

## EnterraGrubs™



EnterraGrubs are whole, dried black soldier fly larvae that are full of good nutrients.

- Repack and market as a treat for birds, chickens and other animals.
- Blend with other ingredients in your formulated pet foods and animal feeds. For extruded feed, use at up to 15% inclusion, followed by pre-grinding and extrusion.



### EnterraGrubs™ NUTRITIONAL INFORMATION

**Ingredient:** whole, dried black soldier fly larvae  
**Bulk Density:** 0.35 kg/L  
**Packaging:** Bulk bag with pallet  
**Shelf Life:** One year from manufacture  
**Country of Origin:** Canada  
**Storage:** Store in a cool, dry area

Proximate	Typical
Crude Protein (%)	~34-40
Crude Fat (%)	~40
Crude Fibre (%)	~11
Ash (%)	~5
Moisture (%)	~6

Amino Acids	Typical
Aspartic Acid (%)	3.0
Threonine (%)	1.3
Serine (%)	1.4
Glutamic Acid (%)	3.9
Proline (%)	2.3
Glycine (%)	1.8

Alanine (%)	2.2
Cystine (%)	0.3
Valine (%)	2.6
Methionine (%)	0.5
Isoleucine (%)	1.6
Leucine (%)	2.5
Tyrosine (%)	2.2
Phenylalanine (%)	1.4
Histidine (%)	1.0
Lysine (%)	2.2
Arginine (%)	1.7
Tryptophan (%)	0.5

Fatty Acids	Typical
Capric Acid C10:0 (%)	0.3
Lauric Acid C12:0 (%)	15.3
Myristic Acid C14:0 (%)	2.4
Palmitic Acid C16:0 (%)	4.3
Palmitoleic Acid C16:1w7 (%)	1.7
Stearic Acid C18:0 (%)	0.5
Oleic Acid C18:1w9 (%)	4.5
Vaccenic Acid C18:1w9 (%)	0.2
Linoleic Acid C18:2w6 (%)	1.4

Eicosenic Acid C20:1w9 (%)	0.2
Linolenic Acid C18:3w3 (%)	0.5
Eicosadienoic Acid C20:2w6 (%)	0.2

Summary of Fatty Acids	Typical
Total Fat as Triglycerides (%)	38
Saturated Fatty Acids (%)	23
Monounsaturated Fatty Acids (%)	7
Polyunsaturated Fatty Acids (%)	6
Omega-3 (%)	1
Omega-6 (%)	5
Omega 3:6 Ratio	0.2

Minerals	Typical
Calcium (ppm)	~8000
Phosphorus (ppm)	~6000

Microbial Analysis	Guarantee
E. coli (MPN/g)	< 10
Salmonella (in 25 g)	Negative

NATURAL INGREDIENTS. SUSTAINABLY DEVELOPED.

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# EnterraProtein™



EnterraProtein is a highly digestible protein meal made from sustainable black soldier fly larvae.

- Blend with other ingredients in your formulated pet foods and animal feeds.



