Open Food Facts : The Wikipedia of food products

Fosdem – February 2018 – Bruxelles
@OpenFoodFacts #FOSDEM2018
Hi, I’m Anca!

• Web Developer, working in Open Source since 2007 (for XWiki)
• Got involved in the Open Food Facts project at the beginning of 2015
• Ping me on twitter @lucaaa
**TENDRE GENOISE RECOUVERTE D'UNE MARMELADE D'ORANGE ET D'UNE COQUE DE CHOCOLAT FIN**

*Ingrédients:*
- Marmelade d'oranges 41 % (sirop de glucose-fructose, sucre, pulpe d'orange 4,5 %, jus d'orange concentré 1,4 % (équivalent jus d'orange 7,8 %), pulpe d'orange concentrée 0,6 % (équivalent pulpe d'orange 2,6 %), gélifiant (pectines), acidifiant (acide citrique), correcteurs d'acidité (citrate de calcium, citrate de sodium), arôme naturel d'orange, épaississant (gommme xanthane), chocolat 24,9 % [sucre, pâte de cacao, beurre de cacao, graisses végétales (lilipe, mangue, sal, karité et palme en proportions variables), arôme, émulsifiant (lécithine de soja), lactose et protéines de lait], farine de blé, sucre, œufs, sirop de glucose-fructose, huile végétale (colza), poudre à lever (carbonate acide d'ammonium, diposphate disodique, carbonate acide de sodium), sel, émulsifiant (lécithine de soja). Peut contenir sésame.

**INFORMATION NUTRITIONNELLE / VOEDINGSWAARDE-INFORMATIE / NÄHRWERTANGABEN**

<table>
<thead>
<tr>
<th></th>
<th>100g</th>
<th>1 biscuit (12,5g)</th>
<th>%* / biscuit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Énergie / Energie / Energiewert</strong></td>
<td>1675 kJ/400 kcal</td>
<td>210kJ/50kcal</td>
<td>3 %</td>
</tr>
<tr>
<td><strong>Graisses / Vetten / Fett</strong></td>
<td>12,5 g</td>
<td>1,6 g</td>
<td>2 %</td>
</tr>
<tr>
<td>dont acides gras saturés / waarvan verzadigde vetzuren / davon gesättigte Fettsäuren</td>
<td>6,1 g</td>
<td>0,8 g</td>
<td>4 %</td>
</tr>
<tr>
<td><strong>Glucides / Koolhydraten / Kohlenhydrate</strong></td>
<td>66 g</td>
<td>8,3 g</td>
<td>3 %</td>
</tr>
<tr>
<td>dont sucre / waarvan suikers / davon Zucker</td>
<td>49 g</td>
<td>6,2 g</td>
<td>7 %</td>
</tr>
<tr>
<td><strong>Fibres alimentaires / Vezels / Ballaststoffe</strong></td>
<td>2,0 g</td>
<td>0,2 g</td>
<td>1 %</td>
</tr>
<tr>
<td><strong>Protéines / Eiwitten / Eiweiss</strong></td>
<td>3,5 g</td>
<td>0,4 g</td>
<td>&lt;1 %</td>
</tr>
<tr>
<td><strong>Sel / Zout / Salz</strong></td>
<td>0,36 g</td>
<td>0,045 g</td>
<td></td>
</tr>
</tbody>
</table>

~ 12 biscuits / étui, verpakking, Packung


* Referenzmenge für einen durchschnittlichen Erwachsenen (8400 kJ / 2000 kcal).
Too much data to digest x 43
Crowdsourced, citizen project

Wikipedia
The Free Encyclopedia

OpenStreetMap

and?

Open Food Facts
l'information alimentaire ouverte
Open Data about food

Last products added:
→ products from the mobile app that need to be completed

420564 products

Open Food Facts gathers information and data on food products from around the world.
Toblerone - 3.52 OZ (100 g)

Barcode: 0070221011116 (EAN / EAN-13) 070221011116 (UPC / UPC-A)

Product characteristics

**Common name:** Swiss Milk Chocolate with Honey & Almond Nougat

**Quantity:** 3.52 OZ (100 g)

**Packaging:** Box

**Brands:** Toblerone

**Categories:** Sugary snacks, Confectioneries, Candies, Chocolates, Milk chocolates

**Labels, certifications, awards:** Kosher, Organized Kashrut Kosher

Manufacturing or processing places: Switzerland

Link to the product page on the official site of the producer: http://www.toblerone.com/toblerone1/page...

