sincere thanks to L. A. Leytes, who carried out the spectroscopic analysis of the products." Orig. art. has: 9 figures, 1 table and 15 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 28Mar63

ENCL: 00

SUB CODE: OC

NO REF SOV: 009

OTHER: 008

Card 2/2

L 51863-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 GS/RM

S/0000/64/000/000/0150/0152

ACCESSION NR: AT5002125

22
B+1

AUTHOR: Mironov, V. F.; Dzhurinskaya, N. G.; Gar, T. K.

TITLE: A new reaction for synthesizing organogermanium compounds

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov (The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 150-152

TOPIC TAGS: organogermanium bromide, alkyltrichlorogermanium, alkenyltrichlorogermanium, trichlorogermanium addition

ABSTRACT: Following an extensive review of previously published research, the authors report a new condensation reaction of $HGeCl_3$ with the halo-derivatives of hydrocarbons, with good yields of alkenyl- or alkyltrichlorogermaniums. This pattern of Ge-C bond formation is entirely unique, since the hydrides of Si, Sn and other metals form hydrocarbons (i.e., reduction) under similar conditions. $HGeCl_3$ can be added to any unsaturated compound at room temperature and without benefit of catalysts. Treatment of organogermanium chlorides with gaseous hydrogen bromide provided high yields of the corresponding organogermanium bromides. Orig. art. has: 11 formulas.

Card 1/2

L 51863-65

0

ACCESSION NR: AT5002125

ASSOCIATION: None

SUBMITTED: 30Jul64

ENCL: 00

SUB CODE: OC ,GC

NO REF SOV: 008

OTHER: 003

Card 2/2

LL

L 57075-65 EWT(m)/EPF(c)/EWP(j)/EWP(t)/EWP(b)/EWA(c) Pc-4/Pr-4 IJP(c)
JD/RM

ACCESSION NR: AP5012458

UR/0062/65/000/004/0755/0758
661.718.6

31
28
B

AUTHORS: Mironov, V. F.; Gar, T. K.

TITLE: Synthesis and conversion of germanium 27 tribromide 27

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1965, 755-758

TOPIC TAGS: germanium, bromide, organic synthesis, unsaturated hydrocarbon, organo metallic compound

ABSTRACT: When HBr is passed over metallic Ge, both tetrabromide and tribromide form, but only little of the latter. It has been demonstrated that the addition of powdered Cu to Ge somewhat improves the yield of the tribromide, but still the yield is no more than 30%. With ether the tribromide ($HGeBr_3$) forms butyrous etherate, which is insoluble in excess ether. This permits the $HGeBr_3$ to be separated from $GeBr_4$, since the latter is readily soluble in ether and only partially in the etherate. It is somewhat more convenient to produce $HGeBr_3$ by dissolving $Ge(OH)_2$ in HBr. The hydroxide may be prepared (free of GeO_2) by hydrolysis of the trichloride

Card 1/2

L 57075-65
ACCESSION NR: AP5012458

3

etherate. This procedure requires great quantities of ether. If HI is used instead of HBr, GrI_2 is produced, and this appears to be one of the better methods of obtaining this compound. The best method of producing either $HGeBr_3$ or GeI_2, however, is by an exchange reaction, replacement of Cl by Br or I, during passage of HBr or HI through the trichloride or its etherate. Distillation of an ethereal solution of $HGeBr_3$ containing HBr, and even more of $HGeBr_3$ dissolved in HBr acid, yields yellow crystals of $GeBr_2$ crystals, which react energetically with allyl bromide and butadiene to form allyl germanium bromoform and Ge-1,1-dibromo germanium cyclopentane-3. $GeBr_2$ is not obtained by distillation of anhydrous $HGeBr_3$. Like $HGeCl_3$, $HGeBr_3$ combines with unsaturated compounds in an exothermic reaction without catalyst. With acetylene it forms unsaturated compounds chiefly; with ether it forms only unsaturated compounds. Orig. art. has: 8 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo, Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 17Jul64
ENCL: 00
SUB CODE: GC, OC

NO REF SOV: 004
OTHER: 002

Card 2/2

L 57783-65 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM

ACCESSION NR: AP5015589

UR/0062/65/000/005/0855/0862

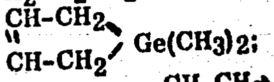
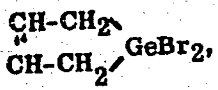
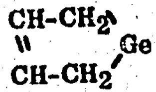
24
21
B

AUTHOR: Gar, T.K.; Mironov, V.F.

