

Fragrance Ingredients Sustainability Profile



Givaudan
Human by nature

Fragrance Ingredients Sustainability Profile

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Givaudan
Human by nature

Sustainability Parameters



RENEWABLE CARBON

Renewable carbon comes from natural sources that can be replenished in a short time frame, e.g. plants, bio-mass, or from recycling.

- The renewable carbon of an ingredient is assessed based on the chemical and/or biological process(es) used to make the ingredient and the origin of the starting raw materials that in some way form part of the ingredient's carbon skeleton. The number of carbon atoms that are from a natural origin (e.g. botanical) is expressed as a percentage of the total number of carbon atoms in the ingredient molecule. Givaudan defines naturally derived substances as those composed of >50% renewable carbon. This is in line with ISO 16128-1.
- Dilutions: calculated based on data for the individual ingredient and solvent. It is the sum of the relative concentration of an ingredient and solvent multiplied by their corresponding renewable carbon content. This is in line with ISO 16128-2.



100% renewable carbon



>50% renewable carbon



≤50% renewable carbon



BIODEGRADABILITY

This is the breakdown of organic matter by micro-organisms, such as bacteria and fungi. Key removal process of organic chemicals in the environment.

- Biodegradation is determined according to OECD test method guidelines. A readily biodegradable material has achieved >60% in a ready biodegradation test within 28 days and passing the 10 day window criterion following OECD 301, 310 and equivalent ISO guidelines. An inherently biodegradable material has achieved >60% in a ready biodegradation test within 28 days but failed the 10 day window or has achieved >60% in a ready test that has been extended beyond 28 days or has achieved >70% in an inherent biodegradability test e.g. OECD 302C test.
- Dilutions: assessed based on data for the individual ingredient and solvent, applying the worst case.



Readily biodegradable



Inherently biodegradable



Non-biodegradable

Sustainability Parameters



ECOTOXICITY

This is a measure of the intrinsic toxicity of the ingredient to aquatic species.

- Internationally recognised testing guidelines (e.g. OECD) were applied, performed to Good Laboratory Practice standards. Our materials have been classified as non-hazardous, harmful (Acute 2, 3, Chronic 3, 4), or toxic (Acute 1, Chronic 1, 2). The environmental hazard categories (Acute 1, 2, and Chronic 1, 2, 3, 4) are based on the Globally Harmonized System of Classification (GHS).
- Dilutions: evaluated as pure material.



Non-hazardous



Harmful



Toxic



WASTE

This indicates the amount of waste generated while manufacturing the ingredient.

- This is a comparison between the Process Mass Intensity (PMI) of the ingredient and the expected value for a product of a similar tonnage. (Process Mass Intensity is the total mass of materials needed to make a set quantity of product). This assessment is based solely on activity that takes place within Givaudan (suppliers and contractors are not covered).
- Dilutions: evaluated as diluted material.



Exceeds expectations



Meets expectations



Does not meet expectations



CHEMISTRY

This determines if the process uses chemistry that is environmentally disfavoured.

- A list of disfavoured chemistries was prepared based on ISO 16128 and customer feedback. This parameter indicates if any of the chemistry used to make the ingredient is on this list: short chain alkyl halides or alkyl sulphates (<5 carbons), isocyanates, nitration, alkyl chlorination, sulphonation, silylation, ethylene oxide, phosphorous oxychloride, or stoichiometric transition metals. This assessment is based solely on activity that takes place within Givaudan (suppliers and contractors are not covered).
- Dilutions: evaluated as pure material.



Not on the disfavoured list



On the disfavoured list

Sustainability Parameters



SOLVENTS USED

This is an assessment of the environmental impact of the solvents used in the process.

- Solvents are categorized as either favoured, standard or disfavoured. Favoured solvents are listed in the ISO 16128 standard. Disfavoured solvents are those requiring Authorisation under REACH (or going through the process to be Authorised). If a solvent does not fall into either category, it is treated as “standard”. The category is determined by the least favoured solvent used in the process. This assessment is based solely on activity that takes place within Givaudan (suppliers and contractors are not covered).
- Dilutions: evaluated as diluted material.



Favoured solvents



Standard solvents



Disfavoured solvents



PROCESS COMPLEXITY

This measures the number of steps in the chemical process.

- A simple process has 1 chemical step, standard process has 2-3 chemical steps and a complex process 4 or more. This assessment is based solely on activity that takes place within Givaudan (suppliers and contractors are not covered).
- Dilutions: evaluated as pure material.



