84881

5.3831 only 2209, 1370, 1372

S/079/60/030/010/023/030
B001/B066

AUTHORS: Derkach, G. I. and Kirsanov, A. V.

TITLE: Polymerization of N-Diaroxy-phosphinyl Arene Amidine

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 10, pp. 3397 - 3401

TEXT: The amidines $ArC[=NPO(OAr')_2]NH_2$ synthesized by the authors in a previous work are quickly and quantitatively polymerized by strong mineral acids to give colorless, crystalline products without basic properties (Table 1). According to their ultimate analysis and molecular weight, they are trimers of the N-diaroxy-phosphinyl arene amidines. Polymerization takes place readily and with small quantities of strong mineral acids, as well as with formic and acetic acid; benzoic acid is ineffective. If the amidine hydrochlorides are exposed to air, they are quantitatively converted into trimers after some days, which is not the case in dry air, not even after several months. Polymerization proceeds smoothly when boiling their salts in 96% ethanol and dissolving them in

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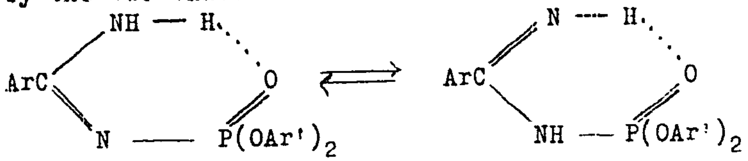
Polymerization of N-Diaroxy-phosphinyl Arene Amidine

S/079/60/030/010/023/030
B001/B066

concentrated sulfuric acid. The trimers of N-diaroxy-phosphinyl arene amidines greatly differ in their properties from the initial monomers: They melt at considerably higher temperatures, are insoluble in most organic solvents (contrary to the monomers), and are not changed when treated with dilute acids and alkali lyes, not even by short boiling. Polymerization is usually caused by the unsaturated state of the molecule. Thus, a double bond causing trimerization is bound to exist in the molecules of N-diaroxy-phosphinyl arene amidines, i.e., between the carbon atom and one of the nitrogen atoms. It can thus be illustrated only by the two tautomeric forms



(I) (II)

For this work, some N-diaroxy-phosphinyl arene amidines hitherto unknown were synthesized by the previous method (Table 2). There are 2 tables

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Polymerization of N-Diaroxy-phosphinyl Arene Amidine

S/079/60/030/010/023/030
B001/B066

and 5 references: 3 Soviet and 2 German.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR (Institute of Organic Chemistry of the Academy of Sciences Ukrainskaya SSR)

SUBMITTED: November 9, 1959

DERKACH, G.I.; DREGVAL', O.F.; KIRSANOV, A.V.

Trichlorophosphazo-N-arylsulfonyliminobenzoyls. Zhur.ob.khim. 30 no.10:3402-3407 [illegible] '61. (MIRA 14:4)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphazo compounds)

PROTSENKO, L.D.; DERKACH, G.I.; KIRSANOV, A.V.

Bistriethylenetriamidophosphazo derivatives of dibasic acids and diethylenediamides of bis-N-diethylenediamidophosphinyliminocarboxylic acids. Zhur.ob.khim. 31 no.10:3433-3436 0 '61.
(MIRA 14:10)

1. Institut organicheskoy khimii AN Ukrainskoy SSR i Ukrainskiy nauchno-issledovatel'skiy sanitarno-khimicheskiy institut.
(Acids, Organic) (Phosphazo compounds)

KROPACHEVA, A.A.; DERKACH, G.I.; KIRSANOV, A.V.

N, N', N"-Triethylenetriamidophosphazo compounds and N', N", N'"-triethylene-N-diamidophosphinylarenamidines. Zhur.ob.khim. 31 no.5:1601-1604 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR.
(Phosphazo compounds) (Amidines)

DERKACH, G.I.; SHOKOL, V.A.; KIRSANOV, A.V.

N'-diaroxyphosphinyl-N^2(N^3-arylthiocarbaminyl) arenamidines [N'-aryl-N^2(N^3-diaroxyphosphinyliminoaroyl) thiourea]. Zhur. ob.khim. 31 no.7:2275-2282 Jl '61. (MIRA 14:7)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Urea) (Amidines)

DERKACH, G.I.; DREGVAL', G.F.; KIRSANOV, A.V.

Triaryloxy phosphazo-N-arylsulfonyliminobenzoyls and N-diaryloxyphosphinyl-N'-arylsulfonylbenzamidines. Zhur.ob.khim. 31 no.7:2385-2390 Jl '61. (MIRA 14:7)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphorus organic compounds) (Benzamidines)

DERKACH, G.I.; KRUZEMENT-PRIKHOD'KO, V.V.; KIRSANOV, A.V.

N-diaminophosphinylaroylamides. Zhur.ob.khim. 31 no.7:2391-2396
Jl '61. (MIRA 14:7)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphinic amide)

DERKACH, G.I.; GUBNITSKAYA, Ye.S.; KIRSANOV, A.V.

Triphenylphosphazoaroyls, N-diphenylphosphinylphenylaryl ketimines, and N-diarylphosphinylaroyl amides. Zhur. ob. khim. 31 no. 11:3679-3684 N '61. (MIRA 14:11)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphorus organic compounds)

DERKACH, G.I.; GUBNITSKAYA, Ye.S.; KIRSANOV, A.V.

Trianilidophosphazoaroyls and N-dianilidophosphinyl-N'-aryl-arenamidines. Zhur. ob. khim. 31 no. 11:3746-3750 N '61.
(MIRA 14:11)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphazo compounds) (Amidines)

DERKACH, G.I.; DREGVAL', G.F.; KIRSANOV, A.V.

Trianilidophosphazo-N-arylsulfonylaminobenzoyls and N'-dianilidophosphinyl-N'-arylsulfonylbenzamidines. Zhur. ob. khim. 32 no.1:154-159 Ja '62. (MIRA 15:2)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphorus organic compounds)

DERKACH, G.I.; SHOKOL, V.A.; SAMARAY, L.I.; KIRSANOV, A.V.

New method of preparing trichlorophosphazoacyls. Zhur. ob. khim. 32 no.1:159-160 Ja '62. (MIRA 15:2)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphazo compounds)

SHOKOL, V.A.; DERKACH, G.I.; KIRSANOV, A.V.

Phenyldichloro- and diphenylchlorophosphazo-dichloro-and trichloroacetyls and their derivatives. Zhur. ob. khim. 32 no.1: 166-171 Ja '62. (MIRA 15:2)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphazo compounds)

DERKACH, G.I.; LEPESA, A.M.; KIRSANOV, A.V.

Alkyl esters of N-dialkoxyphosphinyliminocarboxylic acids.
Zhur. ob. khim. 32 no.1:171-174 Ja '62. (MIRA 15:2)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphinic acid)

KIRSANOV, A.V., [Kirsanov, O.V.] akademik; LEPESA, A.M.; DERKACH, G.I.
[Derkach, H.I.]

Ethers of monoanilides of aroylamidophosphoric acids. Dop. AN URSR no.3:384-386 '62. (MIRA 15:5)

1. Institut organicheskoy khimii AN USSR. 2. AN USSR (for Kirsanov).
(Phosphoramidic acid) (Ethers)

DERKACH, G.I.; GUBNITSKAYA, Ye.S.; SHOKOL, V.A.; KIRSANOV, A.V.

Triaroxyphosphazoacyls. Part 2. Zhur.ob.khim. 32 no.4:1201-
1207 Ap '62. (MIRA 15:4)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Phosphorus organic compounds) (Esters)

KROPACHEVA, A.A.; DERKACH, G.I.; ZHURAVLEVA, L.P.; SAZONOV, N.V.;
KIRSANOV, A.V.

N-diethylenediamidophosphonyl-N-arylurea. Zhur.ob.khim. 32 no.5:1540-1542 My '62. (MIRA 15:5)
(Urea)

DERKACH, G.I.; GUBNITSKAYA, Ye.S.; SHOKOL, V.A.; KIRSANOV, A.V.

Phenyldichloro-, diphenylchloro-, and triphenylphosphazo acyls.
Zhur.ob.khim. 32 no.6:1874-1878 Je '62. (MIRA 15:6)

1. Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR.
(Phosphazo compounds)

DERKACH, G.I.; DREGVAL, G.F.; KIRSANOV, A.V.

Derivatives of phosphorylated amidines. Zhur.ob.khim. 32 no.6:1878-1882 Je '62. (MIRA 15:6)

1. Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR.
(Amidine) (Phosphorus organic compounds)

DERKACH, G.I.; SAMARAY, L.I.

