

## Frequently Asked Questions about Deodorizing Thread and its Applications

### [3] About Standards for Deodorizing Products & Anti-bacterial Products (1/3)

3-1. Standards for Deodorizing Products in Japan	
3-1-1	<p>Are there any standards for <b>“Deodorizing Products”</b> in Japan?</p> <p>Yes, there is. In Japan, the standards <b>“Deodorant processed textiles certification criteria”</b> is published by <b>“Japan Textile Evaluation Technology Council”</b> which is authorized as a Public-service corporation by Ministry of Economy, Trade and Industry.</p>
3-1-2	<p>What is the organization of certification for <b>“Deodorizing Products”</b> in Japan?</p> <p>It is a Public-service corporation <b>“Japan Textile Evaluation Technology Council”</b>, which is the laboratory certified by the official under Japan Industrial Standardization Law (JIS). The textile products which comply with the standards <b>“Deodorant processed textiles certification criteria”</b> are allowed to be called <b>“Deodorizing products”</b>, which can deodorize either of Sweat odors, Aged-body odors, Excrement odors, Tobacco odors, Garbage odors or Ammonia odor. (* ) See the website <a href="http://www.sengikyo.or.jp">www.sengikyo.or.jp</a> to get more information about <b>“Japan Textile Evaluation Technology Council”</b>.</p>
3-1-3	<p>What organization can I ask for the examination of our product in Japan?</p> <p>Currently, five organizations are designated as examining authority by <b>“Japan Textile Evaluation Technology Council”</b>. They examine the product based on the standards <b>“Deodorant processed textiles certification criteria”</b>, and issue the test results.</p>
3-1-4	<p>What are the subjects of the examination as odor component?</p> <p>According to the standards <b>“Deodorant processed textiles certification criteria”</b>, they are 10 kinds of gases - Ammonia, Acetic acid, Isovaleric acid, Nonenal, Methanethiol (Methyl mercaptan), Hydrogen sulfide, Indole, Acetaldehyde, Pyridine and Trimethylamine.</p>
3-1-5	<p>How are the odors classified by the organization of certification? And, what are the components for each?</p> <p>According to the standards <b>“Deodorant processed textiles certification criteria”</b>, the odors are classified as follows;</p> <ol style="list-style-type: none"> <li>(1) Sweat odors: Ammonia, Acetic acid and Isovaleric acid.</li> <li>(2) Aged-body odors: Ammonia, Acetic acid, Isovaleric acid and Nonenal.</li> <li>(3) Excrement odors: Ammonia, Acetic acid, Methanethiol (Methyl mercaptan), Hydrogen sulfide and Indole.</li> <li>(4) Tobacco odors: Ammonia, Acetic acid, Acetaldehyde, Pyridine and Hydrogen sulfide.</li> <li>(5) Garbage odors: Hydrogen sulfide, Methanethiol (Methyl mercaptan), Trimethylamine and Ammonia.</li> <li>(6) Ammonia odor: Ammonia.</li> </ol>

## [3] About Standards for Deodorizing Products &amp; Anti-bacterial Products (2/3)

3-1. Standards for Deodorizing Products in Japan	
3-1-6	<p>How do the designated examining authorities examine a product and evaluate it?</p> <p>According to the standards "<b>Deodorant processed textiles certification criteria</b>", a sample is examined by an instrumental analysis and a sensory evaluation after being washed designated times (3-10 times).</p> <p>[Methods]</p> <p>(A) Instrumental analysis: Detector Tube or Gas Chromatography.            (B) Sensory evaluation: 6 panels.</p> <p>[Applied Methods to each gas]</p> <p>(1) Ammonia: evaluated by (A) Detector Tube &amp; (B) Sensory evaluation.            (2) Acetic acid: evaluated by (A) Detector Tube &amp; (B) Sensory evaluation.            (3) Methanethiol (Methyl mercaptan) : evaluated by (A) Detector Tube &amp; (B) Sensory evaluation.            (4) Hydrogen sulfide: evaluated by (A) Detector Tube &amp; (B) Sensory evaluation.            (5) Acetaldehyde: evaluated by (A) Detector Tube &amp; (B) Sensory evaluation.            (6) Pyridine: evaluated by (A) Detector Tube &amp; (B) Sensory evaluation.            (7) Trimethylamine: evaluated by (A) Detector Tube &amp; (B) Sensory evaluation.            (8) Isovaleric acid: evaluated by (A) Gas Chromatography &amp; (B) Sensory evaluation.            (9) Nonenal: evaluated by (A) Gas Chromatography &amp; (B) Sensory evaluation.            (10) Indole: evaluated by (A) Gas Chromatography &amp; (B) Sensory evaluation.</p> <p>[Evaluation]</p> <p>The reducing rate of gas in two hours must equal the predetermined rate or exceed it;</p> <p>(1) Ammonia: <b>70%</b> or more.            (2) Acetic acid: <b>80%</b> or more.            (3) Methanethiol (Methyl mercaptan): <b>70%</b> or more.            (4) Hydrogen sulfide: <b>70%</b> or more.            (5) Acetaldehyde: <b>70%</b> or more.            (6) Pyridine: <b>70%</b> or more.            (7) Trimethylamine: <b>70%</b> or more.            (8) Isovaleric acid: <b>85%</b> or more..            (9) Nonenal: <b>75%</b> or more.            (10) Indole: <b>70%</b> or more.</p> <p>In addition, 5 panels out of 6 must judge the gas concentration in two hours to be less than the predetermined rate in a sensory evaluation.</p>
3-1-7	<p>In Japan, can we sell the product, which is partially using a "<b>Deodorizing product</b>", as a certified <b>Deodorizing product</b>?</p> <p>No, you cannot.            You need to apply your product to the organization of certification for "<b>Deodorizing Products</b>" in Japan.</p>

