

	SAFETY DATA SHEET	Code	EVPRBBFBEAB
		Revision	4 (August 29, 2024)
	PRODUCT: GRINDED ORANGE PULP	Area	Research & Development
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1- IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier:	GRINDED ORANGE PULP
Product description:	Grinded Orange Pulp is the unfermented but fermentable product obtained by suitable processes e.g., by milling the pulp without removing the juice, being preserved exclusively by physical means, obtained from sound, wholesome and appropriately mature fruit of the Orange (<i>Citrus sinensis</i> L. Osbeck) without addition of other fruit species. The processing is carried out to avoid cooked flavor or other heat damage, but the product is pasteurized and refrigerated at a sufficiently temperature to substantially eliminate all possible microorganisms and to eliminate all enzymatic activity. The product is processed to achieve proper reduction of the most resistant microorganism of public health significance. The product is manufactured, packaged, and stored under sanitary conditions appropriate to food product and in compliance with all applicable international and local laws and regulations. It is free from additives, genetically modified organisms, and allergens, being produced and kept under the HACCP-Hazard Analysis and Critical Control Points and Best Manufacturing and Quality Practices. Pesticide residues are according to USA regulations and European Community foodstuff.
Recommended uses:	The product can be used as a natural source of dietary fiber, produced in suitable process of juice extraction that enhances product sensory “body” and “mouthfeel”, due to pulpier base and viscosity. The product also can be used in many beverage and food formulations. There are no limits of addition but consider as reference daily normal intake for orange juice and orange pulp, based in a 2000 Kcal daily intake diet.
Restriction on use:	The product is not expected to be hazard in any way, however if in case of personal historical of hypersensitivity to products containing naturally citric acid or citric pulp, the use must be first evaluated and in case of any irritation, the use must be interrupted and avoided. Prefer utilization under limits of the recommended uses. Any different uses diverse from recommended should be validated by final user as safe and proper for your own utilization.
Company	CITROSUCO S/A AGROINDÚSTRIA CNPJ: 33010786/0001-87

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Address : (Brazil, São Paulo)	Matão : 305 João Pessoa St, Matão-SP Zip code ZC: 15990-902 Catanduva : 206,5 Km Pedro Monteleone highway, ZC: 15804-500 Araras : 2000 Otto Barreto Ave, ZC: 13602-060 Santos : 68 Mario Covas Jr Ave, Bacia do Macuco ZC: 11020-300
Telephone numbers:	Matão Plant 55 16 3383 8500 Catanduva Plant 55 17 3531 6000 Araras Plant 55 19 3321 6000 Santos Terminal 55 13 3279 7900
Emergency Phone number (Attendance only Brazil)	0800 770 0044 UNYBRASIL (Chemical and Environmental emergency 24 hours)
Technical Responsible, Phone number, Matão Plant	+55 16 3383 8555 – Technical contact: Oséia Pereira Filho Quality Control and Quality Assurance General Manager

AMBIPAR - INTERNATIONAL EMERGENCY RESPONSE		
In-country Dial Phone Numbers		
Country	Local or National Number	Toll-Free Number
Australia		1800 865 237
Belgium		0800 71 886
Brazil	+55 11 4349 6274	
Chile	+ 56 2 3210 0961	
Colombia		01 800 5190040
Czech Republic	+420 296 182 719	
El Salvador	+ 503 2136 1160	
Finland	+358 75 3252470	
Germany		0800 180 3968
Greece		800 848 1066
India		000 800 919 1522
Indonesia		0800 1503250
Italy	+39 024 091 8548	

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Japan	0120-692-374	
Lithuania	+370 5 208 0633	
Malaysia		1 800 81 2207
Mexico		800 681 9387
Netherlands	+31 85 064 4048	
New Zealand	+64 9 886 0052	
Romania	+40 377 880 199	
South Africa		080 099 8390
South Korea		00308 491 0213
Spain		900 876 099
Sweden	+46 8 124 003 40	
Taiwan	+886 2 7737 4438	
Thailand		1800 014 752
United Kingdom	+44 330 027 2170	
United States		1 800 219 8391

2- HAZARDS IDENTIFICATION

Classification of the substance or mixture:	The product does not meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC, and subsequent Directives, concerning classification, packaging, and labeling of dangerous preparations. The product is under the requirements of the United States F.D.A Food and Drug Administration and there-under is subsequently listed in CFR Title 21, Subchapter B as “Food for Human Consumption”, and is correspondingly classified as non-hazardous material. Low to mildly acidity from natural orange fruit citric acid and contains moderate natural pulp content.
Classification system adopted:	Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008. ABNT-NBR 14725 2010 Global Harmonized System classification and labeling of chemical product, ONU.

