ENVIRONMENTAL PROTECTION AGENCY



OFFICE OF PESTICIDE PROGRAMS (OPP)

Active Pesticide Project Registration Informational Listing (APPRIL)

REST API Guide

Version 1.0

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1 APPRIL REST API – General Information

The APPRIL website is hosted in EPA's public-facing Oracle Application Express (APEX) environment. This environment utilizes Oracle's Oracle REST Data Services product (ORDS) to provide web access to the underlying Oracle database and REST API access.

The functionality provided with ORDs enables APPRIL to require only one API endpoint – https://ordspub.epa.gov/ords/pesticides/apprilapi/

The URI without any parameters will attempt to return all records in the APPRIL database. It will default to 500 records and can be increased to a maximum of 10,000 records per call. The results will be in JSON format and will include information at the end including the number of records returned (up to the limit), if any more records are available, the current record limit, and links to fetch the next or previous set of results. **Note:** There are approximately 400,000 Section 3 and distributor product records in the database, approximately 50,000 active products and approximately 20,000 active FIFRA Section 3 products.

This URI can accept a query parameter /?q={<filter conditions>} in JSON format that will search the APPRIL data and provide the filtered result set in JSON format. Filter conditions can be applied to any of the APPRIL data fields and has the power and flexibility of typical SQL where conditions, including the use of logical operators such as AND, OR. An \$orderby clause can be included in the query filter to control the sort order of returned results, such as (....., "\$orderby":{"ri_and_dp_num_sort":"asc"}.

Additional parameters that can be appended to the URI are the &limit and &offset parameters that will handle pagination and the number of records returned in one API call. The default number of records returned is 500 records and can be modified up to a maximum value of 10,000.

Query filter examples:

Product search:

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"reg_num":"3-1"}

Product Name search:

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"product name":{"\$instr":"roundup"}}

Product Name or Alternate Brand Name search:

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"\$or":[{"product_name":{"\$instr":"roundup"}}},{"abns":{"\$instr":"roundup"}}}}

Company search:

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"company_num":"3"}

Company, active products, and FIFRA Section 3 product search:

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"company num":"3","reg type":"Sec3","status group":"Active"}

Ingredient search: (you can search by chemical name, name snippet, PC Code, or CAS #)

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"ais":{"\$instr":"atrazine"}}

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"ais":{"\$instr":"080803"}}

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"ais":{"\$instr":"1912-24-9"}}

Active Section3 Products to use on Mosquitoes at Wineries:

https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"sites":{"\$instr":"wineries"},"pests":{"\$instr":"mosq"},"status_group":"Active","reg_type":"Sec3"}

Products Registered in 2023:

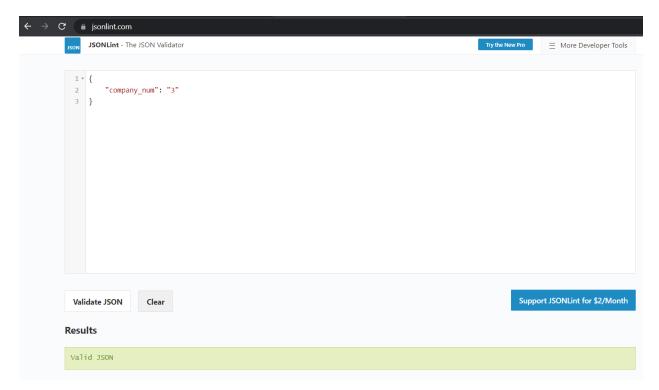
https://ordspub.epa.gov/ords/pesticides/apprilapi/?q={"first_reg_dt":{"\$gte":{"\$date":"2023-01-01T00:00:00Z"}}}

Detailed information on the required syntax and operators along with additional samples can be found in the following Oracle documentation:

 $\frac{\text{https://docs.oracle.com/en/database/oracle/oracle-rest-data-services/22.4/orddg/developing-REST-applications.html\#GUID-091748F8-3D14-402B-9310-25E6A9116B47}$

https://docs.oracle.com/en/database/oracle/simple-oracle-document-access/adsdi/soda-filter-specifications-reference.html#GUID-8DDB51EB-D80F-4476-9ABF-D6860C6214D1

The formatting of the JSON document to be used as the query filter can be validated at https://jasonlint.com.



