



Drug Enforcement Administration

[Docket No. DEA-1281]

Bulk Manufacturer of Controlled Substances Application: Cayman Chemical

Company

AGENCY: Drug Enforcement Administration, Justice.

ACTION: Notice of application.

SUMMARY: Cayman Chemical Company has applied to be registered as a bulk manufacturer of basic class(es) of controlled substance(s). Refer to **SUPPLEMENTARY INFORMATION** listed below for further drug information.

DATES: Registered bulk manufacturers of the affected basic class(es), and applicants therefore, may submit electronic comments on or objections to the issuance of the proposed registration on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE **FEDERAL REGISTER**]. Such persons may also file a written request for a hearing on the application on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE **FEDERAL REGISTER**].

ADDRESSES: The Drug Enforcement Administration requires that all comments be submitted electronically through the Federal eRulemaking Portal, which provides the ability to type short comments directly into the comment field on the Web page or attach a file for lengthier comments. Please go to <https://www.regulations.gov> and follow the online instructions at that site for submitting comments. Upon submission of your comment, you will receive a Comment Tracking Number. Please be aware that submitted comments are not instantaneously available for public view on <https://www.regulations.gov>. If you have received a Comment Tracking Number, your comment has been successfully submitted and there is no need to resubmit the same comment.

SUPPLEMENTARY INFORMATION: In accordance with 21 CFR 1301.33(a), this is notice that on July 25, 2023, Cayman Chemical Company, 1180 East Ellsworth Road, Ann Arbor, Michigan 48108-2419, applied to be registered as a bulk manufacturer of the following basic class(es) of controlled substance(s):

Controlled Substance	Drug Code	Schedule
3-Fluoro-N-methylcathinone (3-FMC)	1233	I
Cathinone	1235	I
Methcathinone	1237	I
4-Fluoro-N-methylcathinone (4-FMC) 1238 I N flephedrone; 1-(4-fluorophenyl)-2-(methylamino)propan-1- one) (Positional isomer: 2-FMC)	1238	I
Para-Methoxymethamphetamine (PMMA), 1-(4- 1245 I N methoxyphenyl)-N-methylpropan-2-amine	1245	I
Pentedrone (α -methylaminovalerophenone)	1246	I
Mephedrone (4-Methyl-N-methylcathinone)	1248	I
4-Methyl-N-ethylcathinone (4-MEC)	1249	I
Naphyrone	1258	I
N-Ethylamphetamine	1475	I
Methiopropamine (N-methyl-1-(thiophen-2-yl)propan-2-amine)	1478	I
N,N-Dimethylamphetamine	1480	I
Fenethylamine	1503	I
Aminorex	1585	I
4-Methylaminorex (cis isomer)	1590	I
4,4'-Dimethylaminorex (4,4'-DMAR; 4,5-dihydro-4- 1595 I N methyl-5-(4-methylphenyl)-2-oxazolamine; 4-methyl-5- (4-methylphenyl)-4,5-dihydro-1,3-oxazol-2-amine)	1595	I
Gamma Hydroxybutyric Acid	2010	I
Methaqualone	2565	I
Mecloqualone	2572	I
Etizolam (4-(2-chlorophenyl)-2-ethyl-9-methyl-6H-thieno[3,2-f][1,2,4]triazolo[4,3-a][1,4]diazepine	2780	I
Flualprazolam (8-chloro-6-(2-fluorophenyl)-1-methyl-4Hbenzo [f][1,2,4]triazolo[4,3-a][1,4]diazepine)	2785	I
Clonazolam (6-(2-chlorophenyl)-1-methyl-8-nitro-4Hbenzo [f][1,2,4]triazolo[4,3-a][1,4]diazepine	2786	I
Flubromazolam (8-bromo-6-(2-fluorophenyl)-1-methyl-4H-benzo[f][1,2,4]triazolo[4,3-a][1,4]diazepine	2788	I
Diclazepam (7-chloro-5-(2-chloro-5-(2-chlorophenyl)-1-methyl-1,3-dihydro-2H-benzo[e][1,4]diazepin-2-one	2789	I
JWH-250 (1-Pentyl-3-(2-methoxyphenylacetyl) indole)	6250	I