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Label elements:

Hazard pictograms:	Not applicable.
Signal word:	Not applicable.
Hazard Statements / Hazard Phrases:	Not applicable.
Precautionary Statements / Precautionary Phrases:	Not applicable.
Hommel Diagram / Hazard Diagram / NFPA 704	

3- COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE	GRINDED ORANGE PULP
Product identifiers	CAS NUMBER: Not applicable EINECS: Not listed.
Main natural compound /composition	GRINDED ORANGE PULP = 100%
Synonyms	Pasteurized Orange Puree, Orange Puree, Fiberfeel OP.
Botanical Specie	Citrus Sinensis (L.) Osbeck
Orange Variety	A blend of major Brazilian varieties. Pera Rio, Natal and Valência
Fruit Origin	Brazilian Citrus Belt, São Paulo and Minas Gerais States

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Impurities and stabilizing additives contributing to the hazard:	There are no impurities or stabilizing additives that contribute to the hazard. The product consists of natural and food-grade product and contains no hazardous ingredients.
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4- FIRST AID MEASURES	
Description of first aid measures	
Inhalation:	Not expected to be hazardous by inhalation. However, if any difficulty appears, remove people involved to outside of handle room, supply fresh air and consult a doctor or medical assistance in case of complaints.
Skin contact:	Not expected to be hazardous by skin contact. However, if have any skin irritation upon prolonged contact, due to citric acid, wash all affected area with soap and rinse with water thoroughly. If irritation persists call a doctor for assistance.
Eye contact:	May cause eye irritation. Rinse opened eye cautiously with water for several minutes. Remove contact lenses, if present and easy to do and rinse again. If eye irritation persists: Consult a doctor or medical assistance.
Ingestion:	Food grade product, and not expected to be hazardous by ingestion. However, in case of accident or intolerance, do not induce vomiting and seek orientation by a doctor or medical assistance, if feel unwell by any reason. Inform the doctor about product and take this SDS.
Allergen statement	Product not considered with allergen active compounds, Product are “conventional” not subject to allergen labeling, according to Regulation EU No. 1169/2011. However, if more sensitive people have any kind of allergic effect after product handle, get medical advice/attention and comment about the product.
Most important symptoms and effects, both acute and delayed:	Not expected to be dangerous or with harmful effects.
Indication of any immediate medical attention and special treatment needed:	Avoid contact with the product to help the victim. Keep victim warm and quiet. Symptomatic treatment should comprise mainly supportive measures such as correction of electrolyte disturbances, metabolic, and respiratory support.

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5- FIREFIGHTING MEASURES

Extinguishing media:	Dry chemical powder, carbon dioxide, Halon, spray, foam or water.
Special hazards arising from the substance or mixture:	Product not to be dangerous and not expected to be flammable in any case, but as a good practice, avoid product direct exposure to excessive heat or other sources of ignition such as sparks, open flames or flames of matches and cigarettes, welding operations, pilot lights and electric motors. When heated to dryness and decomposition under fire conditions, this product may release carbon monoxide, carbon dioxide, and other decomposition products of undetermined hazard.
Advice for firefighters:	Use self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing that provides protection against heat.

6- ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel:	Remove all sources of ignition. Do not smoke. Avoid contact with the product. Do not touch damaged containers or spilled material without the use of appropriate clothing. Use personal protective equipment as described in Section 8.
After spillage or leakage:	Stop the source of leakage or spillage. Absorb spillage on suitable inert media and place in closed container. Safety glasses with side guards should be worn to prevent injury from flying particles and/or other eye contact with this product.
For emergency responders:	Avoid spilled material reaches waterways and sewers. Isolate from ignition sources. Stop the leakage.
Environmental precautions:	Avoid leakage reaches watercourses and sewerage systems.
Methods and material for containment and cleaning up:	Containment techniques may include bounding, covering of drains and capping procedures. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Reference to other sections:	See Section 8 for information on personal protection equipment. See Section 13 for information on disposal.