Countries where sold: Canada, United States

Ingredients
Ingredients

Ingredients list:
MILK CHOCOLATE (SUGAR, MILK, COCOA BUTTER, CHOCOLATE, MILKFAT, SOY LECITHIN - AN EMULSIFIER, VANILLIN - AN ARTIFICIAL FLAVOR), SUGAR, HONEY, ALMONDS, INVERT SUGAR, EGG WHITES.
Substances or products causing allergies or intolerances: Eggs, Milk, Nuts, Soybeans

Traces: Eggs, Milk, Nuts, Soybeans

Additives:
- E322i - Lecithin

Nutrition facts

NutriScore color nutrition grade ⚠

Warning: the amount of fruits, vegetable and nuts is not specified, their possible positive contribution to the grade could not be taken into account.

Nutrient levels for 100 g ⚠
- 30.3 g Fat in high quantity
- 0.8 g Sugars in high quantity
% of difference • value for 100 g / 100 ml

Please note: for each nutriment, the average is computed for products for which the nutriment quantity is known, not on all products of the category.

<table>
<thead>
<tr>
<th>Nutrition facts</th>
<th>for 100 g / 100 ml</th>
<th>per serving</th>
<th>Milk chocolates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>2280 kj (545 kcal)</td>
<td>753 kj (180 kcal)</td>
<td>-1%</td>
</tr>
<tr>
<td>- Energy from fat</td>
<td>1140 kj (272 kcal)</td>
<td>377 kj (90 kcal)</td>
<td>-4%</td>
</tr>
<tr>
<td>Fat</td>
<td>30.3 g</td>
<td>10 g</td>
<td>-10%</td>
</tr>
<tr>
<td>- Saturated fat</td>
<td>18.2 g</td>
<td>6 g</td>
<td>-5%</td>
</tr>
<tr>
<td>- Trans fat</td>
<td>10.3 g</td>
<td>10 g</td>
<td>+2344%</td>
</tr>
<tr>
<td>- Cholesterol</td>
<td>30.3 mg</td>
<td>10 mg</td>
<td>-94%</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>63.6 g</td>
<td>21 g</td>
<td>+20%</td>
</tr>
<tr>
<td>- Sugars</td>
<td>60.6 g</td>
<td>20 g</td>
<td>+22%</td>
</tr>
<tr>
<td>Dietary fiber</td>
<td>&lt; 3.03 g</td>
<td>&lt; 1 g</td>
<td>+11%</td>
</tr>
<tr>
<td>Proteins</td>
<td>6.06 g</td>
<td>2 g</td>
<td>-14%</td>
</tr>
<tr>
<td>Salt</td>
<td>0.154 g</td>
<td>0.0508 g</td>
<td>-46%</td>
</tr>
<tr>
<td>Sodium</td>
<td>0.0606 g</td>
<td>0.02 g</td>
<td>-46%</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>0 μg</td>
<td>0 μg (0 % DV)</td>
<td>-100%</td>
</tr>
<tr>
<td>Vitamin C (ascorbic acid)</td>
<td>0 mg</td>
<td>0 mg (0 % DV)</td>
<td>-100%</td>
</tr>
<tr>
<td>Calcium</td>
<td>182 mg</td>
<td>60 mg (6 % DV)</td>
<td>+5%</td>
</tr>
<tr>
<td>Iron</td>
<td>2.18 mg</td>
<td>0.72 mg (4 % DV)</td>
<td>-63%</td>
</tr>
</tbody>
</table>

Product added on July 30, 2015 at 7:08:31 PM CEST by stephane.
Last edit of product page on November 6, 2017 at 11:11:10 PM CET by teolemon.
Product page also edited by bdwyer, tacinte, tacite.

If the data is incomplete or incorrect, you can complete or correct it by editing this page.
How does it work?

• Scan bar codes of products with your phone
• Take photos of the labels to add the product or enrich it
• Check out the product information if the product already exists
From images to Open Data

On the website:

• Fill in the product page from the information in the photos (assisted by OCR)
• The photo is source and proof of data!
• Photos are CC-share alike, data is ODbL
All this data, what for?

- Data « standardization » can help better understand a product: additives, allergens, NutriScore, products in foreign languages, etc.
- Comparison
- Exploration of the database of products by various criteria such as: categories, ingredients, additives, etc.
Uuu, stats!