SR-18 (Also known as RCS-8) (1-Cyclohexylethyl-3-(2-methoxyphenylacetyl) indole)	7008	I
ADB-FUBINACA (N-(1-amino-3,3-dimethyl-1-oxobutan-2-yl)-1-(4-fluorobenzyl)-1H-indazole-3-carboxamide)	7010	I
5-Fluoro-UR-144 and XLR11 [1-(5-Fluoro-pentyl)1H-indol-3-yl](2,2,3,3-tetramethylcyclopropyl)methanone	7011	I
AB-FUBINACA (N-(1-amino-3-methyl-1-oxobutan-2-yl)-1-(4-fluorobenzyl)-1H-indazole-3-carboxamide)	7012	I
FUB-144 (1-(4-fluorobenzyl)-1H-indol-3-yl)(2,2,3,3-tetramethylcyclopropyl)methanone)	7014	I
JWH-019 (1-Hexyl-3-(1-naphthoyl)indole)	7019	I
MDMB-FUBINACA (Methyl 2-(1-(4-fluorobenzyl)-1H-indazole-3-carboxamido)-3,3-dimethylbutanoate)	7020	I
FUB-AMB, MMB-FUBINACA, AMB-FUBINACA (2-(1-(4-fluorobenzyl)-1H-indazole-3-carboxamido)-3-methylbutanoate)	7021	I
AB-PINACA (N-(1-amino-3-methyl-1-oxobutan-2-yl)-1-pentyl-1H-indazole-3-carboxamide)	7023	I
THJ-2201 ([1-(5-fluoropentyl)-1H-indazol-3-yl](naphthalen-1-yl)methanone)	7024	I
5F-AB-PINACA (N-(1-amino-3-methyl-1-oxobutan-2-yl)-1-(5-fluoropentyl)-1H-indazole-3-carboximide)	7025	I
AB-CHMINACA (N-(1-amino-3-methyl-1-oxobutan-2-yl)-1-(cyclohexylmethyl)-1H-indazole-3-carboxamide)	7031	I
MAB-CHMINACA (N-(1-amino-3,3-dimethyl-1-oxobutan-2-yl)-1-(cyclohexylmethyl)-1H-indazole-3-carboxamide)	7032	I
5F-AMB (Methyl 2-(1-(5-fluoropentyl)-1H-indazole-3-carboxamido)-3-methylbutanoate)	7033	I
5F-ADB, 5F-MDMB-PINACA (Methyl 2-(1-(5-fluoropentyl)-1H-indazole-3-carboxamido)-3,3-dimethylbutanoate)	7034	I
ADB-PINACA (N-(1-amino-3,3-dimethyl-1-oxobutan-2-yl)-1-pentyl-1H-indazole-3-carboxamide)	7035	I
5F-EDMB-PINACA (ethyl 2-(1-(5-fluoropentyl)-1H-indazole-3-carboxamido)-3,3-dimethylbutanoate)	7036	I
5F-MDMB-PICA (methyl 2-(1-(5-fluoropentyl)-1H-indole-3-carboxamido)-3,3-dimethylbutanoate)	7041	I
MDMB-CHMICA, MMB-CHMINACA (Methyl 2-(1-(cyclohexylmethyl)-1H-indole-3-carboxamido)-3,3-dimethylbutanoate)	7042	I
4F-MDMB-BINACA (4F-MDMB-BUTINACA or methyl 2-(1-(4-fluorobutyl)-1H-indazole-3-carboxamido)-3,3-dimethylbutanoate)	7043	I
MMB-CHMICA, AMB-CHMICA (methyl 2-(1-(cyclohexylmethyl)-1H-indole-3-carboxamido)-3-methylbutanoate)	7044	I