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7- HANDLING AND STORAGE

Precautions for safe handling:	Assure the product handle under food normal procedures, in a dry and ventilated place, covered and protect from weather or outside conditions, such as rain or other liquids. Leakage: the product is not toxic. Take care when handling heavy packages. Keep the packages closed.
Conditions for safe storage, including any incompatibilities / Packaging	Packages shall be loaded on to closed or sheeted vehicles or into closed or sheeted containers. Vehicles and containers shall have a metal body and where fitted the sheet shall be noncombustible. Store in a well-ventilated place away from sunlight. Keep container closed and in dry place. Keep away from high temperatures and incompatible materials. Keep product refrigerated stored in cold warehouse and transportation target setpoint to 0 to 4°C. Package of 200L steel drums, with internal nontoxic poly-liner, aseptic bag and 1 tamper evident seal with net weight 180 +- 1,5 Kg per drum. Drums can be stacked at a maximum of 4 high (floor base + 3) without use wooden support posts. The maximum can be 7 high (floor base +6), however it is necessary to put wooden support posts in the four corners of the pallets if stacking more than 4 high. For example, stacking 5 high, the first pallet from the floor base must be supported by wooden posts. Drums must be kept at upright position during all handling process. It is extremely forbidden to tip, free fall and roll over the drums. During handle, storage, transportation, stuffing and destuffing process, drums or any other container must be kept at upright position with the lid faced up. Any handle at temperature above ideal storage values range shall not exceed 24 hours. The product must be labeled and delivered in containers approved for food use by all applicable regulatory agencies. The packages must be equipped with nontoxic, supplier identifiable tamper evident seals.
Shelf life	24 months, provided the storage in refrigerated conditions (0 to 4°C).

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8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Occupational exposure limit:	This product does not contain any ingredients with critical values that need to be monitored in the workplace.
Biological limit:	Not established
Other limits and values	Not established.
Recommended monitoring procedures	Monitoring the storage temperatures. Keep product refrigerated stored in cold warehouse and transportation target setpoint to 0 to 4°C.

Exposure controls:

Engineering controls measures:	If necessary, promote direct mechanical ventilation and exhaust system to the outside environment.
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Individual protection measures, such as personal protective equipment:

Eye/face protection:	Safety glasses should be worn. Use of face protection should be evaluated by responsible person for product handling.
Hand and skin protection:	Protective gloves and aprons should be worn. The glove material must be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374 Protective gloves: Material of gloves Nitrile rubber. Penetration time of glove material: The exact break through time must be found out by the manufacturer of the protective gloves and has to be observed.
Respiratory protection:	Use adequate ventilation or NIOSH-approved respiratory devices. Do not work in closed rooms, especially with dust formation. Do not breathe dust. Remove involved people to fresh air, as soon as possible. It is suggested that the OSHA limit for nuisance dusts be employed, i.e. 5 mg/cubic meter respirable fraction, 15 mg / cubic meter total. For emergencies or instances where the exposure levels are not known, use a full-face piece positive pressure, air supplied respirator, with the warning that air-purifying respirators do not protect workers in oxygen

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	deficient atmospheres and may be necessary oxygen cylinders.
Thermal hazards:	Avoid high thermal conditions meet product. Wear suitable jackets and thermal clothing with a hood, protecting yourself from excessive cold. Before entering the cold storage room, have superior authorization in hand and relevant documentation, work always in pairs, stay only if allowed by the legislation in force on the site, alternating with rests in allowed time, alternating with authorized personnel. Have radio communication, oxygen meter and other equipment available for safe escape from the environment, if necessary, in emergency. The other couple who observes the service in the cold room must have the same thermal clothes and personal protective equipment, as well as the worker who is developing the service, being ready to help in case of need.
Environmental exposure control:	Protect from water contact, such as rain or other liquid contacts. Avoid contact with direct sun light.

