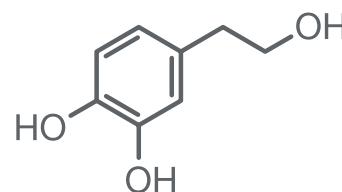


## 1-HT<sup>®</sup> hydroxytyrosol LW LIQUID



### Description

- **1-HT<sup>®</sup> hydroxytyrosol LW - Liquid** is a biologically produced pure hydroxytyrosol containing 65% (w/v) hydroxytyrosol in deionized water.
- **1-HT<sup>®</sup> hydroxytyrosol LW - Liquid** is manufactured by a simple fermentation process in compliance with Good Manufacturing Practice (GMP).
- The hydroxytyrosol is a phenolic phytochemical, considered to be one of the most powerful natural antioxidants.

Parameter	Limit	Unit	Method <sup>1</sup>	Frequency
Hydroxytyrosol purity	≥ 98.0	%	HPLC	Each batch
Hydroxytyrosol content in water	≥ 60	g / 100 ml	HPLC	Each batch
Tyrosol	< 0.6	g / 100g	HPLC	Each batch
pH (1 M hydroxytyrosol in water)	3.0 - 4.5		pH meter	Each batch
Arsenic (total)	< 0.05	mg / kg	ICP-MS	Each batch
Lead	< 0.05	mg / kg	ICP-MS	Each batch
Mercury	< 0.05	mg / kg	ICP-MS	Each batch
Cadmium	< 0.05	mg / kg	ICP-MS	Each batch
Cobalt	< 0.05	mg / kg	ICP-OES	Each batch
Ethyl acetate	< 150	mg / Kg	GC-MS Head space	Each batch
Total protein	< 250	mg / kg	Bradford Method	Each batch
Antibiotic residue	< 0.1	mg / Kg	LC-MS/MS	Each batch

<sup>1</sup> Acknowledged or similar validated method

### Microbiological Parameters

Parameter	Limit	Unit	Method <sup>1</sup>	Frequency
Total aerobic plate count	< 10	cfu / g	AOAC 990.12	Each batch
Yeast and mold count	< 10	cfu / g	AOAC 997.02	Each batch
<i>Enterobacteriaceae</i>	Negative	/ 10 g	AOAC 2003.01	Each batch
Coliform	Negative	/ 10 g	AOAC 991.14	Each batch
<i>Escherichia coli</i>	Negative	/ 10 g	AOAC 991.14	Each batch
<i>Salmonella species</i>	Negative	/ 25 g	ISO 6579-1:2017	Each batch
GMO	Negative	-	Q-PCR	Each batch

<sup>1</sup> Acknowledged or similar validated method

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## Key features of a unique product

- Biologically produced and highly controlled process (GMP)
- Hydroxytyrosol purity: ≥ 98%
- No batch-to-batch or seasonal variations
- Highly water soluble
- Odorless
- GMO free
- “Free-From”: Animal Fat, Lactose, Gluten, Sugar and Endotoxin
- ORAC assay: > 64,000 μmol TE (Trolox®™ Equivalent) / g of **1-HT® hydroxytyrosol**

## Main Sectors of Application

### Animal Feed

### Pet Food

Additional Information			
<b>Brand</b>	<b>1-HT® hydroxytyrosol LW - Liquid</b>	<b>Molecular weight</b>	154.16
		<b>Molecular formula</b>	C <sub>8</sub> H <sub>10</sub> O <sub>3</sub>
<b>Product name</b>	Hydroxytyrosol 65% aqueous solution (65% hydroxytyrosol - 35% Deionized Water)	<b>Appearance</b>	Honey colored clear liquid
		<b>Behaviour</b>	Viscous liquid
		<b>Taste</b>	Slightly bitter
<b>CAS No.</b>	10597-60-1 hydroxytyrosol	<b>Odor</b>	Odorless / Neutral
		<b>Density</b>	1.15 g/mL
<b>Packaging</b>	A net quantity of 550 g (pure ≥98% - 19.40 oz.) <b>1-HT® hydroxytyrosol - Liquid</b> is packed in a nitrogen-flushed, 4-layered doypack. Each doypack is packed in a cardboard case, providing a total net quantity of 970 g (34.21 oz).		
<b>Recommended conditions</b>	Transport preferably in a dry space between +15° to +25° C (+59° - +79° F). Storage. Once the product has reached customer facilities, store in a refrigerator between +4° to +8° C (+39° to +46° F). Once opened, protect the liquid from oxidizing atmosphere and use within 3 months.		
<b>Shelf Life</b>	3 years from date of production under recommended storage conditions.		
<b>Safety precautions</b>	Comprehensive instruction will be available from the Material Safety Data Sheet supplied		
<b>Feed Processing Conditions</b>	<p><b>1-HT® hydroxytyrosol</b> added to DI water was stable at pasteurization (+85° C / +185° F for 10 minutes) and sterilization (121° C / 248° F for 30 minutes) conditions.</p> <p><b>1-HT® hydroxytyrosol</b> is stable in different feed matrices during storage at room temperature.</p>		
<b>Miscibility</b>	<b>1-HT® hydroxytyrosol</b> is highly miscible in many feed matrices and with animal edible oils (palm and soya oil) (up to 40 mg / 10 mL) and additives like propylene glycol.		
<b>Certificate and Compliance</b>	<p><b>1-HT® hydroxytyrosol</b> is manufactured in the EU, under GMP industrial standards in an FDA and EU approved plant.</p> <p><b>1-HT® hydroxytyrosol</b> is HALAL certified (915687-IR-9102).</p>		