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L-Valine Feed Grade is produced by fermentation from raw materials of agricultural origin.

This product is intended only for animals and shall not be used in human products or human consumption.

1. Physical description

Whitish to yellowish powder.

2. Chemical description

Chemical structure	$\begin{array}{c} \text{CH}_3 - \text{CH} - \text{CH} - \text{COO}^- \\ \quad \\ \text{CH}_3 \quad \text{NH}_3^+ \end{array}$
Chemical formula	$\text{C}_5\text{H}_{11}\text{NO}_2$
Molecular weight	117.15
Isomer	L (Laevo-rotatory)

3. Commercial guarantees

Valine on the product as is, %	96.5	Minimum	based on AOAC 999.13 standard
Valine on dry matter %	98	Minimum	
Moisture, %	1.5	Maximum	105°C for 4 hours

4. Regulatory position

L-Valine Feed Grade is in the scope of Regulation (EC) 1831/2003 of 22/09/03 on additives for use in animal nutrition (OJ EU n° L 268 of 18/10/2003), category : “nutritional additives”, functional group : “amino acids, their salts and analogues” (3c3.7.1) and is approved for use in all animal species.

5. Nutritional values

Dry matter, %	98.5	Minimum	105°C for 4 hours
Valine content, %	96.5	Minimum	based on AOAC 999.13 standard
Digestibility coefficient, %	100		
Crude Protein, %	72.1	Minimum	(N Dumas x 6.25) by convention
ME poultry, kcal.kg ⁻¹ (MJ.kg ⁻¹)*	5260 (22.0)	DE = Gross Energy & N retention = 0.40	Sauvant et al., 2004; p.38.
DE pig, kcal.kg ⁻¹ (MJ.kg ⁻¹)*	5830 (24.4)	DE = Gross Energy	Calorimetric bomb
ME pig, kcal.kg ⁻¹ (MJ.kg ⁻¹)*	5480 (22.9)	Retention of valine : 0.65	Sauvant et al., 2004; p. 28 & 29
NE pig, kcal.kg ⁻¹ (MJ.kg ⁻¹)*	4235 (17.7)	Retention of valine : 0.65	Sauvant et al., 2004; p. 28 & 29.

* Values for information purpose only and do not constitute any commercial guarantee

Source : Sauvant D., Perez J.-M., Tran G., 2004. Tables of composition and nutritional value of feed materials. Wageningen Academic Publishers, INRA Editions and AFZ, Paris.

6. Packaging and storage

Packaging

15 kg bags on shrink wrapped pallets

Storage

Store in dry conditions, in sealed or closed containers and protected from light and heat. Avoid any source of combustion.

Stability

Original 15kg bags unopened: product is stable for at least 2 years if stored under recommended conditions.

Application date : 09/02/2011

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7. Additional information

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Physical characteristics

Ph	5 to 6	solution 5g in 100 ml
Bulk density, kg/l	0.5 to 0.6	
Melting point / Decomposition temperature	315 °C	
Solubility in water	5.70 g/ 100g water	at 20°C

Chemical characteristics

Residue on ignition, %	0.5	Maximum
Potassium, %	0.2	Maximum
Ammonium, %	0.05	Maximum
Chlorides, %	0.05	Maximum
Sodium, %	0.01	Maximum
Sulphates, %	0.2	Maximum
Phosphates, %	0.1	Maximum
Calcium, %	0.3	Maximum
Magnesium, %	0.01	Maximum

Other information

Heavy metals		Complying with EU Directive 2002/32/EC in feeds
<i>Arsenic</i>	2 mg/kg	Maximum
<i>Lead</i>	5 mg/kg	Maximum
<i>Mercury</i>	0.1 mg/kg	Maximum
<i>Cadmium</i>	0.5 mg/kg	Maximum
<i>Fluorine</i>	30 mg/kg	Maximum
Pesticides		Complying with EU Directive 2002/32/EC in feeds
Dioxins, dioxins-like PCBs		Complying with EU Directive 2002/32/EC in feeds

Examples of practical utilisation of L-Valine in compound feeds

Range of supplementation commonly used.
Do not represent maximum or minimum inclusion levels

		In kg per ton of feed
Pigs	Piglet	0.5 to 2.5
	Growing-Finishing pig	0.2 to 1.5
	Sow	0.2 to 1.0
Poultry	Broiler, Turkey, ...	0.1 to 1.5
	Laying hen	0.1 to 1.0
Others	Fish, Pets,	0.1 to 1.0
	Calf milk replacer	0.2 to 1.5

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