## EnterraProtein™ NUTRITIONAL INFORMATION

<b>Ingredient:</b> de-fatted dried black soldier fly larvae <b>Antioxidant (optional):</b> Naturox® Plus Dry, 1000 ppm <b>Bulk density:</b> 0.65 kg/L <b>Particle size:</b> < 0.595 mm (30 mesh) <b>Packaging:</b> Bulk bag with pallet <b>Shelf Life:</b> One year from manufacture <b>Country of Origin:</b> Canada <b>Storage:</b> Store in a cool, dry area		<table border="1"> <thead> <tr> <th>Amino Acids</th> <th>Typical</th> </tr> </thead> <tbody> <tr><td>Alanine (%)</td><td>3.3</td></tr> <tr><td>Arginine (%)</td><td>2.5</td></tr> <tr><td>Aspartic Acid (%)</td><td>4.4</td></tr> <tr><td>Cystine (%)</td><td>0.4</td></tr> <tr><td>Glutamic Acid (%)</td><td>5.8</td></tr> <tr><td>Glycine (%)</td><td>2.7</td></tr> <tr><td>Histidine (%)</td><td>1.5</td></tr> <tr><td>Isoleucine (%)</td><td>2.3</td></tr> <tr><td>Leucine (%)</td><td>3.7</td></tr> <tr><td>Lysine (%)</td><td>3.2</td></tr> <tr><td>Methionine (%)</td><td>0.8</td></tr> <tr><td>Phenylalanine (%)</td><td>2.0</td></tr> <tr><td>Proline (%)</td><td>3.4</td></tr> <tr><td>Serine (%)</td><td>2.1</td></tr> <tr><td>Threonine (%)</td><td>1.9</td></tr> <tr><td>Tryptophan (%)</td><td>0.8</td></tr> <tr><td>Tyrosine (%)</td><td>3.2</td></tr> <tr><td>Valine (%)</td><td>3.8</td></tr> </tbody> </table>	Amino Acids	Typical	Alanine (%)	3.3	Arginine (%)	2.5	Aspartic Acid (%)	4.4	Cystine (%)	0.4	Glutamic Acid (%)	5.8	Glycine (%)	2.7	Histidine (%)	1.5	Isoleucine (%)	2.3	Leucine (%)	3.7	Lysine (%)	3.2	Methionine (%)	0.8	Phenylalanine (%)	2.0	Proline (%)	3.4	Serine (%)	2.1	Threonine (%)	1.9	Tryptophan (%)	0.8	Tyrosine (%)	3.2	Valine (%)	3.8	<table border="1"> <thead> <tr> <th>Fatty Acids</th> <th>Typical</th> </tr> </thead> <tbody> <tr><td>Capric Acid (C10:0) (%)</td><td>0.1</td></tr> <tr><td>Lauric Acid (C12:0) (%)</td><td>5.0</td></tr> <tr><td>Myristic acid (C14:0) (%)</td><td>0.9</td></tr> <tr><td>Palmitic acid (C16:0) (%)</td><td>1.2</td></tr> <tr><td>Palmitoleic acid (C16:1) (%)</td><td>0.2</td></tr> <tr><td>Stearic acid (C18:0) (%)</td><td>0.3</td></tr> <tr><td>Oleic acid (C18:1n-9 cis) (%)</td><td>1.4</td></tr> <tr><td>Linoleic acid (C18:2n-6 cis) (%)</td><td>1.4</td></tr> <tr><td>Gamma Linoleic acid (C18:3 n-6) (%)</td><td>0.2</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Minerals</th> <th>Typical</th> </tr> </thead> <tbody> <tr><td>Calcium (ppm)</td><td>~12000</td></tr> <tr><td>Phosphorus (ppm)</td><td>~8500</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Microbial Analysis</th> <th>Guarantee</th> </tr> </thead> <tbody> <tr><td>E. coli (MPN/g)</td><td>&lt; 10</td></tr> <tr><td>Salmonella (in 25 g)</td><td>Negative</td></tr> </tbody> </table>	Fatty Acids	Typical	Capric Acid (C10:0) (%)	0.1	Lauric Acid (C12:0) (%)	5.0	Myristic acid (C14:0) (%)	0.9	Palmitic acid (C16:0) (%)	1.2	Palmitoleic acid (C16:1) (%)	0.2	Stearic acid (C18:0) (%)	0.3	Oleic acid (C18:1n-9 cis) (%)	1.4	Linoleic acid (C18:2n-6 cis) (%)	1.4	Gamma Linoleic acid (C18:3 n-6) (%)	0.2	Minerals	Typical	Calcium (ppm)	~12000	Phosphorus (ppm)	~8500	Microbial Analysis	Guarantee	E. coli (MPN/g)	< 10	Salmonella (in 25 g)	Negative
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## EnterraOil™



**EnterraOil is a healthy fat ingredient made from sustainable black soldier fly larvae.**

- Blend with other ingredients in your formulated pet foods and animal feeds.
- Use as a coating on your pet foods and animal feeds for enhanced palatability.



### EnterraOil™ NUTRITIONAL INFORMATION

**Ingredient:** dried black soldier fly larvae oil  
**Antioxidant (optional):** Naturox® Premium Liquid, 500 ppm  
**Packaging:** 5-gallon bucket, 16 kg / 35 lb  
**Shelf Life:** One year from manufacture  
**Country of Origin:** Canada  
**Storage:** Store in a cool, dry area  
**Directions for use:** Use a heating jacket around the pail to melt the oil prior to use. Do not exceed 75 °C. Prolonged exposure of the pail to high temperatures is not recommended.

Physical Properties	Typical
Total Fatty Acids (%)	98.0
Moisture (%)	0.7

Peroxide Value (meq/kg)	< 0.1
Unsaponifiable Matter (%)	0.7
Insoluble Matter (%)	0.05
Titer (°C)	21.9
Fatty Acids	Typical
Capric Acid C10:0 (%)	1.1
Lauric Acid C12:0 (%)	38.8
Myristic Acid C14:0 (%)	7.2
Myristoleic Acid C14:1w5 (%)	0.1
Palmitic Acid C16:0 (%)	10.4
Palmitoleic Acid C16:1w7 (%)	1.8
Stearic Acid C18:0 (%)	2
Oleic Acid C18:1w9 (%)	18.8
Vaccenic Acid C18:1w9 (%)	0.8
Linoleic Acid C18:2w6 (%)	16.3

(alfa-) Linolenic acid (C18:3 n-3) (ALA)	2.6
Summary of Fatty Acids	Typical
Saturated Fatty Acids (%)	59.7
Monounsaturated Fatty Acids (%)	21.4
Polyunsaturated Fatty Acids (%)	18.9
Omega-3 (% of TFA)	2.6
Omega-6 (% of TFA)	16.3
Omega-9 (% of TFA)	19.5
Trans Fatty Acids (% of TFA)	< 0.1
Microbial Analysis	Guarantee
E. coli (MPN/g)	< 10
Salmonella (in 25 g)	Negative

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