Reaction of antimony pentochloride with alkyl esters of iminocarboxylic acids. Zhur.ob.khim. 32 no.6:2058 Je '62. (MIRA 15:6)

1. Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR.
(Antimony chlorides) (Esters)

DERKACH, G.I.; SAMARAY, L.I.; SHOKOL, V.A.

Trichlorophosphazo acyls. Zhur.ob.khim. 32 no.6:2059 Je '62.
(MIRA 15:6)

1. Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR.
(Phosphazo compounds)

DERKACH, G.I.; KIRSANOV, A.V.

Phosphorylated amidines. Zhur.ob.khim. 32 no.7:2254-2256 Jl '62.
(MIRA 15:7)

1. Institut organicheskoy khimii AN USSR.
(Amidines) (Phosphorous acid)

DERKACH, G.I.

N-dichlorophosphinylimide chlorides of carboxylic acid.

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. Ye. Arbuzov, ed. Publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1962, [illegible] pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

DERKACH, G.I.; ZHURAVLEVA, L.P.; KIRSANOV, A.V.

N-dichlorophosphinyl-N'-aryl-C-chloroformamidines. Zhur.ob.khim.
32 no.3:879-881 Mr '62. (MIRA 15:3)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Formamidine) (Phosphinic chloride)

DERKACH, G.I.; LEPESA, A.M.; KIRSANOV, A.V.

Derivatives of monoanilides of aroylamidophosphoric acids. Zhur.-ob.khim. 32 no.8:2600-2606 Ag '62. (MIRA 15:9)

1. Institit organicheskoy khimii AN Ukrainskoy SSR.
(Phosphoramidic acid)

DERKACH, G.I.; PROTSENKO, L.D.; ZHURAVLEVA, L.P.; KIRSANOV, A.V.

N-diethylenediamidophosphinyl-N'-ethylene-N''-arylguanidines.
Zhur.ob.khim. 32 no.9:2992-2994 S '62. (MIRA 15:9)

1. Institut organicheskoy khimii AN UkrSSR.
(Guanidine) (Phosphorylation)

DERKACH, G.I.; DREGVAL', G.F.; KIRSANOV, A.V.

N-dichlorophosphinyl-N'α-chlorobenzalarenamidines. Zhur.ob.khim. 32 no.9:3002-3007 S '62. (MIRA 15:9)

1. Institut organicheskoy khimii AN UkrSSR.
(Benzamidine) (Phosphorus organic compounds)

DERKACH, G.I.

Heterocyclic system containing phosphorus and nitrogen.
Zhur.ob.khim. 32 no.9:3107 S '62. (MIRA 15:9)

1. Institut organicheskoy khimii AN UkrSSR.
(Heterocyclic compounds)
(Phosphorus organic compounds) (Nitrogen compounds)

DERKACH, G.I.; SAMARAY, L.I.; SHTEPANEK, A.S.; KIRSANOV, A.V.

Alkyl esters of phosphazocarbonic acid. Zhur.ob.khim.
32 no.11:3759-3761 N '62. (MIRA 15:11)

1. Institut organicheskoy khimii AN UkrSSR.
(Phosphazo compounds)
(Carbonic acid)

DERKACH, G.I.; SAMARAY, L.I.; KIRSANOV, A.V.

Reaction of iminoesters with phosphorus pentachloride.
Zhur.ob.khim. 32 no.11:3761-3764 N '62. (MIRA 15:11)

1. Institut organicheskoy khimii AN UkrSSR.
(Esters)
(Phosphorus chloride)

DERKACH, Grigoriy Illarionovich; SERDYUK, O.P., red.; TURBANOVA,
N.A., tekhn. red.

[Chemical protection of plants] Khimicheskaia zashchita
rastenii. Kiev, Izd-vo AN Ukr.SSR, 1963. 99 p.
(MIRA 16:8)

(Insecticides) (Herbicides)

DERKACH, G.I.; SHOKOL, V.A.; GUBNITSKAYA, Ye.S.

Aryldichlorophosphazoacyls and their derivatives. Zhur.ob. khim. 33 no.2:553-557 F '63. (MIRA 16:2)

1. Institut organicheskoy khimii AN UkrSSR.
(Phosphorus organic compounds)

DERKACH, G.I.; GUBNITSKAYA, Ye.S.; SAMARAY, L.I.; SHOKOL, V.A.

Diaroxychloro-. and triaroxyphosphazoacyls. Zhur.ob.khim. 33
no.2:557-562 F '63. (MIRA 16:2)
(Phosphorus organic compounds)

DERKACH, G.I.; FEDOROVA, G.K.; GUBNITSKAYA, Ye.S.

Phenyldialkyl- and styryldialkylphosphazo acyls. Zhur.ob.khim. 33 no.3:1017-1019 Mr '63. (MIRA 16:3)

1. Institut organicheskoy khimii AN UkrSSR.
(Phosphorus organic compounds)

DERKACH, G.I.; NARBUT, A.V.; KIRSANOV, A.V.

Reaction of phosphorus pentachloride with aryl ureas. Zhur. ob. khim. 33 no.5:1584-1587 My '63. (MIRA 16:6)

1. Institut organicheskoy khimii AN UkrSSR.
(Phosphorus chlorides) (Urea)

DERKACH, G.I.; SAMARAY, L.I.

Derivatives of isocyanatophosphoric acid. Zhur. ob. khim. 33
no.5:1587-1591 My '63. (MIRA 16:6)

1. Institut organicheskoy khimii AN UkrSSR.
(Phosphoric acid) (Isocyanic acid)

SHOKOL, V.A.; DERKACH, G.I.; KISILENKO, A.A.

Ultraviolet and infrared spectra of diesters of acylthioamidophosphoric and acylamidophosphoric acids and their derivatives. Zhur. ob. khim. 33 no.8:2660-2667 Ag '63. (MIRA 16:11)

1. Institut organicheskoy khimii AN UkrSSR.

DERKACH, G.I.; GUBNITSKAYA, Ye.S.; SHOKOL, V.A.; KISILENKO, A.A.

Infrared spectra of trichlorophosphazoacyls and their derivatives.
Zhur.ob.khim. 34 no.1:82-88 Ja '64. (MIRA 17:3)

1. Institut organicheskoy khimii AN UkrSSR.

DERKACH, G.I.; GUBNITSKAYA, Ye.S.

Reaction of aroyl azides with phosphites and phosphines. Zhur.ob.khim. 34 no.2:604-609 F '64. (MIRA 17:3)

1. Institut organicheskoy khimii AN UkrSSR.

L 17958-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5002626 S/0079/64/034/008/2812/2812

B

AUTHOR: Kirsanov, A. V.; Derkach, G. I. Liptuga, N. I.

TITLE: Derivatives of N-phosphorylated iminocarbonic acids

SOURCE: Zhurnal obshchey khimii, v. 34, no. 8, 1964, 2812

TOPIC TAGS: phosphoric acid, formic acid, chlorinated organic compound, chloride, ester, carbonic acid

Abstract: Dichlorides of N-phosphorylated iminocarbonic acids, synthesized by chlorination of diesters of isothiocyanatophosphoric acids, react vigorously with alcoholates, phenolates, and amines, forming the corresponding diesters and diamides of N-phosphonoiminocarbonic acid. Isocyanates of dialkylphosphoric acids are obtained with anhydrous formic acid. The action of phosphorus pentachloride on dichlorides of N-alkylphosphonoiminocarbonic acids produces N-dichlorophosphonoiminophosgene. Orig. art. has 3 formulas and 1 table.

ASSOCIATION: Institut organicheskoy khimii Ukrainskoy Akademii nauk (Institute of Organic Chemistry, Ukrainian Academy of Sciences)

Card 1/2

L 17958-65
ACCESSION NR: AP5002626

O

SUBMITTED: 10Mar64

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 002

OTHER: 000

JPRS

Card 2/2

DERKACH, G.I.; KISILENKO, A.A.

Infrared spectra of isocyanophosphoric acid derivatives. Zhur. ob. khim. 34 no.9:3060-3063 S '64. (MIRA 17:11)

1. Institut organicheskoy khimii AN UkrSSR.

IVANOVA, Zh.M.; DERKACH, G.I.; KIRSANOVA, N.A.

Derivatives of N-acylisothiocyanates. Zhur. ob. khim. 34 no.10: 3516-3518 O '64. (MIRA 17:11)

1. Institut organicheskoy khimii AN UkrSSR.

L 52795-65 EWT(m)/EPF(c)/EWP(j)/EWA(c) Pc-4/Pr-4 RPL RM
UR/0079/64/034/012/3959/3963
27
26
B

ACCESSION NR: AP5016192

AUTHOR: Derkach, G. I.; Rudavskiy, V. P.; Dregval', G. F.

