Respirax (Cat)

Product name	Respirax
Product type	Complementary feed for cats
Dosage form	Paste
Package size(s)	60ml
Animal species	Cat
Composition & Additives	Glycerin, ribwort plantain dried and ground, chaga powder, Coriolus versicolor (ground), Manuka honey Technological additives: Potassium sorbate, xanthan gum Nutritional additives (per kg): Vitamin C (3,300mg), L-lysine (as L-lysine monohydrochloride) (350,000mg), zinc sulphate heptahydrate (1,100mg)
Analytical components	Crude protein (29.7%), crude ash (3.4%), crude fiber (0.5%), crude fat (< 0.3%), moisture content (35.5%)

Ingredients and science-based studies/papers/literature

Ribwort plantain (Plantago lanceolata)	The European Medicine Agency (EMA) recognizes the traditional use of ribwort plantain: Community herbal monograph on Plantago lanceolata L., folium https://www.ema.europa.eu/en/documents/herbal-monograph/final-community-herbal-monograph-plantago-lanceolata-l-folium_en.pdf (Last accessed date: 27.05.2024) Chapter IX. Plantago lanceolata L. (Fam. Plantaginaceae) - the effect of Plantago lanceolata: Phytotherapy of cough Sona Franova, Gabriela Nosalova, Juraj Mokry; 2006 https://www.sciencedirect.com/science/article/abs/pii/S1572557X05020076 (Last accessed date: 26.06.2024) Literature: Antiphlogistic, antimicrobial and irritation-relieving effects: Phytotherapie in der Tiermedizin Cäcilia Brendieck-Worm, Matthias F. Melzig 2. Auflage; 2021
L-Lysine	L-lysine reduces outbreaks of HSV-related disease and lessens the severity when outbreaks occur: Effect of oral administration of L-lysine on conjunctivitis caused by feline herpesvirus in cats Jean Stiles, Wendy M Townsend, Quinton R Rogers, Sheryl G Krohne; 2002; https://pubmed.ncbi.nlm.nih.gov/16206789/ (Last accessed date: 24.05.2024) Lysine supplementation attenuated the growth-promoting effect arginine exerts on FHV-1 (in vitro): Effects of L-lysine and L-arginine on in vitro replication of feline herpesvirus type-1 D J Maggs, B K Collins, J G Thorne, M P Nasisse; 2000; https://pubmed.ncbi.nlm.nih.gov/11131583/#:~:text=Analysis%20of%20data%20from%20this,containing%20low%20concentrations%20of%20arginine.

	(Last accessed date: 24.05.2024)
Coriolus versicolor	Literature: Balancing and strengthening the immune system, viral infections, strengthening the general constitution, inflammation and infection of the lungs and bronchia; page: 68,70,71 Mykotherapie für Tiere Wanda May Pulfer 2. Auflage; 2019
Chaga	Polysaccharide of Inonotus obliquus may affect viral binding/absorption to cells directly: Identification of Inonotus obliquus polysaccharide with broad-spectrum antiviral activity against multi-feline viruses Jin Tian 1, Xiaoliang Hu 2, Dafei Liu 2, Hongxia Wu 2, Liandong Qu; 2016 https://pubmed.ncbi.nlm.nih.gov/27865960/ (Last accessed date: 09.06.2024) Literature: Modulation and strengthening the immune system, bacterial and viral infections and diseases, anti-inflammatory; page: 48-50 Mykotherapie für Tiere Wanda May Pulfer 2. Auflage; 2019
Vitamin C	Vitamin C contributes to the immune function and has antioxidative effects in humans: Vitamin C and Immune Function Anitra C Carr, Silvia Maggini; 2017 https://pubmed.ncbi.nlm.nih.gov/29099763/ (Last accessed date: 08.04.2024) Overview on the effect of Vitamin C and zinc: Immune-enhancing role of vitamin C and zinc and effect on clinical conditions Eva S Wintergerst 1, Silvia Maggini, Dietrich H Hornig; 2006 https://pubmed.ncbi.nlm.nih.gov/16373990/ (Last accessed date: 09.06.2024)
Zinc	Development and function of immune cells: Roles of Zinc Signaling in the Immune System Shintaro Hojyo, Toshiyuki Fukada; 2016 https://pubmed.ncbi.nlm.nih.gov/27872866/ (Last accessed date: 10.06.2024) Overview on the effect of Vitamin C and zinc: Immune-enhancing role of vitamin C and zinc and effect on clinical conditions Eva S Wintergerst 1, Silvia Maggini, Dietrich H Hornig; 2006 https://pubmed.ncbi.nlm.nih.gov/16373990/ (Last accessed date: 09.06.2024)
Manuka honey	Antibacterial mechanism of manuka honey: On the antibacterial effects of manuka honey:mechanistic insights Aled Edward LloydRoberts, Helen Louise Brown, Rowena Eleri Jenkins; 2015 https://www.tandfonline.com/doi/full/10.2147/RRB.S75754?scroll=top&needAccess=true#abstract (Last accessed date: 08.08.2024)