Simple



Standard



Complex



OLFACTIVE IMPACT

This is based on odour value as measured by Givaudan as a combination of Odour Detection Threshold and Vapour Pressure.

- Dilutions: evaluated as pure material.



High impact



Significant impact



Impactful

Sustainability Parameters



SOCIAL RESPONSIBILITY

This refers to the SMETA or equivalent protocol for our manufacturing sites.

- The SMETA methodology assesses a manufacturing site based on leading international standards around labour, health and safety, environment and business ethics aspects. To demonstrate our efforts and progress on these conventions and principles, we participate in Supplier Ethical Data Exchange (Sedex) forum and follow its Sedex Members Ethical Trade Audit (SMETA) assessment programme which has been in place at Givaudan since 2008.



Audited with full compliance



Audited with open points



Not audited yet

The information contained herein is, to the best of Givaudan's knowledge, true and accurate at the time it is given. It is provided to Customer for its information and internal use only. Givaudan is not liable for any damages that may result from the misuse of the data. Data valid as at June 2022.

Fragrance Ingredients

Code	Product	<div>Renewable CarbonBiodegradabilityEcotoxicityWasteChemistrySolvents UsedProcess ComplexityOlfactive ImpactSocial Responsibility</div>									
0073003	Acetal CD										
0087001	Acetal E										
0420003	Acetate C 9 Nonylic										
1028001	Adoxal										
1141003	Alcohol C 11 Undecylenic										
1560803	Aldehyde Iso C 11										
8755303	Amberketal IPM										
1472033	Ambermax™ 10%/TEC										
1472023	Ambermax™ 50%/Dowanol TPM										
1832003	Ambrettolide										
1836803	Ambroxif*										
1486273	Ambroxif Flakes										
8810001	Amyl Salicylate										
1884001	Amyl Vinyl Carbinol										
5846393	Anther										
2365901	Aurantiol™ Pure										
7043003	Azarbre										
8429001	Benzyl Propionate										
8813001	Benzyl Salicylate										
5206903	Berryflor™										
2751503	Bisabolene										
2786903	Boisiris™										
2837903	Bourgeonal										

^{*}Produced using biotechnology




























































































































































































Fragrance Ingredients

Code	Product	<div>Renewable CarbonBiodegradabilityEcotoxicityWasteChemistrySolvents UsedProcess ComplexityOlfactive ImpactSocial Responsibility</div>									
3491103	Celery Ketone										
7225001	Cervolide										
3507501	Cetonal™										
3519003	Cetone V										
5847673	Citrathal™ Conc S										
5847683	Citrathal™ Concentrate S TW										
5847663	Citrathal™ Tech										
0015173	Cosmone™										
4198003	Creosol										
4223103	Cumin Nitrile										
1515001	Cuminic Aldehyde										
1534001	Cyclamen Aldehyde Extra										
8819601	Cyclohexyl Salicylate										
4356101	Decatone										
4357003	Decenal-4-Trans										
4485103	Dihydro Ambrate										
4508403	Dihydro Ionone Beta										
4591003	Dimethyl Octenone										
4609001	Dimetol™										
4685003	Dupical										
4697403	Ebanol™										
5845123	Elintaal										
4349403	Ethyl Decadienoate										


Fragrance Ingredients

Code	Product	<div> <div>Renewable Carbon</div> <div>Biodegradability</div> <div>Ecotoxicity</div> <div>Waste</div> <div>Chemistry</div> <div>Solvents Used</div> <div>Process Complexity</div> <div>Olfactive Impact</div> <div>Social Responsibility</div> </div>								
8802603	Ethyl Safranate									
8754243	Florhydragl™									
8467001	Florocyclene									
5083303	Florosa									
5093003	Folione									
5202703	Freskomenthe™									
1461553	Frutonile									
1390623	Gardamide									
5361601	Gardocyclene									
5464203	Geranodyle									
5542803	Givescone™									
5631203	Glycolieral									
5653603	Gyrane									
1678001	Heptone									
0025743	Herbanate									
5698353	Herboxane									
0335001	Hexyl Acetate									
8826001	Hexyl Salicylate									
5979201	Indolene 50%/CSO									
6041001	Irisone™ Pure									
6065003	Irone Alpha									
1465543	Isobutavan									
6249003	Isojasmone B 11									

Fragrance Ingredients

Code	Product	<div>Renewable CarbonBiodegradabilityEcotoxicityWasteChemistrySolvents UsedProcess ComplexityOlfactive ImpactSocial Responsibility</div>								
										
