CPSC Recalls Retrieval
Web Services Programmers Guide:

Recalls and Penalties Database

UNITED STATES OF AMERICA
CONSUMER PRODUCT
SAFETY COMMISSION

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Table of Contents

OVERVIEW

This document defines the Recalls Database Web Services System Interface information for the U.S. Consumer Product Safety Commission (CPSC). The CPSC Recall Retrieval Web Services are developed as part of the CPSC Recall Database project. The services are implemented as REST web services and access recall data within a SQL Server 2012 database. As REST services they can be easily accessed in languages such as JavaScript and C#.

The Recall Retrieval web services application resides on the saferproducts.gov servers and is accessed via a URL which **begins with** http://www.saferproducts.gov/RestWebServices/Recall/. This is a publicly available URL. The web services allow users to query the database by specifying various URL parameters.

This document contains a description of available parameters, instructions on how to construct the URL to get the desired resulting data set and sample code for processing the resulting data set.

Note: Searches by UPC can be problematic for several reasons: CPSC does not have UPCs for every product recalled and companies use and re-use UPCs differently. For these reasons, a search by UPC can lead to false positive or false negative results. Although CPSC provides a Search by UPC method, we strongly recommend using the RecallDescription or ProductName search for more complete and accurate recall information.

AVAILABLE RECALL RETRIEVAL SEARCH PARAMETERS

The Recall retrieval web services perform a case insensitive search for any or all of the following fields using a wildcard search. Data is returned as XML, or optionally as JSON:

RecallNumber	RecallDescription	ManufacturerCountry
RecallDateStart	ProductName	UPC
RecallDateEnd	ProductDescription	Hazard
LastPublishDateStart	ProductModel	Manufacturer
LastPublishDateEnd	ProductType	Remedy
RecallURL	RecallInconjunctionCountry	Retailer
RecallTitle	ImageURL	
ConsumerContact	Injury	

Additional Optional Recall Retrieval Search Parameters

The Recall retrieval web services have the following additional parameters:

- format: provides the output format to return the data. Possible values are XML or JSON. If not specified, the default value is XML.

BUILDING THE SEARCH URL

The recall web service URL has the following parts:
- Domain and service:
  - *http://www.saferproducts.gov/RestWebServices/Recall/*
- 0 or more parameters as noted below

To instead return non-normalized bar-delimited data format the following can be used:
- Domain and service:
  - *http://www.saferproducts.gov/RestWebServices/RecallDelimited/*
- 0 or more parameters as noted below

The default is to return the results in XML format.   Adding &format=JSON to the URL will return the results in JSON format.

RECALL RETRIEVAL SERVICES RETURNED DATA

The Recall retrieval web services retrieve 1 of each of the following fields for each recall:

- RecallNumber
- RecallDate
- Description
- URL
- Title
- ConsumerContact
- LastPublishDate

The Recall retrieval web services retrieve 0 or more of the following fields for each recall:

- Products:
  - Product:
    - Name
    - Description
    - Model
    - Type
    - CategoryID
    - NumberOfUnits
- Inconjunctions:
  - Inconjunction
    - Country
- Images
  - Image
    - URL
- Injuries
  - Injury
    - Name
- Manufacturers
  - Manufacturer

- – Name
  - – CompanyID
- • ManufacturerCountries
  - · ManufacturerCountry
    - – Country
- • ProductUPCs
  - · ProductUPC
    - – UPC
- • Hazards
  - · Hazard
    - – Name
    - – HazardTypeID
- • Remedies
  - · Remedy
    - – Name
- • Retailers
  - · Retailer
    - – Name
    - – CompanyID

EXAMPLE SEARCH URLs AND RESULTING DATA

You can view the results of the queries below by clicking the links, or entering into a browser URL.

The URL to get a list of all recalls with title "Child" and description contains "metal" in XML format is:

http://www.saferproducts.gov/RestWebServices/Recall?Title=Child&RecallDescription=metal

The URL to get the same list as above but in JSON format is:

http://www.saferproducts.gov/RestWebServices/Recall?Title=Child&RecallDescription=metal&format=json