TITLE: Phosphorylated N-Aryltrichloroacetamidines

SOURCE: Zhurnal obshchey khimii, v. 34, no. 12, 1964, 3959-3963

TOPIC TAGS: organic phosphorus compound, chlorinated organic compound, organic synthetic process, chloride, amine, organic amide

Abstract: N-Aryltrichloroacetamidines react with phosphorus pentachloride to form trichlorophosphazo-N-aryliminotrichloroacetyls. The products are similar in their chemical properties to trichlorophosphazo-N-arylsulfonyliminoaroyls and trichlorophosphazocarbacyls. They react readily with anhydrous formic acid, to form N-dichlorophosphonyl-N'-aryltrichloroacetamidines, which upon further hydrolysis with water are converted to N-phosphono-N'-aryltrichloroacetamidines. The reaction of trichlorophosphazo-N-aryliminotrichloroacetyls with phenols in the presence of triethylamine produces triaroxyphosphazo-N-aryliminotrichloroacetyls, hydrolysis of which results in the formation of N-diarylphosphono-N'-aryltrichloroacetamidines, which are similar in chemical properties to

L 52795-65

ACCESSION NR: AP5016192

N-diarylphosphono-N'-acylaronamidines and diesters of aroylamidophosphoric
acids. N-diarylphosphono-N'-aryltrichloroacetamidines are also prepared
by reaction of N-dichlorophosphonyl-N'-aryltrichloroacetamidines with
phenols in the presence of triethylamine and by reaction of N-arylphosphono-
iminotrichloroacetyl chlorides with aromatic amines. Under the action of
excess methanol on N-dichlorophosphonyl-N'-aryltrichloroacetamidines, the
amide group is cleaved, and the dimethyl ester of trichloroacetamido-
phosphoric acid is formed. Orig. art. has 7 formulas, and 3 tables.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR (Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR)

SUBMITTED: 30Sep64	ENCL: 00	SUB CODE: OC, GC
NO REF SOV: 006	OTHER: 001	JPRS

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Card 2/2

DERKACH, Grigoriy Ilarionovich; ZHMUROVA, Irina Nikolayevna;
KIRSANOV, Aleksandr Vasil'yevich; SHEVCHENKO, Veniamin
Isaakovich; SHTEPANEK, Alla Stanislavovna; POKROVSKAYA,
Z.S., red.

[Phosphazo compounds] Fosfazosoedineniia. Kiev, Naukova
dumka, 1965. 283 p. (MIRA 18:8)

L 35557-65 EWT(m)/EPF(c)/EWP(j)/EWA(c) Pc-4/Pr-4 RM S/0286/65/000/005/0023/0023

ACCESSION NR: AP5008147

20
B

AUTHORS: Derkach, G. I.; Samaray, L. I.

TITLE: A method for obtaining derivatives of isocyanate phosphoric acid. Class 12, No. 168699

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 23

TOPIC TAGS: phosphoric acid, ester, chloriminocarbonic acid, phosphorus compound

ABSTRACT: This Author Certificate presents a method for obtaining derivatives of isocyanate phosphoric acid by the interaction of N-chloriminocarbonic acid esters with trivalent phosphorus compounds. To increase the assortment of raw materials, chlorine derivatives of phosphoric acid are used as the trivalent phosphorus compound.

ASSOCIATION: none

SUBMITTED: 13Jul62

ENCL: 00

SUB CODE: GC

NO REF SOV: 000

OTHER: 000

Card 1/1

DERKACH, G.I. [Derkach, H.I.]

Ninth Mendeleev Congress. Dop. AN URSR no.8:1106-1111 '65.
(MIRA 18:8)

SAMARAY, L.I.; BONDAR', V.A.; DERKACH, G.I.

Reaction of carboxylic acid amidines with oxalyl chloride.
Zhur. org. khim. 1 no.11:2004-2008 N '65. (MIRA 18:12)

1. Institut organicheskoy khimii AN UkrSSR. Submitted
January 18, 1965.

IVANOVA, Zh. M.; KIRSANOVA, N.A.; DERKACH, G.I.

Derivatives of N-acyliminocarbonic acid chlorides. Zhur. org. khim. 1 no. 12:2186-2191 D '65 (MIRA 19:1)

1. Institut organicheskoy khimii AN UkrSSR. Submitted December 25, 1964.

L 28874-66 EWP(j)/EWT(m) RM/WW

ACC NR: AP6018834 SOURCE CODE: UR/0079/65/035/003/0532/0534

AUTHOR: Derkach, G. I.; Slyusarenko, Ye. I.

29
B

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: Derivatives of trichlorophosphazofluoroacyls

SOURCE: Zhurnal obshchey khimii, v. 35, no. 3, 1965, 532-534

TOPIC TAGS: organic azo compound, phosphorus chloride amide, fluorinated organic compound, hydrolysis, chlorinated organic compound, ester

ABSTRACT: Reaction of phosphorus pentachloride with amides of o-, m-, and p-fluorobenzoic acids proceeded according to the phosphazo reaction scheme, producing the corresponding trichlorophosphazofluorobenzoyls. These are low melting crystalline substances, with chemical properties close to those of trichlorophosphazobenzoyls. Subsequent hydrolysis of the trichlorophosphazofluorobenzoyls yielded dichlorides of fluorobenzoylamidophosphoric acids and the free fluorobenzoylamidophosphoric acids. Reaction of the dichlorides of fluorobenzoylamidophosphoric acids with alcohols and sodium phenolate produced the corresponding diesters of fluorobenzoylamidophosphoric acids. Diphenyl esters of fluoroaroylamidophosphoric acids are also produced in good yield by the action of phenol on trichlorophosphazofluoroaroyls, followed by hydrolysis with water or with 2N sodium hydroxide. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 02Jan64 / ORIG REF: 004

Card 1/1 UDC: 546.185:547.582

SAMARAY, L.I.; DERKACH, G.I.

Phosphorylated derivatives of oxalic acid amides. Zhur. ob. khim. 35 no.4:755 Ap '65. (MIRA 18:5)

1. Institut organicheskiy khimii AN UkrSSR.

ALEKSANKIN, M.M.; SAMARAY, L.I.; DERKACH, G.I.

Study of the thermal decomposition of ethyl ester of trichlorophosphazocarbonic acid by means of O^{18}. Zhur. ob. khim. 35 no.5:923-925 My '65. (MIRA 18:6)

1. Institut organicheskoy khimii AN UkrSSR i Institut fizicheskoy khimii AN UkrSSR.

DERKACH, G.I.; NARBUT, A.V.

Derivatives of phosphadiazacyclobutanone. Zhur. ob. khim. 35 no.5:932 My '65. (MIRA 18:6)

1. Institut organicheskoy khimii AN UkrSSR.

DERKACH, G.I.; KOLOTILO, M.V.

Derivatives of tetraazadiphosphacyclooctatetraene. Zhur. ob. khim. 35 no.6:1001-1005 Je '65. (MIRA 18:6)

1. Institut organicheskoy khimii AN UkrSSR.

DERKACH, G.I.; NARBUT, A.V.

Arylamides of phosphazocarbonic acids. Zhur. ob. khim. 35 no.6:1006-1008 Je '65. (MIRA 18:6)

1. Institut organicheskoy khimii AN UkrSSR.

DERKACH, G.I.; GUBNITSKAYA, Ye.S.; SHOKOL, V.A.

Derivatives of acylamidoarylphosphonic acids. Zhur. ob. khim. 35 no.6:1014-1018 Je '65. (MIRA 18:6)

1. Institut organicheskoy khimii AN UkrSSR.

DERKACH, G.I.; RUDAVSKIY, V.P.

N-phosphorylated trichloroacetamidine derivatives. Zhur. ob. khim. 35 no.7:1202-1206 Jl '65. (MIRA 18:8)

1. Institut organicheskoy khimii AN UkrSSR.

SHOKOL, V.A., DERKACH, G.I.

Dialkyl esters of acylamidophosphoric acid. Zhur. ob. khim. 35 no.8:1468-1471 Ag '65. (MIRA 18:8)

1. Institut organicheskoy khimii AN UkrSSR.

DERKACH, G.I.; SLYUSARENKO, Ye.I.; LIBMAN, B.Ya.; LIPTUGA, N.I.