TITLE: Synthesis and transformations of tribromogermane

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1965, 855-862

TOPIC TAGS: germanium compound, organogermanium compound, germaniumhalide

ABSTRACT: The following reactions were carries out: tribromogermane with allyl bromide, to produce $CH_2=CHCH_2GeBr_3$; germanium dibromide with allyl bromide, to produce $CH_2=CHCH_2GeBr_3$; tribromogermane with cyclohexene, to give cyclohexyltribromogermane $C_6H_{11}GeBr_3$; tribromogermane with allyl chloride, to give $ClCH_2CH_2CH_2GeBr_3$; tribromo-germane with butadiene, to yield $CH_3CH=CHCH_2Ge(CH_3)_3$ and  $\begin{matrix}CH-CH_2\diagdown\\ \| \qquad\qquad Ge(CH_3)_2\\ CH-CH_2\diagup\end{matrix}$; dibromide with butadiene, to yield  $\begin{matrix}CH-CH_2\diagdown\\ \| \qquad\qquad GeBr_2\\ CH-CH_2\diagup\end{matrix}$, and after methylation,  $\begin{matrix}CH-CH_2\diagdown\\ \| \qquad\qquad Ge\\ CH-CH_2\diagup\end{matrix}$ $(CH_3)_2$; tribromogermane with acetylene, to form $Br_3GeCH=CHGeBr_3$, and after

Card 1/2

L 57783-65 3

ACCESSION NR: AP5015589

methylation, $(CH_3)_3GeCH=CHGe(CH\ )_3$ and $(CH_3)_3GeCH_2CH_2Ge(CH_3)_3$; and tribromogermane with ethylene, to from $Br_3GeCh2Ch_2GeBr_3$. All the procedures employed are described in detail. "We express our appreciation to P.V. Petrovskiy and L. A. Leytes for recording and interpreting the NMR, Raman, and IR spectra." Orig. art. has: 4 figures and 22 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 03Sep64 ENCL: 00 SUB CODE: OC, IC

NO REF SOV: 008 OTHER: 009

Cord 2/2

L 31882-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6012531 SOURCE CODE: UR/0062/66/000/003/0482/0489

40

37

B

AUTHOR: Mironov, V. F.; Gar, T. K.

ORG: Institute of Organic Chemistry im. N. D. Zelinskogo, Academy of Sciences SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: Reaction of trichlorogermane with conjugated dienes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1966, 482-489

TOPIC TAGS: organic synthesis, germanium compound, cyclic compound, diene synthesis

ABSTRACT: While $HGeCl_3$ is added exothermally to practically any unsaturated compounds along unsaturated bonds in the absence of any catalysts or activators, $HSiCl_3$ adds to these compounds only in the presence of catalysts (Pt, H_2PtCl_6) or radical activators, frequently also requires elevated temperatures and pressures. It was unexpectedly found that the reaction of butadiene with trichlorogermane leads to formation of a narrow fraction which, on the basis of elemental, chromatographic and spectral analysis, consisted of a mixture of two compounds, one of which present in a predominant amount contained two atoms of chlorine. After methylation of this mixture gas-liquid chromatography still showed the presence of two compounds. The compounds are unsaturated five-membered rings with $GeCl_2$ group in the ring. The formation of the compounds results from 1-4 addition of germanium dichloride to diene. On the basis of spectral

UDC: 542.91+661.718.6

Card 1/2

L 31682-66

ACC NR: AP6012531

data, structure of the two compounds has been elucidated. Isoprene also reacts with $GeCl_3$ producing a heterocyclic compound. Under the same conditions propylene produces only linear addition products. The following equilibrium is proposed for trichlorogermane:

$$HGeCl_3 \rightleftharpoons H^+[GeCl_3]^- \rightleftharpoons HCl + GeCl_2$$

The addition of $GeCl_2$ leads to a stable compound only in the case of butadiene, since for other unsaturated compounds the unstable three member rings are either polymerized as soon as they are formed or they are split by HCl which is always present in excess. On the theoretical basis, formation of stable three member rings was predicted only for acetylene compounds, but they were not found experimentally when $HGeCl_3$ was reacted with acetylene. Orig. art. has: 6 figures.