FUB-AKB48, FUB-APINACA, AKB48 N-(4-FLUOROBENZYL) (N-(adamantan-1-yl)-1-(4-fluorobenzyl)-1H-indazole-3-carboximide)	7047	I
APINACA and AKB48 (N-(1-Adamantyl)-1-pentyl-1H-indazole-3-carboxamide)	7048	I
5F-APINACA, 5F-AKB48 (N-(adamantan-1-yl)-1-(5-fluoropentyl)-1H-indazole-3-carboxamide)	7049	I
JWH-081 (1-Pentyl-3-(1-(4-methoxynaphthoyl) indole)	7081	I
5F-CUMYL-PINACA, 5GT-25 (1-(5-fluoropentyl)-N-(2-phenylpropan-2-yl)-1H-indazole-3-carboxamide)	7083	I
5F-CUMYL-P7AICA (1-(5-fluoropentyl)-N-(2-phenylpropan-2-yl)-1H-pyrrolo[2,3-b]pyridine-3-carboxamide)	7085	I
4-CN-CUML-BUTINACA, 4-cyano-CUMYL-BUTINACA, 4-CN-CUMYL BINACA, CUMYL-4CN-BINACA, SGT-78 (1-(4-cyanobutyl)-N-(2-phenylpropan-2-yl)-1H-indazole-3-carboxamide)	7089	I
SR-19 (Also known as RCS-4) (1-Pentyl-3-[(4-methoxy)-benzoyl] indole)	7104	I
JWH-018 (also known as AM678) (1-Pentyl-3-(1-naphthoyl)indole)	7118	I
JWH-122 (1-Pentyl-3-(4-methyl-1-naphthoyl) indole)	7122	I
UR-144 (1-Pentyl-1H-indol-3-yl)(2,2,3,3-tetramethylcyclopropyl)methanone	7144	I
JWH-073 (1-Butyl-3-(1-naphthoyl)indole)	7173	I
JWH-200 (1-[2-(4-Morpholinyl)ethyl]-3-(1-naphthoyl)indole)	7200	I
AM2201 (1-(5-Fluoropentyl)-3-(1-naphthoyl) indole)	7201	I
JWH-203 (1-Pentyl-3-(2-chlorophenylacetyl) indole)	7203	I
NM2201, CBL2201 (Naphthalen-1-yl 1-(5-fluoropentyl)-1H-indole-3-carboxylate	7221	I
PB-22 (Quinolin-8-yl 1-pentyl-1H-indole-3-carboxylate)	7222	I
5F-PB-22 (Quinolin-8-yl 1-(5-fluoropentyl)-1H-indole-3-carboxylate)	7225	I
4-methyl-alpha-ethylaminopentiophenone (4-MEAP) 7245 I N 4-MEAP	7245	I
N-ethylhexedrone 7246 I N	7246	I
Alpha-ethyltryptamine	7249	I
Ibogaine	7260	I
2-(ethylamino)-2-(3-methoxyphenyl)cyclohexan-1-one (methoxetamine)	7286	I
CP-47,497 (5-(1,1-Dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl-phenol)	7297	I
CP-47,497 C8 Homologue (5-(1,1-Dimethyloctyl)-2-[(1R,3S)-3-hydroxycyclohexyl-phenol)	7298	I
Lysergic acid diethylamide	7315	I
2C-T-7 (2,5-Dimethoxy-4-(n)-propylthiophenethylamine	7348	I
Marihuana	7360	I
Tetrahydrocannabinols	7370	I
Mescaline	7381	I