An example of one record of the resulting data in XML format for the above query is:

```
<Recall>
      <RecallID>1903</RecallID>
      <RecallNumber>15069</RecallNumber>
      <RecallDate>2015-02-04</RecallDate>
      <Description>
      The die-case metal cars may have sharp edges that pose a laceration hazard.
      </Description>
      <URL>
      http://www.cpsc.gov/en/Recalls/2015/Family-Dollar-Stores-Recall-Tough-Treadz-Auto-
      Carrier-Toy-Sets/
      </URL>
      <Title>
      Family Dollar Stores Recall Tough Treadz Auto Carrier Toy Sets Due to Laceration
      Hazard
      </Title>
      <ConsumerContact>
```

```xml
        Family Dollar Stores at (800) 547-0359 from 8:30 a.m. to 5 p.m. Monday through
        Friday or online at www.familydollar.com, then click on Product Recalls in the
        Help section at the bottom of the page.
        </ConsumerContact>
        <LastPublishDate>2015-02-04</LastPublishDate>
        <Products>
                <Product>
                        <Name>Tough Treadz Auto Carrier</Name>
                        <Description>
                        This recall involves a plastic toy truck with a plastic case that
                        holds 6 die-cast metal toy cars in assorted colors. The truck is 14
                        inches long x 3 inches wide x 5 inches high. The cab of the truck
                        comes in black, blue or red. The package is labeled as "Tough
                        Treadz Auto Carrier" and has a white sticker in the upper right-
                        hand corner with "$5" and "SKU 1004247" printed in red. The UPC
                        code appears on a label on the back stating "Made in China." The
                        following UPC codes are included in this recall: 678565114083,
                        678565114090, 678565114106.
                        </Description>
                        <Model/>
                        <Type>Toy Cars</Type>
                        <CategoryID>2188</CategoryID>
                        <NumberOfUnits>About 254,000</NumberOfUnits>
                </Product>
        </Products>
        <Inconjunctions/>
        <Images/>
        <Injuries>
                <Injury>
                <Name>No reported injuries.</Name>
                </Injury>
        </Injuries>
        <Manufacturers>
                <Manufacturer>
                <Name>Family Dollar Services</Name>
                <CompanyID/>
                </Manufacturer>
        </Manufacturers>
        <ManufacturerCountries>
                <ManufacturerCountry>
                        <Country>China</Country>
                </ManufacturerCountry>
        </ManufacturerCountries>
        <ProductUPCs/>
        <Hazards>
                <Hazard>
                        <Name>
                        The die-cast metal cars can have sharp edges that pose a laceration
                        hazard.
                        </Name>
                        <HazardTypeID>49</HazardTypeID>
                </Hazard>
        </Hazards>
        <Remedies>
                <Remedy>
                        <Name>
                        rfn-Refund; Consumers should immediately stop using the recalled
                        toy sets, take them away and return them to any Family Dollar
                        Stores location for a full refund.
                        </Name>
                </Remedy>
        </Remedies>
        <Retailers>
                <Retailer>
                        <Name>
                        Family Dollar Stores nationwide from September 2014 through
                        December 2014 for about $5.
                        </Name>
                        <CompanyID/>
                </Retailer>
        </Retailers>
</Recall>
```

The same recall record in JSON format results in:

```
[{"RecallID":1903,"RecallNumber":"15069","RecallDate":"2015-02-
04T00:00:00","Description":"The die-case metal cars may have sharp edges that pose a
laceration hazard.","URL":"http://www.cpsc.gov/en/Recalls/2015/Family-Dollar-Stores-
Recall-Tough-Treadz-Auto-Carrier-Toy-Sets/","Title":"Family Dollar Stores Recall Tough
Treadz Auto Carrier Toy Sets Due to Laceration Hazard","ConsumerContact":"Family Dollar
Stores at (800) 547-0359 from 8:30 a.m. to 5 p.m. Monday through Friday or online at
www.familydollar.com, then click on Product Recalls in the Help section at the bottom of
the page.","LastPublishDate":"2015-02-04T00:00:00","Products":[{"Name":"Tough Treadz Auto
Carrier","Description":"This recall involves a plastic toy truck with a plastic case that
holds 6 die-cast metal toy cars in assorted colors. The truck is 14 inches long x 3
inches wide x 5 inches high. The cab of the truck comes in black, blue or red.  The
package is labeled as "Tough Treadz Auto Carrier" and has a white sticker in the upper
right-hand corner with "$5" and "SKU 1004247" printed in red.  The UPC code appears on a
label on the back stating "Made in China."  The following UPC codes are included in this
recall: 678565114083, 678565114090, 678565114106.","Model":"","Type":"Toy
Cars","CategoryID":"2188","NumberOfUnits":"About
254,000"}],"Inconjunctions":[],"Images":[],"Injuries":[{"Name":"No reported
injuries."}],"Manufacturers":[{"Name":"Family Dollar
Services","CompanyID":""}],"ManufacturerCountries":[{"Country":"China"}],"ProductUPCs":[]
,"Hazards":[{"Name":"The die-cast metal cars can have sharp edges that pose a laceration
hazard.","HazardTypeID":"49"}],"Remedies":[{"Name":"rfn-Refund; Consumers should
immediately stop using the recalled toy sets, take them away and return them to any
Family Dollar Stores location for a full refund."}],"Retailers":[{"Name":"Family Dollar
Stores nationwide from September 2014 through December 2014 for about
$5.","CompanyID":""}]}]
```

The URL to get a list of all recalls with ProductName Toddler in XML format is:

http://www.saferproducts.gov/RestWebServices/Recall?ProductName=Toddler

The URL to get the same list as above but in JSON format is:

http://www.saferproducts.gov/RestWebServices/Recall?ProductName=Toddler&format=JSON