Nutrition facts

<table>
<thead>
<tr>
<th></th>
<th>for 100 g / 100 ml</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>10th centile</th>
<th>Median</th>
<th>90th centile</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td>363 kJ (92 kcal)</td>
<td>146 kJ (35 kcal)</td>
<td>4 kJ</td>
<td>219 kJ</td>
<td>385 kJ (92 kcal)</td>
<td>527 kJ (126 kcal)</td>
<td>2489 kJ (593 kcal)</td>
</tr>
<tr>
<td>- Energy from fat</td>
<td>36 kJ (9 kcal)</td>
<td>57 kJ (14 kcal)</td>
<td>0 kJ</td>
<td>0 kJ</td>
<td>0 kJ</td>
<td>98.2 kJ (23 kcal)</td>
<td>277 kJ (66 kcal)</td>
</tr>
<tr>
<td><strong>Fat</strong></td>
<td>3.17 g</td>
<td>2.41 g</td>
<td>0 g</td>
<td>0.4 g</td>
<td>2.9 g</td>
<td>6.6 g</td>
<td>28 g</td>
</tr>
<tr>
<td>- Saturated fat</td>
<td>2 g</td>
<td>1.66 g</td>
<td>0 g</td>
<td>0.1 g</td>
<td>1.84 g</td>
<td>4.4 g</td>
<td>14 g</td>
</tr>
<tr>
<td>- Monounsaturated fat</td>
<td>0.392 g</td>
<td>0.295 g</td>
<td>0.4 g</td>
<td>0.4 g</td>
<td>0.4 g</td>
<td>0.7 g</td>
<td>2.3 g</td>
</tr>
<tr>
<td>- Polyunsaturated fat</td>
<td>1.26 g</td>
<td>0.195 g</td>
<td>0.3 g</td>
<td>1.2 g</td>
<td>1.2 g</td>
<td>1.6 g</td>
<td>1.6 g</td>
</tr>
<tr>
<td>- Omega 3 fatty acids</td>
<td>0.111 g</td>
<td>0.0646 g</td>
<td>0.02 g</td>
<td>0.027 g</td>
<td>0.15 g</td>
<td>0.16 g</td>
<td>0.2 g</td>
</tr>
<tr>
<td>- Alpha-linolenic acid / ALA (16:3 n-3)</td>
<td>0.166 g</td>
<td>0.0308 g</td>
<td>0.1 g</td>
<td>0.15 g</td>
<td>0.15 g</td>
<td>0.16 g</td>
<td>0.2 g</td>
</tr>
<tr>
<td>- Trans fat</td>
<td>0.0123 g</td>
<td>0.0618 g</td>
<td>0 g</td>
<td>0 g</td>
<td>0 g</td>
<td>0 g</td>
<td>0.5 g</td>
</tr>
<tr>
<td>- Cholesterol</td>
<td>6.23 mg</td>
<td>7.62 mg</td>
<td>0 mg</td>
<td>0 mg</td>
<td>4 mg</td>
<td>15 mg</td>
<td>50 mg</td>
</tr>
<tr>
<td><strong>Carbohydrate</strong></td>
<td>11.2 g</td>
<td>4.84 g</td>
<td>4.4 g</td>
<td>12.4 g</td>
<td>16.1 g</td>
<td>26 g</td>
<td>25 g</td>
</tr>
<tr>
<td>- Sugars</td>
<td>10.4 g</td>
<td>4.28 g</td>
<td>0 g</td>
<td>4.1 g</td>
<td>12 g</td>
<td>15 g</td>
<td>23 g</td>
</tr>
<tr>
<td>- Sucrose</td>
<td>7.03 g</td>
<td>2.42 g</td>
<td>0.1 g</td>
<td>0.1 g</td>
<td>7.5 g</td>
<td>9.7 g</td>
<td>9.7 g</td>
</tr>
<tr>
<td>- Lactose</td>
<td>0.316 g</td>
<td>0.516 g</td>
<td>0 g</td>
<td>0 g</td>
<td>0.1 g</td>
<td>0.9 g</td>
<td>5.2 g</td>
</tr>
<tr>
<td><strong>Dietary fiber</strong></td>
<td>0.316 g</td>
<td>0.516 g</td>
<td>0 g</td>
<td>0 g</td>
<td>0 g</td>
<td>0.1 g</td>
<td>5.2 g</td>
</tr>
<tr>
<td><strong>Proteins</strong></td>
<td>3.94 g</td>
<td>1.43 g</td>
<td>0 g</td>
<td>2.8 g</td>
<td>3.6 g</td>