SUB CODE: 07/ SUBM DATE: 01Nov63/ ORIG REF: 019/ OTH REF: 002

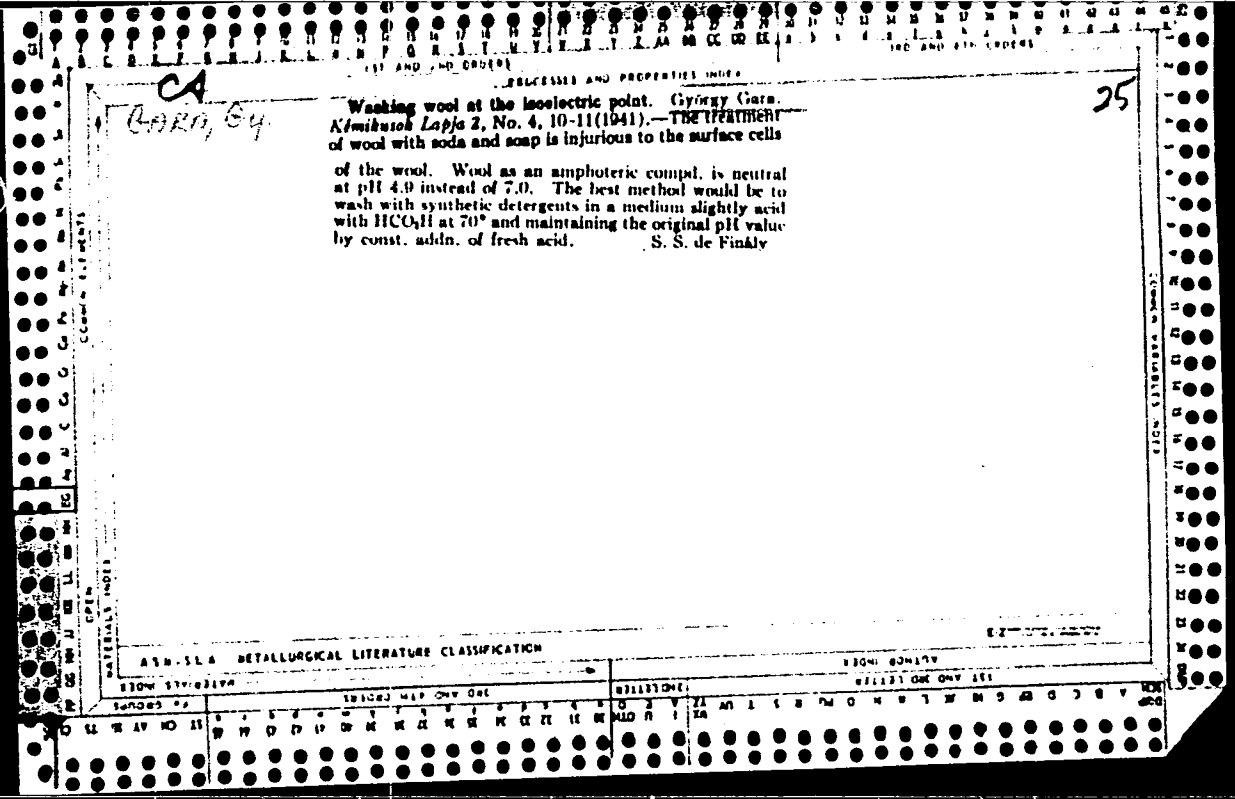
Card 2/2

GARA, Andor

A color photograph in one and a half seconds. Fep hang 10 no.6:182-183 D '64.

GARA, Andor

Modern industrial photography. Technika 9 no.4:6-7 Ap '65.



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

Gara, Gy.

25

Washing wool at the isoelectric point. György Gara. *Kémikusok Lapja* 2, No. 4, 10-11(1941).—The treatment of wool with soda and soap is injurious to the surface cells of the wool. Wool as an amphoteric compd. is neutral at pH 4.9 instead of 7.0. The best method would be to wash with synthetic detergents in a medium slightly acid with HCO_2H at 70° and maintaining the original pH value by const. addn. of fresh acid. S. S. de Finály

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Gara G.