Diisocyanates and diisothiocyanates of alkylphosphonic acids. Zhur. ob. khim. 35 no.10:1881-1882 O '65. (MIRA 18:10)

1. Institut organicheskoy khimii AN UkrSSR.

L 25609-66 EWT(m)/EWP(j) RM

ACC NR: AP6016699 SOURCE CODE: UR/0079/65/035/012/2200/2204

18

B

AUTHOR: Derkach, G. I.; Rudavskiy, V. P.

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: Phosphorylated derivatives of the amides of dichloroacetic and alpha, alpha-dichloroproprionic acids

SOURCE: Zhurnal obshchey khimii, v. 35, no. 12, 1965, 2200-2204

TOPIC TAGS: chlorinated organic compound, carboxylic acid, phosphorus chloride, hydrolysis, acetic acid, acetone, nonmetallic organic derivative, carboxylic acid chloride, organic amide

ABSTRACT: The amides of the above acids react with phosphorus pentachloride to form trichlorophosphazocarbacoyls:

$$CH_3CCl_2CONH_2 + PCl_5 \longrightarrow 2HCl + CH_3CCl_2CON\ PCl_3.$$

The hydrolysis of trichlorophosphazodichloroacetyls and alpha,beta-dichloroproprionyl with anhydrous acetic acid or water in acetone results in dichloracetyl- and alpha,beta-dichloropropionylamidophosphoric acids. The corresponding diesters of diamides of the acids are obtained by the action of alcohols, phenols, thiophenols, or amines on the dichlorides of these acids.

Card 1/2 UDC: 546.185 : 547.29

L 25609-66

ACC NR: AP6016699

The acid chloride of N-dichlorophosphonylimino-alpha,alpha-dichloroproprionic acid is obtained by treating phosphorus pentachloride with alpha-alpha-dichloroproprionylamidophosphoric acid dichloride. Twenty-four derivatives of chloroproprionylamidophosphoric acids, $RCONHPOX_2$, where $R = CH_3CCl_2$ and X equals various groups, were obtained and characterized. Twenty-three derivatives of dichloroacetylamidophosphoric acid, $CHCl_2CONHPOX_2$, were obtained and characterized. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 25Dec64 / ORIG REF: 004 / OTH REF: 001

Card 2/2

L 25604-66 EWT(1)/EWT(m)/EWP(j) WW/RO/RM

ACC NR: AP6016704 SOURCE CODE: UR/0079/65/035/012/2220/2222

30
B

AUTHOR: Derkach, G. I.; Slyusarenko, Ye. I.

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: Mixed diesters of urethanephosphoric acids

SOURCE: Zhurnal obshchey khimii, v. 35, no. 12, 1965, 2220-2222

TOPIC TAGS: insecticide, organic phosphorus compound, ester phosphoric acid, vacuum distillation, organic isocyanate compound

ABSTRACT: Certain diesters of urethanephosphoric acids with identical substituents on the phosphorus atom possess strong insecticidal action. The dimethyl ester of methylurethanephosphoric acid (K-20-30) and the dimethyl ester of isopropylurethanephosphoric acid (avenin) are effective systemic insecticides against the garden beet weevil. In contrast to other organophosphorus insecticides they do not possess the properties of cholinesterase inhibitors and are absolutely harmless to warm-blooded animals.
The mixed diesters of urethanephosphoric acids were unknown up to this time. The diesters of urethanephosphoric acids with identical substituents on the phosphorus atom are readily obtained by the reaction of alcoholates or absolute alcohols and the acid dichlorides of urethanephosphoric acids.
To obtain the diesters of urethanephosphoric acids with different substituents on the phosphorus atom, the reaction between the acid

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Card 1/2 UDC: 547.26'118

L 25604-66

ACC NR: AP6016704

dichlorides and alcohols is conducted in the presence of triethylamine in two states:

$$\text{ROCONHPOCL}_2 \xrightarrow[(C_2H_5)_3N]{R'OH} \text{ROCONHPO(OR')CL} \xrightarrow[(C_2H_5)_3N]{R''OH} \text{ROCONHPO(OR')(OR'')}$$

A total of 18 mixed diesters were obtained and characterized including those derived from the higher (C_6-C_{10}) alcohols.

The mixed diesters of urethanephosphoric acids upon being distilled in a vacuum (7-10 mm) cleave off quantitatively the alcohols and are converted into the diesters of isocyanatophosphoric acid:

$$\text{(R''O)(R'O)PONHCOOR} \longrightarrow \text{ROH} + \text{(R''O) (R'O)PONCO.}$$

The diesters of isocyanatophosphoric acid react virogously with aromatic amines to form N-phosphono-N'-arylurea:

$$\text{(R'O)(R''O) PONCO} \xrightarrow{ArNH_2} \text{ArNHCONHPO(OR'')(OR').}$$

Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 18Jan65 / ORIG REF: 003

Card 2/2

L 29276-66 -EWP(j)/EWT(m)/T RM

ACC NR: AP6019322 SOURCE CODE: UR/0079/65/035/008/1468/1471

30
29
B

AUTHOR: Shokol, V. A.; Derkach, G. I.

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: Dialkyl esters of acylamidophosphoric acids

SOURCE: Zhurnal obshchey khimii, v. 35, no. 8, 1965, 1468-1471

TOPIC TAGS: phosphate ester, organic synthetic process, alcohol

ABSTRACT: By interacting trichlorophosphazoacyls or dichlorides of acylamidophosphoric acids with alcohols in benzene solutions in the presence of triethylamine, dialkyl esters of acylamidophosphoric acids $RCONHPO(OAlk)_2$ (I) were prepared. The following new compounds of this type were synthesized by these methods: I ($R=CH_2Cl$, Alk=Me); I($R=CH_2Cl$, Alk=Et); I ($R=CH_2Cl$, Alk = iso-Pr); I ($R=CCl_3$, Alk=iso-Pr); I (R=Ph, Alk = iso-Pr); I (R=Ph, Alk = hexyl); I (R=Ph, Alk=heptyl); I (R=Ph, Alk = octyl); I (R=Ph, Alk =nonyl); I (R=Ph, Alk=decyl); I ($R=p-ClC_6H_4$, Alk = hexyl); I ($R=p-ClC_6H_4$, Alk = heptyl); I ($R = p-ClC_6H_4$, Alk = octyl); I ($R=p-ClC_6H_4$,

Card 1/2 UDC: 546.325:547.26'118

L 29276-66

ACC NR: AP6019322

Alk = nonyl); I (R = p-ClC_6H_4, Alk = decyl). The esters with Alk = Me, Et, iso-Pr were crystalline solids, those with Alk = hexyl tp decyl colorless, thick liquids that could not be distilled in vacuo without decomposition. Compounds I were dimeric in benzene solutions (cf. M. M. Kabachnik et al, Izv. AN SSSR. OKhN 1589, 1952). The authors thank A. V. Kirsanov for his help and advice. Orig. art. has: 1 figure, 3 formulas, and 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 25Mar63 / ORIG REF: 005

Card 2/2

L 46585-66 EWT(m)/EWP(j) RM

ACC NR: AP6025534 SOURCE CODE: UR/0079/66/036/001/0082/0084

AUTHOR: Dorkach, G. I.; Kolotilo, M. V. 9 B

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: N-phosphorylated alkyl- and arylamidines

SOURCE: Zhurnal obshchey khimii, v. 36, no. 1, 1966, 82-84

TOPIC TAGS: chemical reaction, solvent, amide, phosphorus compound, picric acid, hydrochloric acid, triethylamine

ABSTRACT: N-Dialkylphosphonoalkylamidines and N-dialkylphosphonoarylamidines and alkyl chlorides are formed in the reaction of N-chloroalkylamidines and N-chloroarylamidines with trialkyl phosphites. The reaction is very violent in the absence of a solvent and therefore is conducted in benzene or ether. N-Dialkylphosphonoalkylamidines are also prepared by the reaction of dialkyl chlorophosphates with amidines in the presence of triethylamines, but in 20-30% lower yields. N-Chloro-N'arylalkylamidines and N-chloro-N'-arylarylamidines react with trialkyl phosphites to form the corresponding N-dialkylphosphono-N'-arylalkyl(aryl)amidines. The phosphorylated amidines synthesized are very weak bases, giving no salt with picric and hydrochloric acids. In the reaction of N-aryl-N'-chloroarylamidines with triphenylphosphine, phosphonium salts are formed, which give N-aryltriphenylphosphazoiminoaroyls under the action of triethylamine. Orig. art. has: 1 table. [JPRS: 35,998]

SUB CODE: 07 / SUBM DATE: 01Mar65 / ORIG REF: 003

Card 1/1 hs UDC: 546.185+547.298.5

L 31267-66 EWT(m)/EWP(j) RM

ACC NR: AP6022805 SOURCE CODE: UR/0079/66/036/002/0322/0326

42

AUTHOR: Derkach, G. I.; Marbut, A. V.