5850143	Isolongifolanone									
6253503	Isomenthone DL									
6281753	Isoraldeine™ 95									
0513501	Jasmacyclene									
5850253	Jasmatone									
6472003	Jasmin Lactone Delta									
6340001	Jasmone Cis									
6346803	Jasmonyl™									
6347001	Jasmonyl™ LG									
6322401	Jasmpyrene									
6347541	Jasmpyrene Forte									
8754013	Javanol™									
1493163	Javanol™ Super									
6378003	Kephalis									
0017643	Labienoxime 10%/IPM-TEC									
6570203	Lemonile™									
5845733	Levistamel 25%/TEC									
7852493	Lime Oxide									
4523001	Limetol									
7852501	Linalool Oxide									
2597001	Linalyl Benzoate									
3910003	Linalyl Cinnamate									
5150501	Linalyl Formate									








































































































































Fragrance Ingredients

Code	Product	<div> <div>Renewable Carbon</div> <div>Biodegradability</div> <div>Ecotoxicity</div> <div>Waste</div> <div>Chemistry</div> <div>Solvents Used</div> <div>Process Complexity</div> <div>Olfactive Impact</div> <div>Social Responsibility</div> </div>								
										
6170501	Linalyl Isobutyrate									
8448751	Linalyl Propionate									
6576003	Maceal									
6655003	Madrox™									
6746001	Melonal									
6846003	Metambrate									
6906203	Methyl Diantilis™									
6937003	Methyl Heptenone Pure									
6978468	Methyl Laitone 10%/DPG									
0010213	Methyl Laitone 10%/TEC									
7594003	Methyl Octyne Carbonate									
6993001	Methyl Pamplemousse									
9411003	Methyl Tuberate Pure									
5851533	Mevantraal									
7289001	Musk R1									
0408601	Myraldyl Acetate									
7446003	Nectaryl									
0014073	Neobergamate Forte									
7450003	Neofolione									
7568001	Nonadienal									
7568493	Nonadienol-2,6									
7622363	Okoumal™									
6638701	Orcinyl 3									

Fragrance Ingredients

Code	Product	<div>Renewable CarbonBiodegradabilityEcotoxicityWasteChemistrySolvents UsedProcess ComplexityOlfactive ImpactSocial Responsibility</div>								
										
5166003	Oxyoctaline Formate									
0025633	Paradisamide™									
1394573	Pelargene									
8753253	Peonile™									
1394793	Petiole									
0014363	Pharaone™ 10%/DPG									
1597503	Phenyl Acetaldehyde 85%/PEA									
1600003	Phenyl Propionic Aldehyde									
5845473	Pivacyclene									
3496423	Pivarose									
1386453	Quintone									
8683003	Rhubafuran									
5845523	Rosyrane Super									
0015893	Safraleine™									
8797001	Safranal									
8847801	Sandalore™									
8892308	Sclarene 80%/DPG									
0012543	Silvial™									
8974203	Spirambrene									
0010703	Spirogalbanone™ Pure									
9023501	Stemone™									
5200003	Strawberry Pure									
1623003	Syringa Aldehyde 50%									

Fragrance Ingredients

Code	Product	Sustainability Indicators								
		 Renewable Carbon	 Biodegradability	 Ecotoxicity	 Waste	 Chemistry	 Solvents Used	 Process Complexity	 Olfactive Impact	 Social Responsibility
9177303	Tangerinol									
9254001	Tetrahydro Citral									
0014203	Toscanol™									
9385201	Tridecene-2-Nitrile									
0027553	Ultravaniil 80%/DPG									
9449001	Undecatriene									
0011033	Undecatriene 10%/TEC									
9449603	Undecatriene Super									
9449903	Undecavertol									
1382293	Velvione™									
9644003	Verdantiol									
0010023	Verdoracine									
9644601	Vernaldehyde™									
5503001	Zingerone									

Contact Us

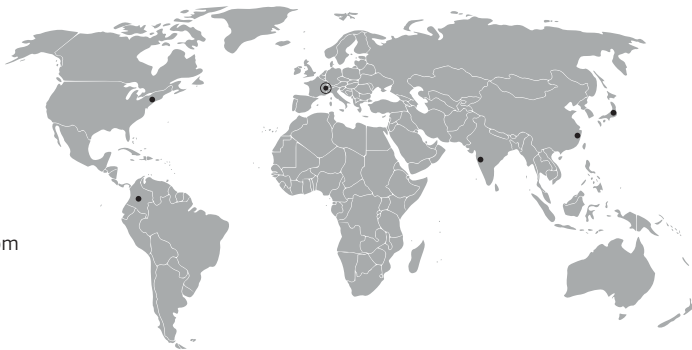
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