2 APPRIL Database Structure and Field Value Information

The APPRIL database consists of the following fields:

1	REG_NUM	VARCHAR2 (30)
2	REG_TYPE	VARCHAR2 (10)
3	PRODUCT_NAME	VARCHAR2 (4000)
4	COMPANY_NUM	NUMBER (6)
5	COMPANY_NAME	VARCHAR2 (4000)
6	FIRST_REG_DT	DATE
7	STATUS	VARCHAR2 (50)
8	STATUS_DESC	VARCHAR2 (100)
9	STATUS_GROUP	VARCHAR2 (100)
10	STATUS_DT	DATE
11	USE_TYPE	VARCHAR2 (30)
12	SIGNAL_WORD	VARCHAR2 (20)
13	RUP_FLAG	VARCHAR2 (2)
14	RUP_REASON	VARCHAR2 (1000)
15	PESTICIDE_TYPE	VARCHAR2 (100)
16	PEST_CAT	VARCHAR2 (2000)
17	PHYS_FORM	VARCHAR2 (400)
18	AIS	CLOB
19	PESTS	CLOB
20	SITES	CLOB
21	TEAM	VARCHAR2 (200)
22	PM_EMAIL	VARCHAR2 (100)
23	RI_AND_DP_NUM_SORT	VARCHAR2 (20)
24	USE_PATTERN	VARCHAR2 (2500)
25	TRANSFER_HISTORY	VARCHAR2 (500)
26	ABNS	CLOB
27	ME_TOO_FLAG	VARCHAR2(1)
28	ME_TOO_REFS	VARCHAR2 (250)
29	MAX_LABEL_DT	DATE
30	LABEL_DATES	VARCHAR2 (4000)
31	LABEL_NAMES	VARCHAR2 (4000)

Relational information for each product is concatenated into comma-separated text or CLOB fields and are searchable.

Sample APPRIL Record:

REG_NUM	45385-76
REG_TYPE	Sec3
PRODUCT_NAME	Cenol Mill Spray
COMPANY_NUM	45305
COMPANY_NAME	Ctx-Cenol, Inc.
FIRST_REG_DT	21-APR-69
STATUS	Registered
STATUS_DESC	Active - Registered
STATUS_GROUP	Active
STATUS_DT	21-APR-69
USE_TYPE	End Use
SIGNAL_WORD	Caution
RUP_FLAG	и
RUP_REASON	
PESTICIDE_TYPE	Conventional Chemical
PEST_CAT	Insecticide, Miticide
PHYS_FORM	Ready-to-Use Solution
AIS	Piperonyl butoxide (067501/51-03-6) - (2%), Pyrethrins (069001/8003-34-7) - (.5%),
PESTS	Angoumois Grain Moth, Angoumois Grain Moth (Adult), Ants, Cadelle, Cadelle (Adult), Carpet Beetle, Confused Flour Beetle, Confused Flour Beetle (Adult), Crawling Insects, Dermes
SITES	Bakeries, Bottling Flants, Breweries, Candy Factories, Canneries, Dairy Flants, Eating Establishments (Indoor Edible), Flour Mills, Food Handling Equipment, Food Marketing/Store
TEAM	Registration Division, Risk Management Team 4
PM_EMAIL	fertich.elizabeth@epa.gov
RI_AND_DP_NUM_SORT	04538500076
USE_PATTERN	Indoor food use
TRANSFER_HISTORY	419-164 (04/21/1999) -> 45385-76
ABNS	Cenol Mill Spray (Primary Name)
ME_TOO_FLAG	
ME_TOO_REFS	
MAX_LABEL_DT	11-AUG-15
LABEL_DATES	08/11/2015, 02/06/2009, 07/03/2003, 06/28/1994, 05/30/1990
LABEL_NAMES	045385-00076-20150811.pdf, 045385-00076-20090206.pdf, 045385-00076-20030703.pdf, 045385-00076-19940628.pdf, 045385-00076-19900530.pdf

Field Descriptions:

Reg_Num (Varchar2) – Product registration number: Section 3 format – 999999-99999, distributor product format – 999999-9999999999.