2C-T-2 (2-(4-Ethylthio-2,5-dimethoxyphenyl) ethanamine)	7385	I
3,4,5-Trimethoxyamphetamine	7390	I
4-Bromo-2,5-dimethoxyamphetamine	7391	I
4-Bromo-2,5-dimethoxyphenethylamine	7392	I
4-Methyl-2,5-dimethoxyamphetamine	7395	I
2,5-Dimethoxyamphetamine	7396	I
JWH-398 (1-Pentyl-3-(4-chloro-1-naphthoyl) indole)	7398	I
2,5-Dimethoxy-4-ethylamphetamine	7399	I
3,4-Methylenedioxyamphetamine	7400	I
5-Methoxy-3,4-methylenedioxyamphetamine	7401	I
N-Hydroxy-3,4-methylenedioxyamphetamine	7402	I
3,4-Methylenedioxy-N-ethylamphetamine	7404	I
3,4-Methylenedioxymethamphetamine	7405	I
4-Methoxyamphetamine	7411	I
5-Methoxy-N,N-dimethyltryptamine	7431	I
Alpha-methyltryptamine	7432	I
Bufotenine	7433	I
Diethyltryptamine	7434	I
Dimethyltryptamine	7435	I
Psilocybin	7437	I
Psilocyn	7438	I
5-Methoxy-N,N-diisopropyltryptamine	7439	I
4-chloro-alpha-pyrrolidinovalerophenone (4-chloro-aPV	7443	I
4'-methyl-alpha-pyrrolidinohexiophenone (MPHP	7446	I
N-Ethyl-1-phenylcyclohexylamine	7455	I
1-(1-Phenylcyclohexyl)pyrrolidine	7458	I
1-[1-(2-Thienyl)cyclohexyl]piperidine	7470	I
1-[1-(2-Thienyl)cyclohexyl]pyrrolidine	7473	I
N-Benzylpiperazine	7493	I
2C-D (2-(2,5-Dimethoxy-4-methylphenyl) ethanamine)	7508	I
2C-E (2-(2,5-Dimethoxy-4-ethylphenyl) ethanamine)	7509	I
2C-H 2-(2,5-Dimethoxyphenyl) ethanamine)	7517	I
2C-I 2-(4-iodo-2,5-dimethoxyphenyl) ethanamine)	7518	I
2C-C 2-(4-Chloro-2,5-dimethoxyphenyl) ethanamine)	7519	I
2C-N (2-(2,5-Dimethoxy-4-nitro-phenyl) ethanamine)	7521	I
2C-P (2-(2,5-Dimethoxy-4-(n)-propylphenyl) ethanamine)	7524	I
2C-T-4 (2-(4-Isopropylthio)-2,5-dimethoxyphenyl) ethanamine)	7532	I
MDPV (3,4-Methylenedioxypropylvalerone)	7535	I
25B-NBOMe (2-(4-bromo-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl) ethanamine)	7536	I
25C-NBOMe (2-(4-chloro-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl) ethanamine)	7537	I
25I-NBOMe (2-(4-iodo-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl) ethanamine)	7538	I

Methylone (3,4-Methylenedioxy-N-methylcathinone)	7540	I
Butylone	7541	I
Pentylone	7542	I
alpha-pyrrolidinohexanophenone (a-PHP)	7544	I
alpha-pyrrolidinopentiophenone (α -PVP)	7545	I
alpha-pyrrolidinobutiophenone (α -PBP)	7546	I
Ethylone	7547	I
alpha-pyrrolidinoheptaphenone (PV8)	7548	I
Eutylone	7549	I
AM-694 (1-(5-Fluoropentyl)-3-(2-iodobenzoyl) indole)	7694	I
Acetyldihydrocodeine	9051	I
Benzylmorphine	9052	I
Codeine-N-oxide	9053	I
Desomorphine	9055	I
Etorphine (except HCl)	9056	I
Codeine methylbromide	9070	I
Brorphine (1-(1-(1-(4-bromophenyl)ethyl)piperidin-4-yl)1,3-dihydro-2H-benzo[d]imidazol-2-one)	9098	I
Dihydromorphine	9145	I
Difenoxin	9168	I
Heroin	9200	I
Hydromorphanol	9301	I
Morphine-N-oxide	9307	I
Normorphine	9313	I
Thebacon	9315	I
U-47700 (3,4-dichloro-N-[2-(dimethylamino)cyclohexyl]-N-methylbenzamide)	9547	I
AH-7921 (3,4-dichloro-N-[(1-dimethylamino)cyclohexylmethyl]benzamide))	9551	I
MT-45 (1-cyclohexyl-4-(1,2-diphenylethyl)piperazine))	9560	I
Clonitazene	9612	I
Isotonotazene (N,N-diethyl-2-(2-(4 isopropoxybenzyl)-5-nitro-1H-benzimidazol-1-yl)ethan-1-amine)	9614	I
Dipipanone	9622	I
Etonitazene	9624	I
Ketobemidone	9628	I
Trimeperidine	9646	I
Tilidine	9750	I
Butonitazene (2-(2-(4-butoxybenzyl)-5-nitro-1H-benzimidazol-1-yl)-N,N-diethylethan-1-amine)	9751	I
lunitazene (N,N-diethyl-2-(2-(4-fluorobenzyl)-5-nitro-1H-benzimidazol-1-yl)ethan-1-amine)	9756	I
Metonitazene (N,N-diethyl-2-(2-(4-methoxybenzyl)-5-nitro-1H-benzimidazol-1-yl)ethan-1-amine)	9757	I