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR) 3

TITLE: N-dichlorophosphonyl-N'-alkyl-C-chloroformamidines 1 and their derivatives

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 322-326

TOPIC TAGS: organic phosphorus compound, nonmetallic organic derivative, amine, chemical synthesis, hydrolysis, phosphorus chloride

ABSTRACT: Alkylureas react with phosphorus pentachloride to form N-dichlorophosphonyl-N'-alkyl-C-chloroformamidines. Under the action of phenols (alcohols), amines, and phenyl magnesium bromide upon N-dichlorophosphonyl-N-alkyl-C-chloroformamidines, the following products are formed: N-diaryl (dialkyl)phosphono-N'-alkyl-O-aryl(alkyl)isoureas, N-diamidophosphonyl-N'-alkyl-N'-aryl(alkyl)guanidines, and N-diphenylphosphonyl-N'-methylbenzamidine, respectively. In the reaction of triisopropyl phosphite and triphenylphosphine with the azide of methylcarbamic acid, the methylamides of the corresponding phosphazocarbonic acids are formed. Methylamines of trialkoxyphosphazocarbonic acids are readily hydrolyzed under the action of atmospheric moisture to N-dialkylphosphono-N'-methylureas. The authors thank A. V. Kirsanov for help and advice in this work. Orig. art. has: 1 figure and 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 01Jan64 / ORIG REF: 005

Card 1/1 2 0915 0784

L 31790-66 EWT(m)/EWP(j) WW/RM

ACC NR: AP6021675 SOURCE CODE: UR/0079/66/036/003/0461/0467

AUTHOR: Dorkach, G. I.; Liptuga, N. I.

36
35
B

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii (AN UkrSSR)

TITLE: Derivatives of N-phosphorylated iminocarboxylic acids

1

SOURCE: Zhurnal obshchey khimii, v. 36, no. 3, 1966, 461-467

TOPIC TAGS: nonmetallic organic derivative, organic phosphorus compound, carboxylic acid chloride, chemical synthesis, imine compound, hydrolysis, formic acid

ABSTRACT: N-Phosphonoiminocarboxylic acid dichlorides were prepared by the chlorination of isothiocyanates of dialkyl- and diaryl-phosphoric acids. Dichlorides of N-phosphonoiminocarboxylic acids react with sodium alcoholates, phenolates, mercaptides, and thiophenolates, as well as aliphatic and aromatic amines to yield diesters, dithioesters, and diamides of N-phosphonoiminocarboxylic acids. In the reaction of N-phosphonoiminocarboxylic acid dichlorides with two moles of an aromatic amine, N-phosphono-N'-aryl-C-chloroformamidines are formed, which react with triethylamine to give N-phosphono-N'-arylcarbodiimides. Hydrolysis of N-dialkylphosphono-N'-arylcarbodiimides yields N-phosphono-N'-arylureas. The action of phosphorus pentachloride on N-dialkylphosphonoiminocarboxylic acid dichlorides produces N-dichloro-

Card 1/2 UDC: 661.718.1

L 31790-66

ACC NR: AP6021675

phosphonyliminophosgene. Diesters of isocyanatophosphoric acid were prepared by formolysis of N-phosphonoiminocarboxylic acid dichlorides with anhydrous formic acid. Hydrolysis of N-phosphonoguanidines (prepared from N-phosphono-N'-aryl-C-chloroformamidines and amines) in dilute acid solutions results in the formation of dialkyl phosphates and guanidines. N-Phosphonoiminocarboxylic acid dichloride react vigorously with potassium salts of diesters of dithiophosphoric acids, but only diesters of isocyanatophosphoric acid could be isolated from the reaction products. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 18Jan65 / ORIG REF: 009 / OTH REF: 003

Card 2/2

L 05180-67 EWT(m)/EWP(j) RM

ACC NR: AP7000744 SOURCE CODE: UR/0079/66/036/005/0930/0937

SHOKOL, V. A., MOLYAVKO, L. I., DERKACH, G. I., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

30

B

"Reaction of Compounds of Trivalent Phosphorus with N-Chloramides of Acids. I. Interaction of Phosphites and Triphenylphosphine with N-Chloro-N-alkylsulfamides"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 5, 1966, pp 930-937

Abstract: In the reaction of N-chloro-N-methylarylsulfamides with trialkyl- or alkyldiarylphosphites, there is an Arbuzov rearrangement, forming diesters of N-alkylamidophosphoric acids. The diesters are colorless viscous liquids or low-melting crystalline substances, which yield N-alkylarylsulfamides when boiled with aqueous alcohol solutions of hydrochloric acid. Triphenylphosphine, reacting with N-chloro-N-methylarylsulfamides, gives N-methylarylsulfonylamidotriphenylphosphonium chlorides. They are all readily hydrolyzed by atmospheric moisture or under the action of water or alcohol, yielding complex compounds of triphenylphosphine oxide with N-methylarylsulfamides $ArSO_2N(CH_3)H...OP(C_6H_5)_3$. When the phosphonium salts are heated to 90-120°, they split off an alkyl halide, yielding triphenylphosphazosulfonylaryls. The infrared spectra of the compounds obtained are discussed. Orig. art. has: 1 figure and 4 tables. [JPRS: 37,023]

TOPIC TAGS: organic amide, organic sulfur compound, organic phosphorus compound

SUB CODE: 07 / SUBM DATE: 19Apr65 / ORIG REF: 011 / OTH REF: 005

UDC: 547.583.2

Card 1/1 vmb

0923 1914

ACC NR: AM5027772 Monograph UR/

Derkach, Grigoriy Illarionovich; Zhmurova, Irina Nikolayevna; Kirsanov, Aleksandr Vasil'yevich; Shevchenko, Veniamin Isaakovich; Shtepanek, Alla Stanislavovna

Phosphazo compounds (Fosfazosoyedineniya) Kiev, Izd-vo "Naukova dumka," 1965. 283 p. illus., biblio. (At head of title: Akademiya nauk Ukrainskoy SSR. Institut organicheskoy khimii) 2000 copies printed.

TOPIC TAGS: organic phosphorus compound, nitrogen compound, organic azo compound

PURPOSE AND COVERAGE: The introduction contains a review of recent research in the field and a discussion of the problems connected with inconsistencies in terminology. The nomenclature employed is that first proposed by A. Mikhaelis. The book deals with data on the chemistry of phosphazo compounds, published in the scientific press up to 1 January 1964, and presents lists of the phosphazo compounds that are known at the present time. It is intended for scientists, industrial workers, teachers, and students interested in modern progress in organic chemistry, especially those working in the field of phosphor-organic compounds. Each chapter deals with a different class of compounds, for which the authors give the method of preparation, the chemical properties, a list of compounds, and an appropriate bibliography.

TABLE OF CONTENTS [abridged]:

Card 1/2 UDC: 547l

ACC NR: AM5027772

SUB CODE: 07/ SUBM DATE: 10Apr65/ ORIG REF: 222/ OTH REF: 319

Card 2/2

L 11400-67 EWT(m)/EWP(j) RM/JW [redacted]

ACC NR: AP7003656 RCE CODE: UR/0079/66/036/008/1437/1441

AUTHOR: Derkach, G. I.; Kolotilo, M. V.

26

ORG: Institute of Organic Chemistry, AN UkrSSR, Kiev (Institut organicheskoy khimii AN UkrSSR).

TITLE: Derivatives of trichlorophosphazoiminoacyls

SOURCE: Zhurnal obshchey khimii v. 36, no. 8, 1966, 1437-1441

TOPIC TAGS: phosphorus chloride, amino, organic phosphorus compound

ABSTRACT: N-Chloroalkylamidines react with triaryl phosphites to form amidinophosphonium salts, which when treated with triethylamine readily split out hydrogen chloride and are converted to triaroxyphosphazoiminoalkoyls. In contrast to the analogous triaroxyphosphazoiminoaroyls, triaroxyphosphazoiminoalkoyls do not split out phenol and are stable to hydrolysis. N-chloroaromamidines react analogously with diphenylchlorophosphite, phenyldichlorophosphite, phenyldifluorophosphite, and phosphorus trichloride, forming the corresponding phosphonium salts, which are readily hydrolyzed by atmospheric moisture. Reaction of the phosphonium salts with triethylamine led to resinification; their reaction with pyridine yielded pyridine hydrochloride and the corresponding diphenoxychloro-, phenoxydichloro-, phenoxydifluoro-, and trichlorophosphazoiminoaroyls. Partial hydrolysis of diphenoxychloro-,

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L 11400-67

ACC NR: AP7003656

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phenoxydichloro-, and trichlorophosphazoiminoaroyls by atmospheric moisture yielded N-diphenylphosphonoarenamidines, N-phenoxychlorophosphonylarenamidines, and N-dichlorophosphonylarenamidines, respectively. Partial acidolysis of trichlorophosphazoiminoaroyls with acetic acid yielded both N-dichlorophosphonylarenamidines and N-monochloromonohydroxyphosphonylarenamidines. The reaction of diphenoxychlorophosphazoiminobenzoyl with triethylamine yielded 2,2,6,6-tetraphenoxy-4,8-diphenyl-1,3,5,7-tetraaza-2,6-diphospha-1,3,5,7-cyclooctatetraene. N-phenyl-N'-chloroarenamidines react with triaryl phosphites to form phosphonium salts, which when reacted with triethylamine give triaroxyphosphazo-N-phenyliminoaroyls. The latter are very unstable and are hydroylsed at atmospheric moisture to N-diarylphosphono-N'-phenylarenamidines.