## [3] About Standards for Deodorizing Products &amp; Anti-bacterial Products (3/3)

3-2. Standards for Anti-bacterial Products in Japan	
3-2-1	<p>Are there any standards for “<b>Anti-bacterial products</b>” in Japan?</p> <p>Yes, there is. In Japan, the standards “<b>Anti-bacterial fiber product certification criteria</b>” is published by “<b>Japan Textile Evaluation Technology Council</b>” which is authorized as a Public-service corporation by Ministry of Economy, Trade and Industry.</p>
3-2-2	<p>What is the organization of certification for “<b>Anti-bacterial products</b>” in Japan?</p> <p>It is a Public-service corporation “<b>Japan Textile Evaluation Technology Council</b>”, which is the laboratory certified by the official under Japan Industrial Standardization Law (JIS). The textile products which comply with the standards “<b>Anti-bacterial fiber product certification criteria</b>” are allowed to be called “<b>Anti-bacterial products</b>”, which can prevent <b>staphylococcus aureus</b> from propagating below the predetermined level. (* ) See the website <a href="http://www.sengikyo.or.jp">www.sengikyo.or.jp</a> to get more information about “<b>Japan Textile Evaluation Technology Council</b>”.</p>
3-2-3	<p>What organization can I ask for the examination of our product in Japan?</p> <p>Currently, seven organizations are designated as examining authority by “<b>Japan Textile Evaluation Technology Council</b>”. They examine the product based on the standards “<b>Anti-bacterial fiber product certification criteria</b>”, and issue the test results.</p>
3-2-4	<p>What are the subjects of the examination as bacteria?</p> <p>According to the standards “<b>Anti-bacterial fiber product certification criteria</b>”, the subject is <b>staphylococcus aureus</b> only.</p>
3-2-5	<p>How do the designated examining authorities examine a product?</p> <p>According to the standards “<b>Anti-bacterial fiber product certification criteria</b>”, a sample is examined by Absorption Method after being washed designated times (3-10 times). And, the number of bacteria colonies in 18 hours is measured by Colony Method or ATP Method (Adenosine Triphosphatase Method). These methods are applied according to Japan Industrial Standard - JIS L1902.</p>
3-2-6	<p>How do the designated examining authorities evaluate a product?</p> <p>Three samples of Anti-bacteria fabric and Non-anti-bacteria fabric for each are used. In the case of Colony Method, [A] If (<math>S=2.2</math> or <math>S&gt;2.2</math>) and (<math>Mb-Ma=1.0</math> or <math>Mb-Ma&gt;1.0</math>), then the positive test result of “<b>Anti-bacterial effect</b>” is issued. [B] If (<math>S&lt;2.2</math>) and (<math>Ma&gt;Mo&gt;Mc</math> or <math>Ma&gt;Mo=Mc</math>) and (<math>Mb-Mc=2.2</math> or <math>Mb-Mc&gt;2.2</math>), then the positive test result of “<b>Anti-bacterial effect</b>” is issued.</p> <p>Where;  <math>S=(Mb-Ma)-(Mc-Mo)</math>  <math>Mb=(\log_{10}Nb1 + \log_{10}Nb2 + \log_{10}Nb3)/3</math>  <math>Ma=(\log_{10}Na1 + \log_{10}Na2 + \log_{10}Na3)/3</math>  <math>Mc=(\log_{10}Nc1 + \log_{10}Nc2 + \log_{10}Nc3)/3</math>  <math>Mo=(\log_{10}No1 + \log_{10}No2 + \log_{10}No3)/3</math>            Nb1, Nb2 and Nb3: Number of bacteria colonies on the <b>Non-anti-bacterial</b> fabric in <b>18 hours</b>.            Na1, Na2 and Na3: Initial number of bacteria colonies on the <b>Non-anti-bacterial</b> fabric.            Nc1, Nc2 and Nc3: Number of bacteria colonies on the <b>Anti-bacterial</b> fabric in <b>18 hours</b>.            No1, No2 and No3: Initial number of bacteria colonies on the <b>Anti-bacterial</b> fabric.  <math>\log_{10}</math>: Common logarithm. (When <math>\log_{10}X=2</math>, <math>X=100</math>.)</p> <p>Very roughly speaking, “<b>Anti-bacterial products</b>” can prevent <b>staphylococcus aureus</b> from propagating effectively more than 100 times compared with <b>Non-anti-bacterial products</b>.</p>
3-2-7	<p>In Japan, can we sell the product, which is partially using an “<b>Anti-bacterial product</b>”, as a certified <b>Anti-bacterial product</b>?</p> <p>No, you cannot. You need to apply your product to the organization of certification for “<b>Anti-bacterial products</b>” in Japan.</p>