9- PHYSICAL AND CHEMICAL PROPERTIES	
Information on basic physical and chemical properties	
Appearance	Viscous orange puree, concentrated grinded pulp.
Odor and Flavor	Characteristic fresh orange aroma and flavor
Color visual	Yellow to orange-reddish, characteristic of the fruit
Brix, g/100g	10.0 to 16.0
Acidity as citric acid, mg/100g	0.5 to 1.14
Fiber, g/100g	Min. 3.0 as reference value
Ascorbic acid, mg/L	200 to 700
pH	3.5 to 4.2
Oil Scott method as d-Limonene, % vol.	0,00 to 0,07
Moisture, g/100g	90 to 97
Viscosity at 20°C, cP	10000 to 45000
Average bulk density (20°C), Kg/m3	1038 to 1049

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Average Stowage Factor (20°C), m3/ton	0.953 to 0.965
Odour threshold	Data not available.
Melting point/Freezing point, °C	-3 to -6°C
Boiling point, °C	98
Flash point (ASTM D93, closed cup), degrees Celcius	Data not available due to aqueous product and not significant volatile material, considered flash point above 200F or 93,3°C. Note: During analysis and up to 98°C the material has no flash point. After this temperature, the material boils and does not allow the flash point to be obtained.
Evaporation rate:	Data not available.
Auto Flammability/Self ignition	Data not available.
Upper/ lower flammability or explosive limits	Data not available.
Vapour pressure	Data not available.
Vapour density	Data not available.
Solubility	Dilution with water, but some portion of the pulp remain insoluble. Insoluble in ethanol, with pectin precipitation.
Partition coefficient: n-octanol/water	Data not available.
Decomposition temperature	Data not available.
Explosiveness properties	Not applicable.
Oxidizing properties	Not applicable.
Dissociation constant	Not applicable.

10- STABILITY AND REACTIVITY

Reactivity:	Stable under normal conditions. It is not expected that the product shows reactivity potential.
Chemical stability:	Product is stable under normal conditions of temperature and pressure.

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Possibility of hazardous reactions:	Not expected hazardous reactions.
Conditions to avoid:	High temperatures and contact with incompatible materials.
Incompatible materials:	Strong oxidizing agents and mineral acids should be avoided.
Hazardous decomposition products:	The thermal decomposition may release carbon monoxide and carbon dioxide. Hazardous polymerization will not occur.

11- TOXICOLOGICAL INFORMATION	
Information on toxicological effects	
Acute toxicity	Data not available
Workers and general population inhalation exposure (long-term), DNEL	Data not available
Workers and general population inhalation exposure (acute/short-term), DNEL	Data not available
Skin sensitization/irritation	Data not available
Workers dermal exposure (long-term), DNEL sensitization skin	Data not available
Workers dermal exposure (acute/short-term), DNEL sensitization skin	Data not available
General population dermal exposure (long-term), DNEL sensitization skin	Data not available
General population dermal exposure (acute/short-term), DNEL sensitization skin	Data not available
Repeated dose toxicity	Data not available
Oral exposure (long-term), DNEL	Data not available

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Eye damage/irritation	Eye contact: May cause eye irritation. It is expected that the product causes eye irritation due to pulp and slight citric acid. Eye: Adverse symptoms: irritation, redness
Genetic toxicity (in vitro)	Not applicable.
Genetic toxicity (in vivo)	Not applicable.
Germ cell mutagenicity	Not applicable.
Carcinogenicity	Not applicable.
Reproductive toxicity	Not applicable.
Specific target organ toxicity – single exposure	Not applicable.
Specific target organ toxicity – repeated exposure	Not applicable.
Aspiration hazard	Not applicable.
Interactive effects	Not applicable.

12- ECOLOGICAL INFORMATION

Environmental effects, behavior and fate of the product

Toxicity to freshwater fish and invertebrate (short-term)	Data not available
Toxicity to freshwater fish and invertebrate (long-term)	Data not available
Toxicity to aquatic algae and cyanobacteria	Data not available
Toxicity to aquatic microorganisms	Data not available
Toxicity to soil and terrestrial microorganisms	Data not available
Toxicity to terrestrial arthropods	Data not available
Toxicity to terrestrial plants	Data not available
Toxicity to birds	Data not available

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Hazard for aquatic organisms	Data not available
Hazard to air	Data not available
Hazard for terrestrial organism	Data not available
Hazard for predators (secondary poisoning)	Data not available
Persistence and degradability	Data not available
Bioaccumulative potential	Data not available
Mobility in soil	Data not available
Other adverse effects	Data not available

13- DISPOSAL CONSIDERATIONS

Waste treatment methods:	May be harmful to the environment if released in large quantities. Inform appropriate authorities if entry of spillage into sewers/water courses cannot be prevented Product residue and package must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers, unless authorized by local legislation or law. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.
Product	Burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Used packaging	Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product by local legislation.