Reg_Type (Varchar2) – Type of product: Sec3 – Section 3 product, DP – Distributor product

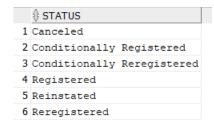
Product Name (Varchar2) - Product name

Company Num (Number) – Company Number

Company_Name (Varchar2) – Company Name

First Reg Dt (Date) – Date the product was registered

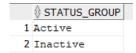
Status (Varchar2) – Product Status:



Status_Desc (varchar2) – Status description:

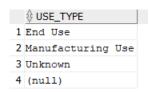


Status_Group (varchar2):

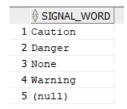


Status_Dt (Date) – Date of latest action taken regarding the product.

Use_Type (Varchar2) - Product use type:



Signal_Word (Varchar2) - Denotes warnings related to product

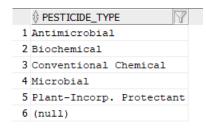


RUP_Flag (Varchar2) – Restricted Use Product Flag: (Y/N)

RUP_Reason (Varchar2) - Restricted Use Reason:

⊕ RUP REASON	
1 Additional evidence contained in field studies, use history, accident data, monitoring data, or other pertinent evidence indica	tes serious hazard to man or the envi
2 All other uses	
3 All other uses .Human Hazard	
4 All products for outdoor use	
5 Causes significant subchronic toxicity, chronic toxicity, or delayed toxic effects on man	
6 Causes significant subchronic, chronic, or delayed toxic effects on man	
7 Contains acute avian or mammalian oral LD50 of 50 mg/kg or less	
8 Contains acute dermal LD50 of 2000 mg/kg or less	
9 Contains acute inhalation LC50 of 0.05 mg/liter or less	
10 Contains acute inhalation LC50 of 0.5 mg/liter or less	
11 Contains acute oral LD50 of 50 mg/kg or less	
12 Corrosive to the eye or causes corneal involvement or irritation persisting > 21 days	
13 Corrosive to the skin	
14 Corrosive to the skin or causes severe irritation	
15 Granular products	
16 Hazard to non-target species	
17 Hazard to non-target species ,Additional evidence contained in field studies, use history, accident data, monitoring data, or o	ther pertinent evidence indicates ser
18 Hazard to non-target species ,Other evidence	
19 Human Hazard	
20 Human Hazard ,All products for outdoor use	
21 Human Hazard ,Birds - Application results in residue levels equal to or exceeding 1/5 of the avian subacute dietary LC50	
22 Human Hazard , Hazard to non-target species	
23 Human Hazard , Hazard to non-target species ,Other evidence	
24 Human Hazard ,Other evidence	
25 In water - Application results in residues equal to or exceeding 1/10 of the acute LC50 for non-target aquatic organisms likely	to be exposed
26 In water - Application results in residues equal to or exceeding 1/10 of the acute LC50 for non-target aquatic organisms likely	to be exposed ,Non-target organisms
27 Intended to be applied in such a manner that significant exposure to birds or mammals may occur.	
28 Non-target organisms - Direct or indirect exposure causes significant mortality or effects on the physiology, growth, population	n levels, or reproduction rates of su
29 Other evidence	
30 Residential and institutional uses	
31 Residential and institutional uses ,Hazard to non-target species	
32 Residential and institutional uses ,Other evidence	
33 (null)	

Pesticide_Type (Varchar2):



Pest_Cat (Varchar2) – Pesticide Category - Comma separated list of categories attributed to the product:

