<table>
<thead>
<tr>
<th>SECTION 1. IDENTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Name/Identifier</strong></td>
</tr>
<tr>
<td><strong>Product Code</strong></td>
</tr>
<tr>
<td><strong>Recommended Use</strong></td>
</tr>
<tr>
<td><strong>Restrictions on Use</strong></td>
</tr>
<tr>
<td><strong>Supplier/Manufacturing Site</strong></td>
</tr>
<tr>
<td><strong>Address</strong></td>
</tr>
<tr>
<td><strong>Telephone No. (24hrs)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 2. HAZARD(S) IDENTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classification:</strong></td>
</tr>
<tr>
<td><strong>GHS / CLP</strong></td>
</tr>
<tr>
<td><strong>Basis for Classification:</strong> Based on present data no classification and labeling is required according to GHS, taking into account the national implementation (United Nations version 2011)</td>
</tr>
<tr>
<td><strong>USA</strong></td>
</tr>
<tr>
<td><strong>OSHA Regulatory Status:</strong> This material is non-hazardous as defined by the American OSHA Hazard Communication Standard (29 CFR 1910.1200).</td>
</tr>
<tr>
<td><strong>Europe</strong></td>
</tr>
<tr>
<td><strong>Basis for Classification:</strong> -According to present data no classification and labeling is required according to Directives 67/548/EEC or 1999/45/EC. -This product is not classified as hazardous to health or environment according to the CLP regulation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Labeling Elements:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pictograph:</strong> No hazard symbol expected</td>
</tr>
<tr>
<td><strong>Hazard statements/Signal Word:</strong> Not applicable</td>
</tr>
<tr>
<td><strong>Precautionary statements:</strong> P233: Keep container tightly closed P281: Use personal protective equipment as required P402: Store in a dry place P404: Store in a closed container P410: Protect from sunlight P411: Store at temperatures not exceeding 25°C</td>
</tr>
</tbody>
</table>
Other hazards which do not result in classification:

No particular fire or explosion hazard.  
By mechanical effect: No particular hazards. 
By hygroscopic effect: No particular hazards.

US NFPA 704 (National Fire Protection Association) Hazard Rating System:

Health hazard: Rating 0; Normal Material  
Flammability: Rating 0, Will Not Burn  
Reactivity: Rating 0, Stable  
Other Hazard Information: None

Results of PBT and vPvB assessment:

-PBT: Not applicable  
-vPvB: Not applicable

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Common Chemical Name: Water & Glycyrrhiza Glabra (Licorice) Root Extract  
Generic name:  
Chemical Family: Extract

Description: Mixture: consisting of the following components. This section describes all components of the mixture

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Numbers</th>
<th>EC Numbers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>78.00%</td>
</tr>
<tr>
<td>Glycyrrhiza Glabra (Licorice) Root Extract</td>
<td>84775-66-6</td>
<td>283-895-2</td>
<td>20.00%</td>
</tr>
<tr>
<td>Leuconostoc/Radish Root Ferment Filtrate</td>
<td>84775-94-0</td>
<td>283-918-6</td>
<td>2.00%</td>
</tr>
</tbody>
</table>

Formula: Not applicable

SECTION 4. FIRST-AID MEASURES

General: In all cases of doubt, or when symptoms persist, seek medical attention.

Inhalation: Move to fresh air from exposure area. Get medical attention for any breathing difficulty.

Skin contact: Rinse with soap and water. Get medical advice if irritation develops.

Eye contact: Immediately rinse with plenty of water for at least 15 minutes, while keeping the eyes wide open. Consult with a physician.
Ingestion: Consult with a physician.

Protection of first-aiders: No special protection required.

SECTION 5. FIRE-FIGHTING MEASURES

Fire and explosion hazards: Not considered to be a fire and explosion hazard

Extinguishing media:

Suitable: Water, dry chemicals, foam and carbon dioxide

Not suitable: None known

Fire fighting: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low area

Protection for fire-fighters: Boots, gloves, goggles.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with eyes.

Personal Protective Equipment: Protective goggles

Environmental precautions: Prevent entry into sewers and waterways. Do not allow material to contaminate ground water system

Methods for cleaning up:

Recovery: Pick up free liquid for recycling or disposal. Residual liquid can be absorbed on an inert material.

Cleaning/Decontamination: Wash non-recoverable remainder with water.

Disposal: For disposal of residues refer to sections 8 & 13.

SECTION 7. HANDLING AND STORAGE

Handling

Technical measures: Labeling: Keep out of the reach of children.

Measures: For industrial use, only as directed.

Safe handling advice: Wash hands after use. Avoid storage near feed or food stuff.
Storage
Technical measures: Keep container closed.
Recommended Storage Conditions: Store in a cool, dry place. This material must be stored at room temperature (23 - 25°C). It should not be exposed to excessive heat or cold. Do not freeze.
Incompatible products: Avoid contact with strong oxidizers.
Refer to the detailed list of incompatible materials (Section 10 Stability/Reactivity)
Packaging: Product may be packaged in normal commercial packaging.
Packaging materials: Recommended - Polypropylene & High Density Polyethylene

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Precautionary statements: Ensure adequate ventilation

Control parameters

Occupational exposure Limits:

France: Not Determined
ACGIH: Not Determined
Korea: Not Determined
UK: Not Determined

Surveillance procedures: Not Determined
Engineering measures: Not Determined

Personal Protective Equipment:

Respiratory protection: Local exhaust
Hand protection: Protective gloves made of rubber or neoprene.
Eye protection: Safety glasses.
Collective emergency equipment: Eye fountain.
Skin and Body Protection: Suitable protective clothing

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

Measures related to the Environment: No particular measures.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear to slightly hazy liquid
Color: Colorless to pale yellow
Odor: Characteristic
pH: 4.0 – 7.0

This information is presented in good faith but is not warranted as to accuracy of results. Also, freedom from patent infringement is not implied. This information is offered solely for your investigation, verification, and consideration.
FSS Licorice Root Extract PF

Date: 07 / 25 / 2014
Version: 1
Cancels and replaces version:

Microbial Content: < 100 CFU/g
No pathogens

Specific Gravity: 1.00

Vapor density: Not applicable
Boiling Point: 100°C
Freezing Point: 0°C
Melting point: Not applicable

Flash point: > 200°F
Oxidizing properties: Non oxidizing material according to EC criteria.