14- TRANSPORT INFORMATION

International regulations

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Land:	UN – “United Nations” European Agreement concerning the International Carriage of Dangerous Goods by Road – ADR
UN number:	Not Listed.
UN proper shipping name:	GRINDED ORANGE PULP
Transport hazard class(es):	Not regulated as a hazardous material
Subsidiary risk:	NA
Packing group:	III
Special precautions:	Keep product refrigerated stored in cold warehouse and transportation target setpoint to 0 to 4°C.
Sea:	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
UN number:	Not Listed.
UN proper shipping name:	GRINDED ORANGE PULP
Transport hazard class(es):	Not regulated as a hazardous material
Subsidiary risk:	NA
Packing group:	III
Environmental hazards/ Marine pollutant:	The components of this product are not designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).
Special precautions:	Keep product refrigerated stored in cold warehouse and transportation target setpoint to 0 to 4°C.
Air:	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number:	Not Listed.
UN proper shipping name:	GRINDED ORANGE PULP
Transport hazard class(es):	Not regulated as a hazardous material
Subsidiary risk:	NA
Packing group:	III
Environmental hazards:	Product is not considered marine pollutant.

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006. - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions:	Keep product refrigerated stored in cold warehouse and transportation target setpoint to 0 to 4°C.

15- REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture. EU Regulation:	REACH – REGISTRATION, EVALUATION, AUTHORIZATION AND RESTRICTION OF CHEMICALS. Commission Regulation (EC) No 453/2010 of 20 May 2010, amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) Regulation 689/2008 (exportation and importation of hazardous products) Directive 76/768/EEC European Parliament and the Council: Regulation (EC) No 1272/2008
Brazil regulation:	In accordance with Brazil regulation and International Organization for Standardization.
China Regulation:	In accordance with China regulation and International Organization for Standardization.
US Regulations	OSHA Permissive exposure limit not listed. US FDA Generally recognize as safe. US Superfund Amendments and Reauthorization Act SARA Title III: This Product is not listed in SARA 313 Toxic Release Chemicals.
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, section 302.
SARA 313 Components	This material does not contain any chemical component with known CAS numbers that exceed the hazard threshold.

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SARA 311/312	GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). EPA (USA): DTXSID1047730 RTECS: RI86000000 – To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
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16- OTHER INFORMATION

This SDS was prepared based on best practices about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

The information contained herein is based on current knowledge and experience, no responsibility is accepted that the information is enough or correct in all cases. Users should consider these data only as a supplement to other information obtained by the user. No warranty is expressed or implied regarding the accuracy of experimental data, the results to be obtained from the use thereof, or that any such use will not infringe any patent. Users should make independent determination of suitability and completeness of the information from all sources to assure proper use and disposal of these materials, the safety and health of employees and customers, and the protection of the environment. This information is furnished upon the condition the person receiving it shall determine the suitability for the particular purpose. This SDS is to be used as a guideline for safe work practices and emergency response. Caution: The user should conduct his own experiments and establish proper procedures and controls before attempting use on critical parts.

SDS Historical Document Information:

Rev.	Date	Information
0	May 09, 2022	First version of document, physical chemistry ranges, Hazard Diagram and more information about product handling and storage.
1	November 18, 2022	Changes in Area, Brazil and Global emergency telephone numbers.
2	August 10, 2023	Temperature and shelf-life update, according to storage conditions.
3	June 06, 2024	New shelf-life 24 months.
4	August 29, 2024	Change in material code and not anymore "Fiberfeel OP" in the name.