ACARICIDE

ALGAECIDE

ALGICIDE

ANTIBIOTIC

ANTIFOULANT

ANTIFOULING ANTIMICROBIAL

ATTRACTANT

AVICIDE

BACTERIOCIDE

BACTERIOCIDE/BACTERIOSTAT

BACTERIOSTAT

BIOCHEMICAL PESTICIDE

BIOCIDE

CHEMOSTERILANT

CONTRACEPTIVE

DEFOLIANT

DESICCANT

DISINFECTANT

EMULSIFIER

FEEDING DEPRESSANT

FEEDING STIMULANT

FERTILIZER

FIRE RETARDANT

FUMIGANT

FUNGICIDE

FUNGICIDE AND NEMATICIDE

FUNGICIDE/FUNGISTAT

FUNGISTAT

HERBICIDE

HERBICIDE AQUATIC

HERBICIDE TERRESTRIAL

INDUSTRIAL CHEMICAL

INSECT GROWTH REGULATOR

INSECTICIDE

INSECTICIDE SYNERGIST

INTRASTATE

MATING DISRUPTANT

MECHANICAL

MEDICAL WASTE TREATMENT

MICROBIAL PESTICIDE

MICROBICIDE

MICROBICIDE/MICROBISTAT

MICROBISTAT

MITICIDE

MOLLUSCICIDE

MOLLUSCICIDE AND TADPOLE SHRIMP

NEMATICIDE

NONVIABLE MICROBIAL/TRANSGENIC PLANT

PLANT GROWTH REGULATOR

PLANT GROWTH STIMULATOR

POISON, MULTIPLE DOSE

POISON, SINGLE DOSE

REGULATOR

REPELLENT

REPELLENT OR FEEDING DEPRESSANT

RODENTICIDE

SANITIZER

SEX ATTRACTANT

SEX ATTRACTANT OR FEEDING STIMULANT

SLIMACIDE

SLIMACIDES

SOIL FUMIGANT

SPORICIDE

STERILIZER

TADPOLE SHRIMPICIDE

TERMITICIDE

TUBERCULOCIDE

VIRUCIDE

WATER PURIFIER BACTERIACIDAL

WATER PURIFIER BACTERIASTATIC

WATER PURIFIER BACTERIOSTAT

Phys_Form (Varchar2) - Physical form of product:

Crystalline

Crystalline, Dust

Crystalline, Ready-to-Use Solution

Crystalline, Technical Chemical

Dust

Dust, Emulsifiable Concentrate

Dust, Granular

Emulsifiable Concentrate

Emulsifiable Concentrate, Flowable Concentrate

Emulsifiable Concentrate, Formulation Intermediate

Emulsifiable Concentrate, Granular

Emulsifiable Concentrate, Impregnated Materials

Emulsifiable Concentrate, Pressurized Liquid

Emulsifiable Concentrate, Soluble Concentrate

Emulsifiable Concentrate, Soluble Concentrate, Soluble Concentrate/Solid

Emulsifiable Concentrate, Soluble Concentrate/Solid, Wettable Powder

Emulsifiable Concentrate, Technical Chemical

Emulsifiable Concentrate, Water Dispersible Granule

Emulsifiable Concentrate, Water Soluble Packaging

Emulsifiable Concentrate, Wettable Powder

Flowable Concentrate

Flowable Concentrate, Formulation Intermediate

Flowable Concentrate, Granular

Flowable Concentrate, Soluble Concentrate

Flowable Concentrate, Soluble Concentrate, Technical Chemical

Flowable Concentrate, Wettable Powder

Formulation Intermediate

Formulation Intermediate, Formulation Unidentified

Formulation Intermediate, Ready-to-Use Solution

Formulation Intermediate, Soluble Concentrate

Formulation Intermediate, Technical Chemical

Formulation Intermediate, Water Soluble Packaging

Formulation Intermediate, Wettable Powder

Formulation Unidentified

Formulation Unidentified, Granular

Granular

Granular, Impregnated Materials

Granular, Microencapsulated

Granular, Pelleted/Tableted

Granular, Ready-to-Use Solution

Granular, Water Dispersible Granule

Granular, Wettable Powder

Impregnated Materials

Impregnated Materials, Ready-to-Use Solution

Invert-Emulsifiable Conc.