	Statement from Inuvet: The above-mentioned study highlights the different antibacterial mechanisms of Manuka honey. At the moment we can not cite any studies regarding the use of Manuka honey for respiratory infections in humans or animals. However, Manuka honey has been traditionally used for decades to treat respiratory infections and has shown positive effects. Inuvet has decided to include Manuka honey in Respirax to provide animals with the most effective supplementary feed possible. Although no scientific studies have yet confirmed the effectiveness of Manuka honey for respiratory infections, the experiences from traditional use are sufficient for us at the moment. We continue to monitor the research and the latest scientific results regarding Manuka honey and continuously evaluate its benefits based on the results obtained. 08.08.2024
Potassium sorbate	Excipient - approved feed additive according to feed regulations Code: 1k202
Xantham Gum	Excipient - approved feed additive according to feed regulations Code: E415

General information about product efficacy and safety

All products are developed in collaboration with veterinarians, pharmacists, chemists, biologists, microbiologists and engineers. In this process, the effect of the individual ingredients as well as the combination in the final product are evaluated. The efficacy assessment as well as the risk analyses and safety assessments are mandatory and are conducted and approved by and with our scientific experts.

Product efficacy and risk analysis

Efficacy assessment/Ensuring effectiveness

To ensure the efficacy of the products, the following measures are taken:

- all raw materials are checked whether they need to be adjusted on necessary ingredients. This is taken into account when selecting the raw materials (general examples: content of apigenin, curcumin, silymarin)
- The dosage of the ingredients are chosen so that at least the lower limit values indicated in the literature and/or studies is reached.
- If applicable, synergistic effects of the contained ingredients are taken into account

Risk analysis

The risk analysis of the product includes the following points:

- Evaluating the compatibility of ingredients and animal species
- Evaluating critical ingredients
- Evaluating possible contraindications
- Evaluating possible side effects
- Evaluating possible risks (such as allergic reactions, overdosing, etc.)

Inuvet Quality Control

Quality control at Inuvet includes manufacturer selection, control of raw materials and control of our products. The Department of Quality Assurance monitors product quality. To guarantee safety for animals, we perform risk analysis for our products.

Manufacturer Selection

Manufacturers are selected according to their authorisation/registration for a respective product type. With suppliers, a quality assurance agreement (QAA) is signed prior to inclusion into the list of approved suppliers. All suppliers are evaluated once a year as part of the supplier evaluation.

Quality control of raw materials

Raw materials for the manufacturing of products are bought by Inuvet and sent to the external manufacturers or bought by those manufacturers according to quality assurance agreements. Raw materials are purchased by feed standard certified companies. Raw material is in food or feed grade.

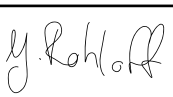
Once received, all raw materials are checked to meet the specifications according to the delivery notes and COAs before being subsequently released for production. If further testing is necessary, Inuvet commissions these to an external laboratory.

Inuvet marketing creates lettering for packaging and labels. QM checks these in accordance with the applicable laws and mandatory markings.

Quality control of externally manufactured products, raw material and packaging

The external manufacturers set up their quality control in accordance with the quality assurance agreements and provide the resulting certificates of analysis. Inuvet adds their own controls as needed.

In different intervals Inuvet sends their products to an external laboratory to analyze the products. Usually more parameters were analyzed compared to those measured regularly by the German feed monitoring authorities. Testing parameters are for example analytical components, unwanted substances like heavy metals, aflatoxins or pesticides and microbiological tests for salmonella and Enterobacteriaceae.

Version	Date	Name	Role	Signature
Creation of product data sheet				
01	09.08.2024	Samanta Kopp	Member of Product Development & Innovation	
Review and approval of product data sheet				
01	29.08.2024	Yannick Rohloff	Head of Product Development & Innovation	

01	13.08.2024	Melanie Sesiani	Head of Quality Management/Quality Control