N-pyrrolidino etonitazene; etonitazepyne (2-(4-ethoxybenzyl)-5-nitro-1-(2-(pyrrolidin-1-yl)ethyl)-1Hbenzimidazole)	9758	I
Protonitazene (N,N-diethyl-2-(5-nitro-2-(4-propoxybenzyl)-1H-benzimidazol-1-yl)ethan-1-amine)	9759	I
Metodesnitazene (N,N-diethyl-2-(2-(4-methoxybenzyl)-1H-benzimidazol-1-yl)ethan-1-amine)	9764	I
Etodesnitazene; etazene (2-(2-(4-ethoxybenzyl)-1Hbenzimidazol-1-yl)-N,N-diethylethan-1-amine)	9765	I
Acryl fentanyl (N-(1-phenethylpiperidin-4-yl)-N-phenylacrylamide)	9811	I
Para-Fluorofentanyl	9812	I
3-Methylfentanyl	9813	I
Alpha-methylfentanyl	9814	I
Acetyl-alpha-methylfentanyl	9815	I
N-(2-fluorophenyl)-N-(1-phenethylpiperidin-4-yl)propionamide	9816	I
Para-Methylfentanyl (N-(4-methylphenyl)-N-(1-phenethylpiperidin-4-yl)propionamide; also known as 4-methylfentanyl)	9817	I
4'-Methyl acetyl fentanyl (N-(1-(4-methylphenethyl)piperidin-4-yl)-N-phenylacetamide)	9819	I
ortho-Methyl methoxyacetyl fentanyl (2-methoxy-N-(2-methylphenyl)-N-(1-phenethylpiperidin-4-yl)acetamide)	9820	I
Acetyl Fentanyl (N-(1-phenethylpiperidin-4-yl)-N-phenylacetamide)	9821	I
Butyryl Fentanyl	9822	I
Para-fluorobutyryl fentanyl	9823	I
4-Fluoroisobutyryl fentanyl (N-(4-fluorophenyl)-N-(1-phenethylpiperidin-4-yl)isobutyramide)	9824	I
2-methoxy-N-(1-phenethylpiperidin-4-yl)-N-phenylacetamide	9825	I
Para-chloroisobutyryl fentanyl	9826	I
Isobutyryl fentanyl	9827	I
Beta-hydroxyfentanyl	9830	I
Beta-hydroxy-3-methylfentanyl	9831	I
Alpha-methylthiofentanyl	9832	I
3-Methylthiofentanyl	9833	I
Furanyl fentanyl (N-(1-phenethylpiperidin-4-yl)-N-phenylfuran-2-carboxamide)	9834	I
Thiofentanyl	9835	I
Beta-hydroxythiofentanyl	9836	I
Para-methoxybutyryl fentanyl	9837	I
Ocfentanil	9838	I
Thiofuranyl fentanyl (N-(1-phenethylpiperidin-4-yl)-Nphenylthiophene-2-carboxamide; also known as 2-thiofuranyl fentanyl; thiophene fentanyl)	9839	I
Valeryl fentanyl	9840	I
Phenyl fentanyl (N-(1-phenethylpiperidin-4-yl)-Nphenylbenzamide; also known as benzoyl fentanyl)	9841	I