Microencapsulated

Microencapsulated, Soluble Concentrate

Oils (no added pesticide)

Oils (no added pesticide), Ready-to-Use Solution

Pelleted/Tableted

Pelleted/Tableted, Ready-to-Use Solution

Pelleted/Tableted, Soluble Concentrate/Solid

Pelleted/Tableted, Water Soluble Packaging

Pressurized Dust

Pressurized Dust, Pressurized Liquid

Pressurized Gas

Pressurized Gas, Pressurized Liquid

Pressurized Gas, Technical Chemical

Pressurized Liquid

Pressurized Liquid, Ready-to-Use Solution

Ready-to-Use Solution

Ready-to-Use Solution, Soluble Concentrate

Ready-to-Use Solution, Soluble Concentrate/Solid

Ready-to-Use Solution, Technical Chemical

Solid Agar

Solid Agar, Soluble Concentrate

Soluble Concentrate

Soluble Concentrate, Soluble Concentrate/Solid

Soluble Concentrate, Technical Chemical

Soluble Concentrate, Water Dispersible Granule

Soluble Concentrate, Water Soluble Packaging

Soluble Concentrate/Solid

Soluble Concentrate/Solid, Technical Chemical

Soluble Concentrate/Solid, Water Dispersible Granule

Technical Chemical

Technical Chemical, Water Dispersible Granule

Water Dispersible Granule
Water Dispersible Granule, Water Soluble Packaging
Water Soluble Packaging
Water Soluble Packaging, Wettable Powder
Wettable Powder
Wettable Powder, Wettable Powder/Dust
Wettable Powder/Dust

Als (CLOB) – Comma separated list of active ingredients in product, including chemical name, PC Code, CAS #, and formulation percentage

Pests (CLOB) Comma separated list of pests that the product is allowed to treat.

List of Pests: https://www.epa.gov/pesticides/epa-finalizes-updates-list-pests-significant-health-impProductortance

Sites (CLOB) Comma separated list of sites where the product is allowed to be applied.

List of Sites: https://www.epa.gov/pesticide-registration/pesticide-use-site-index

Team (Varchar2) – Product Registration Team information

PM_Email (Varchar2) - Product Manager email address

RI_AND_DP_NUM_SORT (Varchar2) – use this field to properly sort results by the registration number

Use Pattern (Varchar2) - Comma separated list of use patterns allowed for product.

Agricultural premises and equipment

Antifouling coatings

Aquatic areas

Aquatic food crop

Aquatic non-food residential

Aquatic nonfood crop

Aquatic nonfood industrial use

Aquatic nonfood outdoor use

Commercial, institutional and industrial premises and equipment

Food handling/storage establishments premises and equipment

Forestry use

Greenhouse food crop

Greenhouse nonfood crop

High Exposure Antimicrobial

Human drinking water systems

Indoor food use

Indoor medical use

Indoor nonfood use

Indoor use

Industrial processes and water systems - not once through

Industrial processes and water systems - once through

Low Exposure Antimicrobial

Materials preservatives

Medical premises and equipment

Occupational Use Conventional Chemical

Residential

Residential Indoor use

Residential Use Conventional Chemical

Residential and public access premises

Residential outdoor use

Swimming pools

Terrestrial feed crop

Terrestrial food crop Terrestrial nonfood crop Wood preservatives

Transfer_History (Varchar2) – Chronological list of previous product numbers and transfer dates

ABNs – Alternate brand names (CLOB) – Comma separated list of alternate names assigned to product

Me_Too_Flag (Varchar2) – Flag specifying if the product is classified as a "Me-too", a product that is substantially similar to another product

Me_Too_Ref (Varchar2) – Comma separated list of "parent" products that the "me-too" designation refers to

Max Label Date (Date) – Date of the latest label submitted to the EPA for the product

Label_Dates (Varchar2) – Comma separated list of dates for all Section 3 product labels submitted/accepted by the EPA

Label_Names (Varchar2) — Comma separated list of file names of the Section 3 product labels (pdfs) submitted/accepted by the EPA (format: 000003-00001-20210309.pdf). The actual files can be displayed and downloaded by prepending https://www3.epa.gov/pesticides/chem_search/ppls/ to a file name. For example: https://www3.epa.gov/pesticides/chem_search/ppls/000003-00001-20210309.pdf

If you have any questions regarding the use of the APPRIL system, you can submit them to <u>APPRIL Support@epa.gov</u>. Questions regarding data-related issues can be directed to the appropriate product manager.