Orig. art. has: 2 tables. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 02Jul65 / ORIG REF: 005

Card 2/2 jb

ACC NR: AP7003657 SOURCE CODE: UR/0079/66/036/008/1442/1444

40

AUTHOR: Shokol, V. A.; Mikhaylyuchenko, N. K.; Derkach, G. I.

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: Reaction of compounds with trivalent phosphorus with n-chloramides of acids. II. Reaction of phosphites with n-chloro-n-alkylurethans

SOURCE: Zhurnal obshchey khimii, v. 36, no. 8, 1966, 1442-1444

TOPIC TAGS: organic phosphorus compound, IR spectrum, ester, organic synthetic process

ABSTRACT: N-chloro-N-alkylurethanes react with trialkyl phosphites to form dialkyl esters of N-alkylurethanephosphoric acids. The reaction is analogous to that of N-chloro-N-alkylarylsulfamides with trialkyl phosphites, studied earlier by the authors. The dialkyl esters of N-alkylurethanephosphoric acids are colorless free-flowing liquids, readily soluble in water and most organic solvents. Eleven diesters were synthesized (ten for the first time) and characterized. Their infrared spectra were studied. Orig. art. has: 1 table. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 10Jul65 / ORIG REF: 004 / OTH REF: 002

Card 1/1 jb UDC: 547.495.1

0926 0280

ACC NR: AP6028901 SOURCE CODE: UR/0079/66/036/008/1442/1444

AUTHOR: Shokol, V. A.; Mikhaylyuchenko, N. K.; Derkach, G. I.

ORG: Institute of Organic Chemistry, Academy of Sciences, UkrSSR (Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Reactions of compounds of trivalent phosphorus with N-chloroamides. II. Reactions of phosphites with N-chloro-N-alkylurethanes

SOURCE: Zhurnal obshchey khimii, v. 36, no. 8, 1966, 1442-1444

TOPIC TAGS: insecticide, alkylphosphonocarbamic acid ester, organic phosphorus compound

ABSTRACT: N-chloro-N-alkylurethanes react with trialkyl phosphites to form the corresponding esters:

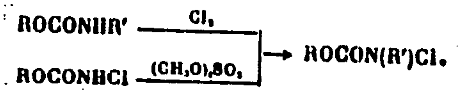
$$ROCON(R')Cl + (R''O)_3P \rightarrow [ROCON(R')P(OR'')_3]^+Cl^- \rightarrow$$
$$\rightarrow ROCON(R')PO(OR'')_2 + R''Cl.$$

Without solvent the reaction is very vigorous, therefore, it is conducted in benzene solution with boiling. The diesters of N-alkylphosphonocarbamic acids are effective insecticides and at the same time they are harmless to humans and animals. The initial N-chloro-N-alkylurethans were obtained by chlorination of N-alkylurethanes or by methylation

Card 1/3 UDC: 547.495.1

ACC NR: AP6028901

of N-chlorourethanes with dimethyl sulfate:



$$\left.\begin{array}{l} \mathrm{ROCONHR'} \xrightarrow{\mathrm{Cl_2}} \\ \mathrm{ROCONHCl} \xrightarrow{\mathrm{(CH_3O)_2SO_2}} \end{array}\right] \rightarrow \mathrm{ROCON(R')Cl}.$$

Composition and properties of the diesters are given in the table. Orig. art. has: 1 table.

[W.A. 50]

Card 2/3

ACC NR: AP6028901

Table 1. Diesters of N-alkylphosphonocarbamic acids $ROCON(R')PO(OR'')_2$

R	R'	R''	Yield (in %)	bp (p in mm)	d_4^{20}	n_D^{20}	MR_D		Found % P	Formula	Calc'd % P
							Found	Calc'd			
CH_3	CH_3	CH_3	60	83—84° (1.5)	1.2774	1.4368	40.40	40.71	16.02	$C_5H_{12}NO_5P$	15.71
CH_3	CH_3	C_2H_5	64	87—88 (1.5)	1.1660	1.4319	50.06	49.93	13.85	$C_7H_{16}NO_5P$	13.76
CH_3	CH_3	iso-C_3H_7	62	75—76 (0.4)	1.1050	1.4299	59.17	59.18	12.31	$C_9H_{20}NO_5P$	12.24
CH_3	C_2H_5	C_2H_5	55	94—95 (0.4)	1.1348	1.4333	54.81	54.57	13.19	$C_8H_{18}NO_5P$	12.95
CH_3	C_2H_5	iso-C_3H_7	50	90—91 (0.3)	1.0730	1.4385	64.12	63.80	11.63	$C_{10}H_{22}NO_5P$	11.59
C_2H_5	CH_3	CH_3	50	71—72 (0.4)	1.2160	1.4343	45.27	45.33	14.33	$C_6H_{14}NO_5P$	14.01
C_2H_5	CH_3	C_2H_5	63	83—84 (0.5)	1.1310	1.4301	54.63	54.57	13.23	$C_8H_{18}NO_5P$	12.95
C_2H_5	CH_3	iso-C_3H_7	65	91—92 (0.7)	1.0770	1.4277	63.81	63.80	11.51	$C_{10}H_{22}NO_5P$	11.52
iso-C_3H_7	CH_3	CH_3	57	114—115 (3)	1.1657	1.4309	49.99	49.95	13.68	$C_7H_{16}NO_5P$	13.78
iso-C_3H_7	CH_3	C_2H_5	56	98—99 (1.5)	1.1041	1.4292	59.14	59.18	12.42	$C_9H_{20}NO_5P$	12.24
iso-C_3H_7	CH_3	iso-C_3H_7	90	108—109 (1.5)	1.0520	1.4270	68.66	68.43	11.04	$C_{11}H_{24}NO_5P$	11.01

SUB CODE: 07,06/ SUBM DATE: 10Jul65/ ORIG REF: 008/ OTH REF: 004

Card 3/3

ACC NR: AP6031382

SOURCE CODE: UR/0079/66/036/009/1636/1639

AUTHOR: Shokol, V. A.; Golik, G. A.; Libman, B. Ya.; Derkach, G. I.

ORG: Institute of Organic Chemistry, Academy of Sciences, UkrSSR (Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Monoalkylamides of alkyl methylphosphonates

SOURCE: Zhurnal obshchey khimii, v. 36, no. 9, 1966, 1636-1639

TOPIC TAGS: insecticide, ~~monoalkylamine alkyl methyl phosphinate~~, ORGANIC AMIDE, PHOSPHONATE, PHOSPHONIC ACID

ABSTRACT: In a search for new insecticides, a series of monoalkylamides of alkyl methylphosphonates was obtained by the reaction of methylphosphonic acid chloride with primary amines in the presence of triethylamine in an ether solution at room temperature:

$$CH_3P(O)(OR)Cl \xrightarrow[(C_2H_5)_3N]{R'NH_2} CH_3P(O)(OR)NHR'$$

Composition and properties of the amides are given in the table.