beta'-Phenyl fentanyl (N-(1-phenethylpiperidin-4-yl)-N,3-diphenylpropanamide; also known as β' -phenyl fentanyl; 3-phenylpropanoyl fentanyl)	9842	I
N-(1-phenethylpiperidin-4-yl)-N-phenyltetrahydrofuran-2-carboxamide	9843	I
Crotonyl fentanyl ((E-N-(1-phenethylpiperidin-4-yl)-N-phenylbut-2-enamide)	9844	I
Cyclopropyl Fentanyl	9845	I
ortho-Fluorobutyryl fentanyl (N-(2-fluorophenyl)-N-(1-phenethylpiperidin-4-yl)butyramide; also known as 2- fluorobutyryl fentanyl)	9846	I
Cyclopentyl fentanyl	9847	I
ortho-Methyl acetylfentanyl (N-(2-methylphenyl)-N-(1-phenethylpiperidin-4-yl)acetamide; also known as 2- methyl acetylfentanyl)	9848	I
Fentanyl related-compounds as defined in 21 CFR 1308.11(h)	9850	I
Fentanyl carbamate (ethyl (1-phenethylpiperidin-4-yl)(phenyl)carbamate)	9851	I
ortho-Fluoroacryl fentanyl (N-(2-fluorophenyl)-N-(1-phenethylpiperidin-4-yl)acrylamide)	9852	I
ortho-Fluoroisobutyryl fentanyl (N-(2-fluorophenyl)-N-(1-phenethylpiperidin-4-yl)isobutyramide)	9853	I
Para-Fluoro furanyl fentanyl (N-(4-fluorophenyl)-N-(1-phenethylpiperidin-4-yl)furan-2-carboxamide)	9854	I
2'-Fluoro ortho-fluorofentanyl (N-(1-(2- fluorophenethyl)piperidin-4-yl)-N-(2- fluorophenyl)propionamide; also known as 2'-fluoro 2-fluorofentanyl)	9855	I
beta-Methyl fentanyl (N-phenyl-N-(1-(2- phenylpropyl)piperidin-4-yl)propionamide; also known as β -methyl fentanyl)	9856	I
Amphetamine	1100	II
Methamphetamine	1105	II
Lisdexamfetamine	1205	II
Phenmetrazine	1631	II
Methylphenidate	1724	II
Amobarbital	2125	II
Pentobarbital	2270	II
Secobarbital	2315	II
Glutethimide	2550	II
1-Phenylcyclohexylamine	7460	II
Phencyclidine	7471	II
ANPP (4-Anilino-N-phenethyl-4-piperidine)	8333	II
Norfentanyl (N-phenyl-N-(piperidin-4-yl) propionamide)	8366	II
Phenylacetone	8501	II
1-Piperidinocyclohexanecarbonitrile	8603	II

Cocaine	9041	II
Codeine	9050	II
Etorphine HCl	9059	II
Dihydrocodeine	9120	II
Oxycodone	9143	II
Hydromorphone	9150	II
Ecgonine	9180	II
Ethylmorphine	9190	II
Hydrocodone	9193	II
Levomethorphan	9210	II
Levorphanol	9220	II
Isomethadone	9226	II
Meperidine	9230	II
Meperidine intermediate-B	9233	II
Oliceridine (N-[(3-methoxythiophen-2yl)methyl] (2-[9r)-9-(pyridin-2-yl)-6-oxaspiro[4.5] decan-9-yl] ethyl {time})amine fumarate)	9245	II
Methadone	9250	II
Dextropropoxyphene, bulk (non-dosage forms)	9273	II
Morphine	9300	II
Thebaine	9333	II
Oxymorphone	9652	II
Noroxymorphone	9668	II
Thiafentanil	9729	II
Alfentanil	9737	II
Remifentanil	9739	II
Sufentanil	9740	II
Carfentanil	9743	II
Tapentadol	9780	II
Fentanyl	9801	II

The company plans to bulk manufacture the listed controlled substances for forensic purposes, to research analytical reference standards and as Active Pharmaceutical Ingredients for Phase 1 trials. In reference to drug codes 7360 (Marihuana), and 7370 (Tetrahydrocannabinols), the company plans to bulk manufacture these drugs as synthetic. No other activities for these drug codes are authorized for this registration.

Claude Redd,
Acting Deputy Assistant Administrator.