JAVASCRIPT EXAMPLE CODE TO ACCESS THE RECALL RETRIEVAL WEB SERVICES

The code below demonstrates accessing the Recall Retrieval Web Services using JavaScript:

```
// search recalls
function SearchRecalls() {

    // CPSCDomain
    var CPSCDomain = "http://www.saferproducts.gov/RestWebServices";

    // recalls URL
    var URL = CPSCDomain + "/Recall" + "?format=json";

    // add filters
    for (var i = 0; i < fieldNames.length; i++) {
        fieldValue = GetFieldValue(fieldNames[i]);
        if (fieldValue != null && fieldValue.trim() != "")
            URL += "&" + fieldNames[i] + "=" + fieldValue.trim();
    }

    // get recalls
    $.ajax({
        url: URL,
        type: 'GET',
        datatype: 'json',
        headers: { 'Access-Control-Allow-Origin': '*' },
        error:
```

```
            function (jqXHR, textStatus, errorThrown) {
                var whatError = errorThrown;
                alert(whatError);
            },
            success: function (data) {
                if (data != null) {
                    displayRecallsTable(data);
                }
            }
        });
    }
```

C# EXAMPLE CODE TO ACCESS THE RECALL RETRIEVAL WEB SERVICES

The code below demonstrates accessing the Recall Retrieval Web Services using C#:

```
using System.Net;
using Newtonsoft.json;

        // list of recalls
        List<Recall> lstRecalls = null;

        // domain
        var CPSCDomain = "http://www.saferproducts.gov/RestWebServices";

        // set URL to recall web service with format json
        string URL = CPSCDomain + "/Recall" + "?format=json";

        // search for RecallTitle and RecallDescription
        //URL += "&RecallTitle=Child";
        //URL += "&RecallDescription=metal";

        // search for LastPublishDate
        //string LastPublishDateStart = "5/29/2014";
        //string LastPublishDateEnd = "5/30/2014";
        //URL += "&LastPublishDateStart=" + LastPublishDateStart;
        //URL += "&LastPublishDateEnd=" + LastPublishDateEnd;

        // search for RecallNumber
        string RecallNumber = "15081";
        URL += "&RecallNumber=" + RecallNumber;


        try
        {
            // get recalls
            using (var client = new WebClient())
            {
                // headers
                client.Headers.Add("Content-Type", "application/json");
                client.Headers.Add("Access-Control-Allow-Origin", "*");
                client.Headers.Add("Accept", "GET");

                // invoke web service
                string result = client.DownloadString(URL);

                // deserialize results
                lstRecalls = jsonConvert.DeserializeObject<List<Recall>>(result);

            }

        }
        catch (Exception ex)
        {
            String strError = ex.ToString();
```

```
            }


The Recall and related objects are:


/// Recall:
///    this is the primary central table to which all others relate to on RecallID
///
/// Related tables:
///     Product
///     Inconjunction
///     Image
///     Injury
///     Manufacturer
///     ManufacturerCountry
///     ProductUPC
///     Hazard
///     Remedy
///     Retailer
public class Recall
{

    public int RecallID { get; set; }
    public string RecallNumber { get; set; }
    public DateTime? RecallDate { get; set; }
    public string Description { get; set; }
    public string URL { get; set; }
    public string Title { get; set; }
    public string ConsumerContact { get; set; }
    public DateTime? LastPublishDate { get; set; }

    public List<Product> Products { get; set; }
    public List<Inconjunction> Inconjunctions { get; set; }
    public List<Image> Images { get; set; }
    public List<Injury> Injuries { get; set; }
    public List<Manufacturer> Manufacturers { get; set; }
    public List<ManufacturerCountry> ManufacturerCountries { get; set; }
    public List<ProductUPC> ProductUPCs { get; set; }
    public List<Hazard> Hazards { get; set; }
    public List<Remedy> Remedies { get; set; }
    public List<Retailer> Retailers { get; set; }

}


public class Product
{
    public string Name { get; set; }
    public string Description { get; set; }
    public string Model { get; set; }
    public string Type { get; set; }
    public int? CategoryID { get; set; }
    public string NumberOfUnits { get; set; }

}


public class Inconjunction
{
    public string Country { get; set; }
}


public class Image
{
    public string URL { get; set; }
}
```

```csharp
    public class Injury
    {
        public string Name { get; set; }
    }


    public class Manufacturer
    {
        public string Name { get; set; }
        public int? CompanyID { get; set; }
    }


    public class ManufacturerCountry
    {
        public string Country { get; set; }
    }


    public class ProductUPC
    {
        public string UPC { get; set; }
    }


    public class Hazard
    {
        public string Name { get; set; }
        public int? HazardTypeID { get; set; }
    }


    public class Remedy
    {
        public string Name { get; set; }
    }


    public class Retailer
    {
        public string Name { get; set; }
        public int? CompanyID { get; set; }
    }

}
```