<td>5.3 g</td>
<td>26 g</td>
</tr>
<tr>
<td><strong>Salt</strong></td>
<td>0.133 g</td>
<td>0.334 g</td>
<td>0 g</td>
<td>0.08 g</td>
<td>0.119 g</td>
<td>0.17 g</td>
<td>15 g</td>
</tr>
<tr>
<td><strong>Sodium</strong></td>
<td>0.0623 g</td>
<td>0.132 g</td>
<td>0 g</td>
<td>0.0315 g</td>
<td>0.047 g</td>
<td>0.0689 g</td>
<td>5.91 g</td>
</tr>
<tr>
<td><strong>Alcohol</strong></td>
<td>0.00244 % vol</td>
<td>0.0194 % vol</td>
<td>0 % vol</td>
<td>0 % vol</td>
<td>0 % vol</td>
<td>0.1 % vol</td>
<td>0.1 % vol</td>
</tr>
<tr>
<td><strong>Vitamin A</strong></td>
<td>32.9 µg</td>
<td>46.6 µg</td>
<td>0 µg</td>
<td>0 µg</td>
<td>0 µg</td>
<td>17.7 µg</td>
<td>132 µg</td>
</tr>
<tr>
<td><strong>Vitamin D</strong></td>
<td>9.6 µg</td>
<td>110 µg</td>
<td>0.75 µg</td>
<td>1.25 µg</td>
<td>4 µg</td>
<td>1500 µg</td>
<td>1500 µg</td>
</tr>
<tr>
<td><strong>Vitamin C (ascorbic acid)</strong></td>
<td>2 mg</td>
<td>4.66 mg</td>
<td>0 mg</td>
<td>0 mg</td>
<td>0 mg</td>
<td>8 mg</td>
<td>32 mg</td>
</tr>
<tr>
<td><strong>Vitamin B2 (Riboflavin)</strong></td>
<td>0.206 mg</td>
<td>0.0372 mg</td>
<td>0.138 mg</td>
<td>0.168 mg</td>
<td>0.21 mg</td>
<td>0.25 mg</td>
<td>0.31 mg</td>
</tr>
<tr>
<td><strong>Vitamin B6 (Pyridoxin)</strong></td>
<td>0.000096 g</td>
<td>0.000103 g</td>
<td>0.000021 g</td>
<td>0.000021 g</td>
<td>0.000021 g</td>
<td>0.000021 g</td>
<td>0.000021</td>
</tr>
<tr>
<td><strong>Vitamin B12 (Cobalamin)</strong></td>
<td>0.131 µg</td>
<td>0.25 micro g</td>
<td>0.31 µg</td>
<td>0.39 µg</td>
<td>0.5 µg</td>
<td>380 µg</td>
<td></td>
</tr>
<tr>
<td><strong>Potassium</strong></td>
<td>156 mg</td>
<td>32.1 mg</td>
<td>113 mg</td>
<td>120 mg</td>
<td>153 mg</td>
<td>203 mg</td>
<td>238 mg</td>
</tr>
<tr>
<td><strong>Calcium</strong></td>
<td>356 mg</td>
<td>5790 mg</td>
<td>0 mg</td>
<td>110 mg</td>
<td>120 mg</td>
<td>170 mg</td>
<td>150000 mg</td>
</tr>
<tr>
<td><strong>Phosphorus</strong></td>
<td>88.2 mg</td>
<td>14.1 mg</td>
<td>58.8 mg</td>
<td>75 mg</td>
<td>86.2 mg</td>
<td>111 mg</td>
<td>117 mg</td>
</tr>
<tr>
<td><strong>Iron</strong></td>
<td>0.315 µg</td>
<td>0.582 µg</td>
<td>0 µg</td>
<td>0 µg</td>
<td>0 µg</td>
<td>1.08 µg</td>
<td>2.25 µg</td>
</tr>
<tr>
<td><strong>Fruits, vegetables and nuts (minimum)</strong></td>
<td>6.52 %</td>
<td>4.17 %</td>
<td>0 %</td>
<td>2 %</td>
<td>9.4 %</td>
<td>12 %</td>
<td>30 %</td>
</tr>
<tr>
<td><strong>Fruits, vegetables and nuts (estimate from ingredients list)</strong></td>
<td>8.1 %</td>
<td>4.63 %</td>
<td>0 %</td>
<td>1 %</td>
<td>8 %</td>
<td>13.9 %</td>
<td>22.7 %</td>
</tr>
</tbody>
</table>