Abbreviations and acronyms:

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REACH	Registration, Evaluation, Authorization, and restriction of Chemicals of EU.
CAS	Chemical Abstracts Service, CAS Registry number
UN	United Nations
ECHA	European Chemical Agency
EINECS	European Inventory of Existing commercial Chemical Substances.
ELINCS	European List of Notified Chemical Substances.
USDA	United States Department of Agriculture.
IMO	International Maritime Organization
IMDG	International Maritime code of Dangerous Goods.
IATA	International Air Transportation Association.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
AOAC	Association of Official Analytical Collaboration International.
OSHA	Occupational Safety and Health Administration USA.
NIOSH	National Institute for Occupational Safety and Health, USA.
NFPA	National Fire Protection Association USA.
EC₅₀	Effective Concentration 50%
EC₁₀	Effective Concentration 10%
LC₅₀	Lethal Concentration 50%
LD₅₀	Lethal Dose 50%
NA	Not applicable.
PVC	Polyvinyl Chloride.
SCBA	Self-Contained Breathing Apparatus
HACCP	Hazard Analysis and Critical Control Points.
PNEC	Predicted No Effect Concentration: the concentration value of a substance with adverse effects in the environment are not expected to occur.
DNEL or DN(M)EL	Derived No or Minimum Effect Level: is the level of exposure which a human should not be exposed to a substance.
Kg.b.w	Kilogram body weight
NOAEL	No Observed Adverse Effect Level, term used in toxicology.

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LOAEL	Lowest Observable Adverse Effect Level, term used in toxicology.
SARA	US-EPA Superfund Amendments and Reauthorization Act
IARC	WHO International Agency for Research on Cancer
NTP	US Department of health and human services – National Toxicology Program
EPA	US Environmental Protection Agency
WHO	UN United Nations - World Health Organization

Bibliographic references:

ECHA EUROPEAN CHEMICAL AGENCY, <http://echa.europa.eu>

REACH Registration, Evaluation, Authorization, and restriction of Chemicals of EU.

USDA FDA United States Department of Agriculture, Food and Drugs Administration

ABNT Brazilian Association of technical Standards, NBR 14725 (1-2-3-4) Chemical Products Informations about Safety, Health and Environment. Guidelines for MSDS (FISPQ).

AIJN European Fruit Juice Association, Code of Practices, European Community Reference Standards

Citrus Science and Technology; Book of Nagy S., Shaw P.E., Veldhuis M.K., The AVI Publishing Company, INC, 1977.

Quality Control Manual for Citrus Processing Plants, James.B. Redd., Charles M. Hendrix Jr and Donald L. Hendrix, INTERCIT INC, Florida USA, 1986.

RSK Values, the complete manual – Guide values and ranges of specific numbers, including the revised method of analysis, VdF – Association of the German Fruit Juice Industry, Bonn. 1987.

AOAC Association of Official Analytical Collaboration International, www.aoac.org

IMO International Maritime Organization, Sub-committee of dangerous goods, solid cargos and containers, October 26, 2009. Amendments to the IMSBC Code, including evaluation of properties of solid bulk cargoes, DSC-14.

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs and BEIs: Based on the Documentation of the Threshold Limit Values (TLV) for Chemical Substances and Physical Agents & Biological Exposure Indices, Cincinnati-USA

ECB EUROPEAN CHEMICALS BUREAU. Diretiva 67/548/EEC (substâncias); Diretiva 1999/45/EC <http://ecb.jrc.it>

EPA USA Environmental Protection Agency, Washington <http://www.epa.gov>

HSDB HAZARDOUS SUBSTANCES DATA BANK. <http://toxnet.nlm.nih.gov>

IARC INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. <http://monographs.iarc.fr>

IPCS INTERNATIONAL PROGRAMME ON CHEMICAL SAFETY – INCHEM
<http://www.inchem.org>

	SAFETY DATA SHEET	Code	EVPRBBFBEAB
		Revision	4 (August 29, 2024)
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IUCLID INTERNATIONAL UNIFORM CHEMICAL INFORMATION DATABASE European chemical Bureau. <http://ecb.jrc.ec.europa.eu>

NIOSH NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. <http://www.cdc.gov/niosh>

NITE-GHS JAPAN – NATIONAL INSTITUTE OF TECHNOLOGY AND EVALUATION. <http://www.safe.nite.go.jp>

SIRETOX/INTERTOX – SISTEMA DE INFORMAÇÕES SOBRE RISCOS DE EXPOSIÇÃO QUÍMICA. <http://www.intertox.com.br>

TOXNET – TOXICOLOGY DATA NETWORKING. <http://chem.sis.nlm.nih.gov>

Technical paper: Odour and flavor threshold for key aroma components in an orange juice matrix: Terpenes and aldehydes; Anne Ploto and others, Flavor and Fragrance Journal, 2004, 19: 491-498.