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UDC: 547.26'118

ACC NR: AP6031382

Table 1. Monoalkylamides of alkyl methylphosphonates

$CH_3P(O)(OR)NHR'$

R	R'	yield, %	bp (p, mm)	d_4^{20}	n_D^{20}
CH_3	CH_3	а, 37	72—73* (0.02)	1.1288	1.4423
CH_3	C_2H_5	а, 58	78—79 (0.02)	1.0779	1.4402
CH_3	изо-C_3H_7	а, 42	81—83 (0.03)	1.0402	1.4373
CH_3	н.-C_4H_9	а, 36	95—96 (0.1)	1.0192	1.4424
C_2H_5	CH_3	б, 82 (69)	86—88 (0.5)	1.0835	1.4390
C_2H_5	C_2H_5	б, 72	91—93 (0.4)	1.0482	1.4372
C_2H_5	изо-C_3H_7	б, 78 (62)	66—67 (0.03)	0.9995	1.4347
C_2H_5	н.-C_4H_9**	в, 54 (11)	100—101 (0.1)	0.9971	1.4400
iso-C_3H_7	CH_3	б, 81 (58)	73—75 (0.06)	1.0372	1.4350
iso-C_3H_7	C_2H_5	б, 79	69—71 (0.03)	1.0109	1.4338
iso-C_3H_7	изо-C_3H_7	б, 63	85—87 (0.07)	0.9863	1.4318
iso-C_3H_7	н.-C_4H_9	в, 54 (13)	138—139 (11)	0.9712	1.4376

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ACC NR: AP6031382

Table 1. (Cont.)

MR_D		found, %	formula	calculated
found	calc.			
28.89	29.13	N 11.43	$C_3H_{10}NO_2P$	N 11.38
33.54	33.65	CH_3O 22.53	$C_4H_{12}NO_2P$	CH_3O 22.59
38.12	38.36	CH_3O 20.65	$C_5H_{14}NO_2P$	CH_3O 20.53
42.92	42.98	CH_3O 18.74	$C_6H_{10}NO_2P$	CH_3O 18.79
33.32	33.65	N 10.21	$C_4H_{12}NO_2P$	N 10.22
37.92	38.36	N 9.22; P 20.53	$C_5H_{14}NO_2P$	N 9.27; P 20.49
43.08	42.98	P 18.59	$C_6H_{16}NO_2P$	P 18.75
47.39	47.60	N 7.58	$C_7H_{18}NO_2P$	N 7.81
38.03	38.36	N 9.34	$C_5H_{14}NO_2P$	N 9.27
42.53	42.98	N 8.43	$C_6H_{16}NO_2P$	N 8.48
47.11	47.60	N 7.99; P 17.34	$C_7H_{18}NO_2P$	N 8.01; P 17.28
52.13	52.22	N 7.28; P 16.04	$C_8H_{20}NO_2P$	N 7.25; P 16.05

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ACC NR: AP6031382

These amides have strong insecticidal properties but are very toxic to domestic animals. Monoalkylamides of alkyl methyphosphonates react with tert-butyl hypochlorite to form N-chloro-N-alkylamides of alkyl methylphosphonates. The reaction takes place in chloroform at 20—30°C. [WA-50; CBE No. 12]

SUB CODE: 06,07/ SUBM DATE: 17Jul65/ ORIG REF: 003/ OTH REF: 014/

Card 4/4

ACC NR: AP6031383 SOURCE CODE: UR/0079/66/036/009/1639/1642

AUTHOR: Derkach, G. I.; Slyusarenko, Ye. I.

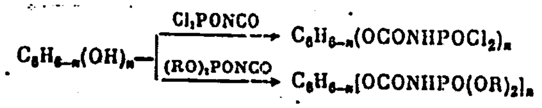
ORG: Institute of Organic Chemistry, Academy of Sciences, UkrSSR (Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Derivatives of diesters of isocyanatophosphoric acid

SOURCE: Zhurnal obshchey khimii, v. 36, no. 9, 1966, 1639-1642

TOPIC TAGS: ester, dichloride, phenol, organic isocyanate compound, phosphoric acid, chemical reaction, urea compound

ABSTRACT: Depending on the reactant ratio, di- and triphenols react with dichlorides and diesters of isocyanatophosphoric acid to form mono-, di-, or tris-phosphonourethans:



$$C_6H_{6-n}(OH)_n \xrightarrow{Cl_2PONCO} C_6H_{6-n}(OCONHPOCl_2)_n$$

$$C_6H_{6-n}(OH)_n \xrightarrow{(RO)_2PONCO} C_6H_{6-n}[OCONHPO(OR)_2]_n$$

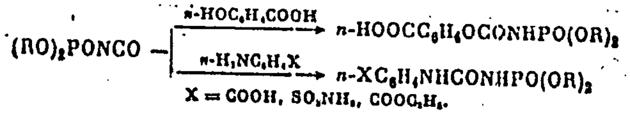
Card 1/5 UDC: 547.26'118

ACC NR: AP6031383

Diesters of isocyanatophosphoric acid react similarly with 2,2-di-p-dihydroxydiphenylpropane:

$$(CH_3)_2C(C_6H_4OH)_2 + 2(RO)_2PONCO \rightarrow (CH_3)_2C[C_6H_4OCONHPO(OR)_2]_2$$

With p-hydroxybenzoic acid and p-aminobenzoic acid diesters of isocyanatophosphoric acid react similarly to phenols and aromatic amines:



$$(RO)_2PONCO - \left[\begin{array}{l} \xrightarrow{n\text{-}HOC_6H_4COOH} n\text{-}HOOCC_6H_4OCONHPO(OR)_2 \\ \xrightarrow{n\text{-}H_2NC_6H_4X} n\text{-}XC_6H_4NHCONHPO(OR)_2 \end{array}\right.$$

$X = COOH,\ SO_2NH_2,\ COOC_2H_5.$

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ACC NR: AP6031383

With "chlorophos" diesters of isocyanatophosphoric acid react by the same mechanism as with alcohols:

$$(CH_3O)_2P(O)CH(OH)CCl_3 \xrightarrow{(RO)_2PONCO} (CH_3O)_2P(O)CH[OCONHPO(OR)_2]CCl_3$$

The reaction of isocyanatophosphoric acid dichloride with hexamethyl-disilazane takes place in ether solution at temperatures below 25°C:

$$[(CH_3)_3Si]_2NH + Cl_2PONCO \rightarrow [(CH_3)_3Si]_2NCONHPOCl_2$$

Card 3/5

The phosphorylated urethans and urea hydrolyze in the presence of HCl with cleavage of the N—P bond:

$$ROCONHPO(OR')_2 \xrightarrow[HCl]{H_2O} ROCONH_2 + (R'O)_2POOH$$

$$RNHCONHPO(OR')_2 \xrightarrow[HCl]{H_2O} RNHCONH_2 + (R'C)_2POOH$$

Composition and properties of the isocyanatophosphoric acid derivatives are given in the table: [WA-50; CBE No. 12]

ACC NR: AP6031383

Table 1. Derivatives of isocyanatophosphoric acid

Compound no.	Compound	Yield (in %)	mp	Found % P	Formula	Calculated % P
I	$HOC_6H_4OCONHPO(OCH_3)_2$	93	115—116°	12.05, 11.96	$C_9H_{12}NO_6P$	11.43
II	$o\text{-}HOC_6H_4OCONHPO(OCH_3)_2$	93	118—119	11.60, 11.49	$C_9H_{12}NO_6P$	11.43
III	$m\text{-}C_6H_4[OCONHPO(OC_3H_7\text{-iso})_2]_2$	48	—	11.10, 11.26	$C_{20}H_{34}N_2O_{10}P_2$	11.81
IV	$C_6H_4[OCONHPO(OCH_3)_2]_2$	91	134—135	13.15, 13.00	$C_{12}H_{18}N_2O_{10}P_2$	13.44
V	$C_6H_4[OCONHPO(OC_3H_7\text{-iso})_2]_2$	54	—	11.31, 11.44	$C_{20}H_{34}N_2O_{10}P_2$	11.81
VI	$4,6\text{-}(HO)_2C_6H_{11}OCONHPO(OCH_3)_2$	49	104—106	11.43, 11.22	$C_9H_{11}NO_7P$	11.17
VII	$(CH_3)_2C[C_6H_4OCONHPO(OCH_3)_2]_2$	81	109—114	11.39, 11.44	$C_{21}H_{28}N_2O_{10}P_2$	11.47
VIII	$2,4,6\text{-}C_6H_3[OCONHPO(OCH_3)_2]_3$	65	141—142	15.18, 15.32	$C_{15}H_{24}N_3O_{15}P_3$	16.04
IX	$C_2H_5OCOC_6H_4NHCONHPO(OC_2H_5)_2$	96	100—102	8.88, 8.47	$C_{14}H_{21}N_2O_6P$	8.92
X	$C_2H_5OCOC_6H_4NHCONHPO(OC_3H_7\text{-iso})_2$	86	151—152	8.81, 8.82	$C_{16}H_{25}N_2O_6P$	8.31
XI	$HOOCC_6H_4NHCONHPO(OCH_3)_2$	54	179—180	10.16, 10.14	$C_{10}H_{13}N_2O_6P$	10.74
XII	$HOOCC_6H_4OCONHPO(OCH_3)_2$	67	—	10.58, 10.83	$C_{10}H_{12}NO_7P$	10.71
XIII	$HOOCC_6H_4OCONHPO(OC_3H_7\text{-iso})_2$	69	—	8.58, 8.70	$C_{14}H_{20}NO_7P$	8.97
XIV	$CCl_3CH[OCONHPO(OCH_3)_2]PO(OCH_3)_2$	82	38—40	15.41, 15.45	$C_7H_{14}Cl_3NO_7P_2$	15.16
XV	$CCl_3CH[OCONHPO(OC_3H_7\text{-iso})_2]PO(OCH_3)_2$	86	—	13.24, 13.31	$C_{11}H_{22}Cl_3NO_7P_2$	13.33
XVI	$NH_2SO_2C_6H_4NHCONHPO(OCH_3)_2$	98	184—186	9.31, 9.48	$C_9H_{14}N_3O_6PS$	9.58
XVII	$p\text{-}NH_2SO_2C_6H_4NHCONHPO(OC_3H_7\text{-iso})_2$	98	210—212	8.40, 8.53	$H_{13}H_{22}N_3O_6PS$	8.25
XVIII	$[(CH_3)_3Si]_2NCONHPOCl_2$	81	—	22.50, 22.51	$C_7H_{19}Cl_2N_2O_2PSi_2$	Cl 22.07