**Ecological footprint**

Carbon footprint / CO2 emissions

|                    | 127 g | 80.8 g | 0 g | 48.2 g | 82.8 g | 220 g | 267 g |

**Yogurts**

Categories: Yogurts

Belongs to:

Dairies

Contains:

- Caramel yogurts
- Chocolate yogurts
- Drinkable yogurts
- Flavoured yogurts
- Fruit yogurts
- Greek yogurts
- Honey yogurts
- Low-fat yogurts
- Mixed yogurts
- Non-dairy yogurts
- Plain yogurts
- Sheep’s milk yogurts
- Stirred yogurts
- Sweetened yogurts
- Vanilla yogurt
- Whole milk yogurts
- Yaourts au Bifidus
- Yaourts au lait de chèvre
- Биойогурт
- Йогурт фруктово-ягодный

Weblinks

- Wikidata

4000+ yogurts
Double uuu, graphs!

Sugars and fat in breakfast cereals

Data source: http://world.openfoodfacts.org
Open Data: Reuse in applications

Interactive nutrition game: http://howmuchsugar.in

Mobile app to fight against food waste

« Personal assistant »-like mobile app for food recommendations and evaluation of products

VeryDiab, mobile app log-book for diabetes

Connected kitchen scale, providing nutritional information upon scan

And many more!
Open Data: Citizen science

- Open Food Facts data used for research studies and newspaper investigations.

Collaboration with Prof. Hercberg (France's National Program for Nutrition and Health) and the UK Food Standards Agency
Open Data: building for the future

- The amount of information available today is limited
  - depends on the producer, « limited » accuracy
- Future laws could impose presence of additional information
  - traceability, recycling, etc.
- Open Food Facts is the place for all this future, interesting data!
Numbers or it didn’t happen!

- Launched in May 2012
- Started in France, made for the world: 12 languages
- 4 200 contributors
- 420 000 products from 181 countries
Open Beauty Facts

• The wikipedia of cosmetic products

• Same functioning as OFF, additional challenges:
  - ingredients are latin formulae, easier to make mistakes

• 5481 products from 79 countries, added by 197 contributors
OMG, Anca, all this is so awesome, How do I get in?
How to contribute: data

Easiest way:

• Download the application
• Scan and take photos
• Fill in the data from photos on the product pages
• Done, welcome to the revolution!
How to contribute: community

• Kick-start the Open Food Facts revolution in your country
  – talk around you, make presentations
    • resources are available on the wiki of the project
  – add the initial batch of products that makes it interesting for others to use
  – translate the software in your language

• Food and cosmetics geeks are welcome!
How to contribute: development

Technologies:
- MongoDB database
- Backend: Perl on an Apache server
- Frontend: HTML5, Foundation, jQuery
- Mobile application(s): Cordova / PhoneGap, native Android & iOS development, (also Ubuntu Phone, Firefox OS)

Topics:
- Contributions from mobile applications
- OpenBeautyFacts polishing
- Machine learning & Big data
- API (re)definition / (re)implementation
- Anything (else) you want!

Links:
- https://github.com/openfoodfacts/
How to contribute: reuse

Rights
• Open Database Licence (ODbL) for the database
• CC-Share Alike for images
• AGPL for the Product Opener server software

Means
• Export of data as CSV or RDF
• REST API for accessing data as JSON

Links
• https://world.openfoodfacts.org/data
Get in touch

https://openfoodfacts.org
https://openbeautyfacts.org

@OpenFoodFacts
@OpenBeautyFacts

http://slack.openfoodfacts.org/
Thank you!
Our « business » model
Note on « facts »

• Many controversies about food ingredients / additives
  - « Causing cancer »... or not, depending on which paper we rely on
• Open *** Facts tries to remain « neutral », and present something that is as close as possible to the notion of « facts »
  - e.g. forbidden in a country, etc.
• Open the data, without interpreting it
  - The users of data can make their own interpretation
Madeneare.me

Made Near Me
The Interactive Food Products Map

A need of consumers: know the origin of products
5 colors score

+ Fruit and vegetable, protein, fiber

- Energy, simple sugars, saturated fat, sodium

→ Nutritional score

→ Color code

Formula elaborated by the team of Prof. Hercberg:

http://fr.openfoodfacts.org/score-nutritionnel-experimental-france