Ca

25

Cloths from fibers. Gyorgy Gara (Hungarian Cloth Factory, Csepel). *Kém. Lapja* 4, 139-41(1943).—Tests were made on rayon cloth unfinished, treated with waterproof finish, treated with phenoplast finish, and treated with both. The wet tearing strength of unfinished cloth was 21 kg.; cloths treated with phenoplast showed values of 40 and 39 kg.; those treated with waterproof agents 41 and 33 kg.; those treated with both types of agents 47 and 45.5 kg.

István Finály

COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

LISZAUER, Dezso. dr.,; GARA, Gyorgy, dr.

Therapy of fractures of the femur in children with special attention to intramedullary nailing. Magy. sebeszet 9 no.2: 98-103 Apr 56

1. A Budapesti Orvostudomany Egyetem I. sz. Sebeszeti Klinikajanak (igazgato: nehai Sebesteny Gyula dr. egyetemi tanar) es a Budapesti Janos korhaz orthopaedoszalyanak (foorvos: Horvath Boldizsar dr.) kozlemenye.

(FEMUR, fract.
in child., surg., intramedullary nailing (Hun))

CSUROS, Zoltan, prof.,dr. (Budapest); GARA, Miklos (Budapest);
Bertalan, Gyorgy (Budapest)

Rheologic investigations of macromolecular substances. VI. Investigations of the distribution of the inner tensions on hard PVC blocks. Periodica polytechn chem 3 no.4:255-265 '59.
(EEAI 9:6)

1. Institut fur Organisch-Chemische Technologie der Technischen Universitat, Budapest.
(Macromolecular compounds)
(Chloroethylene)
(Polymers and polymerization)

GARA, M.

Distr: 4E2c(j)

Rheological research into macromolecular substances. VII. Influence of temperature on poly(vinyl chloride)-liquid systems. Z. Csuros, M. Gara, and Gy. Bertalan (Univ. Tech., Budapest, Hung.). *Periodica Polytech.* 4, 9-32(1960)(in German); cf. *CA* 54, 16913c.—The temp. dependence of the interaction between poly(vinyl chloride) (I) and various liquids was studied by means of the viscosity by using an Emila viscosimeter. Ehlers and Goldstein (*CA* 45, 2257e) and Csürös, *et al.* (*Magyar Tudomanyos Akad. Kém. Tudományok Osztályának Közleményei* 10, 467(1958)) studied the same subject with solvents and softeners on I solns. and I pastes. The gap caused by the missing data about the interaction of chemicals not being special solvents and softeners is herewith filled up. A number of tables give outstanding information for systems including dialkyl phthalate, nitrobenzene, tetrachloroethane, cyclohexanone, and tetrahydrofuran. Liquids without any interaction included hexamethyldisiloxane, MeOH, and petr. ether. R. A. van Linge

5

5-JAJ(NB)(may)

c4K

GARA, M.

Distr: 4E2c(j)/4E3b/4E3d

8
3-BW(MR)
3-Jaf(NB)(May)
3

466/60. 678.5—408.3 : 532.133

Rheological studies with macromolecular substances, VIII. The interaction of dissolved polymer and solvent as shown by viscosity measurements. Z. Csűrös, I. Géczy, M. Gara, I. Gyurkovics. *A Magyar Tudományos Akadémia Kémiai Tudományok Osztályának Közleményei*, Vol. 13, 1960, No. 2, pp. 180—191, 8 figs., 7 tabs.

The viscosity changes of solutions of styrene, vinyl acetate and methylmethacrylate polymers were studied in different solvents e. g. in the polymer's own monomer or in its saturated analogous compound. Such solvents were sought which show the smallest interaction with the polymer and a good solvent was looked for with which molecular weight could be determined. The suitability of the solvent was characterized by the intrinsic viscosity. With all three polymers, solutions having the lowest intrinsic viscosity were obtained when the solvent was the corresponding unsaturated monomeric compound. The sequence of solvents according to cohesion energy density was found to be the same as the sequence of increasing intrinsic viscosities. A relationship was established between the molar intrinsic viscosities and the molar volumes of the solvents.