SUB CODE: 07/ SUBM DATE: 12Jul65/ ORIG REF: 002/

Card 5/5

ACC NR: AP7011820

SOURCE CODE: UR/0079/66/036/012/2215/2217

AUTHOR: Derkach, G. I.; Gubnitskaya, Ye. S.; Kolotilo, M. V.; Matyusha, A. G.

ORG: Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: Reaction of isocyanatophosphites with alkyl halides, N-chloro compounds, and azides

SOURCE: Zhurnal obshchey khimii, v. 36, no. 12, 1966, 2215-2217

TOPIC TAGS: organic isocyanate compound, azide, chlorinated organic compound, organic azine compound

SUB CODE: 07

ABSTRACT: The alkyl esters of isocyanato- and diisocyanatophosphorous acids react readily with alkyl halides, N-chloroamines, acid N-chloroamides, and N-chloroiminoesters with an Arbuzov rearrangement, forming derivatives of isocyanatophosphonic (I) or amidophosphoric acids (II). The compounds EtPO(NCO)(OEt), $m\text{-}O_2NC_6H_4CON{=}P(NCO)(OEt)_2$ (liquid), and $m\text{-}O_2NC_6H_4CONHPO(OEt)$ NHCONHPh were synthesized in this manner. The interaction of N-chloroamidines with isocyanates of trivalent P led to phosphatriazines, of which

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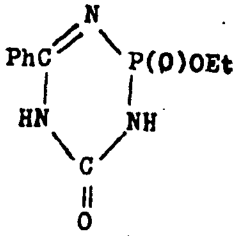
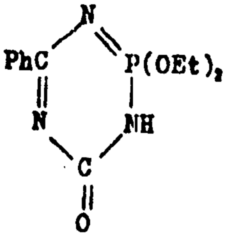
UDC: 547.558+547.582.7

ACC NR: AP7011820



and



(liquid)

were prepared. Alkyl azides, aryl azides, and azides of carboxylic, phosphoric, and sulfo acids reacted with phosphorous acid isocyanates with the formation of isocyanatophosphazo compounds: $RN_3 + R'_nP(NCO)_{3-n} \rightarrow N_2 + RN{=}PR'_n(NCO)_{3-n}$ (III),

R' = AlkO, ArO, AlkS, ArS, NR_2; $n = 1, 2$.

Compounds I-III reacted readily with alcohols, phenols, amines, or other compounds containing active H or metal atoms, forming the corresponding phosphorylated urethanes or ureas. The constitution of the P isocyanates and their derivatives was established on the basis of IR spectra, chemical reactions, and analytical data. Orig. art. has: 3 formulas and 1 table. [JPRS: 40,351]

Card 2/2

PASHCHENKO, V.Ya.; SISETSKIY, A.G.[Sisets'kyi, A.H.]; SIZONENKO, G.S. [Syzonenko, H.S.]; DASHKEVICH, Ya.R.[Dashkevych, IA.R.]; KOVAL'CHAK, G.I.[Koval'chak, H.I.]; KOVAL', F.T., red.; KRIP'YAKEVICH, I.P.[Kryp'iakevych, I.P.], red.; CHUGAYOV,V.P. [Chuhaiov, V.P.], red.; DERKACH, I., red.; BURKATOVSKAYA, TS. [Burkatovs'ka, TS], tekhn. red.

[Condition of Lvov workers, 1917-1939]Stanovyshche trudiashchykh L'vova, 1917-1939; dokumenty ta materialy. L'viv, Knyzhkovo-zhurnal'ne vyd-vo, 1961. 443 p. (MIRA 15:11)

1. Ukraine. Arkhivnoye upravleniye.
(Lvov—Labor and laboring classes)

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KOCHKINA, L.V.; POLOVKO, Ye.T.; SHILO, V.P.

Investigating the performance of a vibratory screening machine.
Trudy UkrNIISP no.5:21-33 '59. (MIRA 16:11)

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[Derkacz, I.]

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(Lvov--Guidebooks)

PASHUK, A.I.; DERKACH, I.S.

[Lvov; concise illustrated guidebook] Korotkyi iliustrovanyi putivnyk. L'viv, Knyzhkovo-zhurnal'ne vyd-vo, 1963. 173 p. (MIRA 18:5)

PASHUK, Andrey Iosifovich; DERKACH, Ivan Stepanovich

[Lvov; a brief illustrated guidebook] L'viv; malyi iliustrovanyi putivnyk. L'viv, L'vivs'ke knyzhkovo-zhurnal'ne vyd-vo, 1962. 173 p. (MIRA 18:1)

DERKACH, K.F., inzh.; MOZNAIM, G.I. inzh.; ROZENBERG, V.B., inzh.

Mining and ore-dressing equipment made by the Yasinovatka Machinery Plant. Gor. zhur. no.3:63-66 Mr '62. (MIRA 15:7)

1. Yasinovatskiy mashinostroitel'nyy zavod.
(Yasinovatka--Mining machinery)
(Yasinovatka--Ore dressing--Equipment and supplies)

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A001/A101

AUTHOR: Derkach, K. N.

TITLE: Photographic and photoelectric polarimetry of the Moon through light filters

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1962, 65-66, abstract 12A478 ("Uch. zap. Khar'kovsk. un-t", 1962, v. 122, "Tr. Astron. observ.", v. 14, 79 - 85)

TEXT: The author presents polarimetric studies of some areas of the lunar surface in red, yellow, green, blue and integrated light. Lunar polarimetric studies were performed by means of the 8" refractor of the Khar'kov Astronomical Observatory by the photographic and electrophotometric methods. Maxima polarization degree for all measured lunar areas is observed in blue light. It has been established, on the basis of results of electropolarimetric studies, that majority of details have minimum polarization degree with the yellow filter, and minority - with the green one. There are 9 references.

[Abstracter's note: Complete translation] From author's summary

Card 1/1

L 45221-66 EWT(1) GW

ACC NR: AR6015215 SOURCE CODE: UR/0269/65/000/012/0018/0019

AUTHOR: Dudinov, V. N.; Derkach, K. N.

35
34B

TITLE: Preliminary measurements of the degree of polarization made with an automatic electric polarimeter

SOURCE: Ref. zh. Astronomiya, Abs. 12.51.156

REF SOURCE: Vestn. Khar'kovsk. un-ta, 1965, no. 4, ser. astron., vyp. I, 65-70

TOPIC TAGS: moon polarization, electric polarimeter, photomultiplier

ABSTRACT: A new model of an automatic electronic polarimeter produced at the Astronomical Observatory of Khar'kov University is described. The instrument has a revolving polaroid behind which a photomultiplier is placed. Measurement of polarization actually consists of measuring the amplitude of the variable component of the photocurrent. Amplification is made by direct current. The d-c amplifier is enclosed in a negative feedback which stabilizes the amplification. It is noted that the mean square of error is 1% of the measured polarization value. When measuring

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ACC NR: AR6015215

polarization for 1—2% at low phases, the mean square error remains of the same order, because in this case the brightness of details increases considerably. The tables show results of polarization measurements of details of the Moon during two phases. [Translation of abstract] [VA]

SUB CODE: 02, 20, 09/ SUBM DATE: none/

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