Solubility:
In water: Soluble
In organic solvents: Not determined
Log P: Not determined

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable under ordinary conditions of use and storage up to one year then re-test to full product specifications to extend shelf life

Hazardous reactions: None known

Conditions to avoid: No dangerous reactions known under use of normal conditions.
Avoid extreme heat.

Materials to avoid: No dangerous reaction known with common products.

Hazardous decomposition products: None known

SECTION 11. TOXICOLOGICAL INFORMATION

Ingestion: Not Determined
Dermal: Not Determined
Ocular: Not Determined
Inhalation: Not Determined

Acute toxicity data: Not Determined
Sensitization: Non-Primary Sensitizers

Repeated dose toxicity: No known effects
Subacute to chronic toxicity: Not Determined

Additional Toxicological Information: This product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

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**Specific effects:**

- **Carcinogenicity:** No known effects
- **Mutagenicity:** No known effects
- **Reproductive toxicity:** No known effects
- **Neuro-toxicity:** No known effects

**For more information:** Does not present any particular risk on handling under normal conditions of good occupational hygiene practice.

This product has not been tested for the following:
- Primary cutaneous and corrosive irritation
- Acute oral toxicity
- Mutagenicity/genotoxicity

### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Effects on the aquatic environment: Not Determined

#### Biodegradability:

Persistence: Not Determined

#### Bioaccumulation:

Octanol / water partition coefficient: Not Determined

#### Mobility:

Expected behavior of the product: Ultimate destination of the product: Soil & sediment.

**Other Adverse Effects:** None known

### SECTION 13. DISPOSAL CONSIDERATIONS

**Residues from product**

- **Prohibition:** Do not allow the product to be released into the Environment.
- **Destruction/Disposal:** Dispose of in accordance with relevant local regulations

**Contaminated packaging**

- **Decontamination/cleaning:** Cleaning is not required prior to disposal.
- **Destruction/Disposal:**

**Note:** Take all necessary precautions when disposing of this product according to local regulations.
SECTION 14. TRANSPORT INFORMATION

UN Number: None
UN Shipping Name: None

Transport Hazard Class: Not classified as dangerous for transport

Land (rail/road): Not restricted
Sea: Not restricted
Air: Not restricted

Marine Pollutant: No

Transport/Additional Information: Not regulated for US DOT Transport in non-bulk containers

Special Precautions for User: None known

The above regulatory prescriptions are those valid on the date of publication of this sheet. However, given the possible evolution of transport regulations for hazardous materials and in the event of the MSDS in your possession dating back more than 12 months, it is advisable to check their validity with your sales office.

SECTION 15. REGULATORY INFORMATION

Labeling:
EC regulations: This product does not need to be labeled in accordance with EC Directives or respective national laws

Further regulations

United Kingdom: Handle in accordance with relevant British regulation: control of substance Hazardous to Health Regulations Environmental Hygiene Guidance: EH40 Workplace Exposure Limits (revised annually)

Korea regulations: Industrial safety and hygiene regulation: No
Hazardous material control regulation: No
Fire prevention regulation: No

Other regulations:

TSCA inventory status: Exempt
AICS inventory status: 56-81-5 & 84775-66-6 & 84775-94-0

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Other regulations (Continued):

Canadian (CEPA DSL) inventory status:  Listed as 1,2,3-Propanetriol (DSL) & Licorice, Glycyrrhiza Glabra, ext. (DSL) & Radish, ext. (Revised ICL)

Japan (MITI list):  Water & Glycyrrhiza Glabra (Licorice) Root Extract & Leuconostoc/Radish Root Ferment Filtrate

Korea:  Water & Glycyrrhiza Glabra (Licorice) Root Extract & Leuconostoc/Radish Root Ferment Filtrate**

China inventory status:  Water & Glycyrrhiza Glabra (Licorice) Root Extract & Leuconostoc/Radish Root Ferment Filtrate

Philippines inventory status:  Exempt: Glycyrrhiza Glabra (Licorice) Root Extract (84775-66-6) Not Listed: Leuconostoc/Radish Root Ferment Filtrate (84775-94-0) Listed as 1,2,3-Propanetriol

*Listed on 2010 INCI Standard Chinese Name Directory
**Not listed in 2004 CTFA Dictionary – Registered with Personal Care Products Council

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the products described in this sheet. The user’s attention is drawn to the possible existence of additional provision which complete these regulations. Please refer to all applicable international, national and local regulations and provisions

SECTION 16. OTHER INFORMATION

Prohibited uses:  For specific uses, food industry, ask the manufacturer for more information.

Last Revision Date:  N/A

Preparation Date:  07/25/2014

MSDS summary of changes  No deletion, addition or revision to date

The information given is based on our knowledge of this product, at the time of publication in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than which it was intended. This is not in any way excuse the user from knowing and applying all the regulations governing their activity. It is sole responsibility of the user to take all precautions required in handling the product. The purpose of mandatory regulation mentioned is to help the user to fulfill his obligations regarding the use of products. This information is not exhaustive, this is not exonerate the user from ensuring that legal obligations other than those mentioned, relating to the use and storage.