CSUROS, Zoltan, akademikus (Budapest); GARA, Miklos, a kemiai tudomanyok kandidatusa (Budapest); BERTALAN, Gyorgy (Budapest); JUHASZ, Kalman (Budapest)

Rheologic investigation of macromolecular sutstances. VI. Investigation of the distribution of the inner pressure in a block of harc PVC. Kem tud kozl MTA 13 no.2:129-138 '60. (EEAI 9:8)

1. Muszaki Egyetem, Szerves Kemiai Technologiai Intezet, Budapest.
(Macromolecular compounds)
(Chloroethylene)
(Polymers and polymerization)

CSUROS, Zoltan, akademikus (Budapest); GECZY, Istvan, a kemiai tudomanyok kandidatusa (Budapest); GARA, Miklos, a kemiai tudomanyok kandidatusa (Budapest); GYURKOVICS, Ida (Budapest)

Rheologic investigation of macromolecular substances. VIII. Interaction of dissolved polymer and solvent on the basis of viscosity measurements. Kem tud kozl MTA 13 no.2:139-151 '60. (EEAI 9:8)

1. Muszaki Egyetem, Szerves Kemiai Technologiai Intezet, Budapest.
(Solvents) (Viscosity)

CSUROS, Zoltan, prof. (Budapest); GARA, M. (Budapest); BERTALAN, Gy.
(Budapest)

Rheologic investigations of macromolecular substances. VII. Effect of temperature on PVC liquid systems. Periodica polytechn chem 4 no.1: 9-32 '60. (EEAI 9:12)

1. Institut fur Organisch-Chemische Technologie der Technischen Universitat, Budapest.
(Rheology) (Liquids) (Systems (Chemistry))
(Macromolecular compounds)
(Chloroethylene)
(Polymers and polymerization)

CSUROS, Zoltan; GARA, Miklos; BERTALAN, Gyorgy

Rheological examination of macromolecular substances. V. Determination of a second-degree transformation point by the Hoppler's consistometer. Magy kem folyoir 66 no.5:174-178 My '60.

1. Budapesti Muszaki Egyetem Szerves Kemiai Technologiai Tanszeke.

S/081/62/000/017/101/102
B177/B186

AUTHORS: Csürös, Z., Gara, M., Gyurkovics, I.

TITLE: Copolymerization of allyl alcohol and acryl nitrile under the effect of a redox system

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 613, abstract 17R40 (Acta chim. Acad. scient. hung., v. 29, no. 2, 1961, 207 - 225 [Eng.; summaries in Ger. and Russ.])

TEXT: The authors investigate the copolymerization of allyl alcohol (I) and acryl nitrile (II) in the presence of an initiator consisting of $K_2S_2O_8$ and ascorbic acid (1 : 1) (0.0125 mole/l) in an aqueous medium (~20°, 12 hours). From an initial mixture containing 0.5 - 0.91 molar fraction of I, the yield of copolymer is 98 - 16%, and the proportion of I in the copolymer is 24.95 - 44.4 mole % respectively. Copolymers containing 35.4 mole % of I are powders soluble in dimethyl formamide. When the proportion of I in the copolymer is increased, resinous products soluble in acetone are formed. Variation of the proportion of I in the copolymer from 33.4 to 44.4 mole % is accompanied by a fall of the

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softening point from 160 to 58°. The molecular weight of the copolymer (1962 - 2700) decreases with increasing polymerization time. The factor η of the copolymer rises with increasing concentration of monomers in the mixture, and does not depend on the concentration of initiator. The relative activity of radicals r_1II = 1.99 ± 0.5 and r_2I = 0.03 ± 0.02. The polymerization rate is reduced with increasing I in the initial mixture above 0.5 molar fraction, and reaches its maximum at a monomer concentration of 3.04 mole/l. In the range of concentrations of initiator ($3.5 - 15.0 \cdot 10^{-3}$ mole/l.), the polymerization rate is directly proportional to the concentration of $K_2S_2O_8$, and does not depend on the concentration of ascorbic acid. [Abstracter's note: Complete translation.]

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(Temperature) (Chloroethylene)
(Polymers and polymerization) (Liquids)
(Systems(Chemistry))