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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 38880-2020

Technical specification for children's masks

儿童口罩技术规范

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009. This Standard was proposed by China National Textile and Apparel Council. This Standard shall be under the jurisdiction of National Technical Committee for Standardization of Textiles (SAC/TC 209). Drafting organizations of this Standard. China Nonwovens & Industrial Textiles Association; Beijing Municipal Institute of Labor Protection; Winner Medical Co., Ltd.; Zhongke Besta (Xiamen) Environmental Protection Technology Co., Ltd.; Zhejiang Lanhe Medical Supplies Co., Ltd.; Safmax (Qingdao) Protective Co., Ltd.; Allmed Medical Products Co., Ltd.; Honeywell Safety Products (Shanghai) Co., Ltd.; Suzhou Bolisi Medical Technology Co., Ltd.; Tianjin TEDA Filters Co., Ltd.; Sunna Technologies (Shanghai) Co., Ltd.; Rizhao Sanqi Medical & Health Article Co., Ltd.; Jiande Chaomei Daily Chemicals Co., Ltd.; Jingzhou Strong Scientific & Technological Development Co., Ltd.; Sichuan Eupon Co., Ltd.; Shenzhen Yiwen Medical Technology Co., Ltd.; Hangzhou COCO Healthcare Products Co., Ltd.; Runmei Paper (Fujian) Co., Ltd.; Zhejiang Zhenqi Care Products Co., Ltd.; Hismer Bio-Technology Co., Ltd.; Wuhan Weiqin Medical Technology Co., Ltd.; Hunan Hongfu Xinyue Medical Technology Co., Ltd.; Zhejiang Zhongchao New Materials Co., Ltd.; Anhui Yuanchen Environmental Protection Technology Co., Ltd.; Beijing Institute of Medical Device Testing; China National Institute of Standardization; Capital Institute of Pediatrics' Children's Hospital; Guangzhou Inspection and Testing Certification Group Co., Ltd.; Guangzhou Customs District Technology Center; Jiangsu Guojian Testing Technology Co.,

Ltd.; Chinatesta Textile Testing & Certification Services Co., Ltd.; and Donghua University. Chief drafting staffs of this Standard. Li Lingshen, Li Guimei, Chen Zhuowei, Yue Weihua, Chen Shu, Li Jianquan, Jin Xiangyu, Ding Bin, Zhao Jinyu, Liu Ji, Cao Jun, Wang Xiangqin, Xie Jinwei, Zhang Jianmin, Xiang Hongbing, Xu Hong, Dao Weimin, Li Zhen, Cao Mengjie, Wang Changshen, Gong Guozhuo, Zhang Xiaoli, Ma Yongmei, Liu Taijie, Chen Shaonan, Gao Shangrong, Su Hequn, Lin Yanfeng, Hu Guangmin, Jin Liwei, Shen Mingrong, Xu Hui, Lin Shengyun, Chen Minhua, Yu Feiying, Shu Tan, Xie Peiwu, Liu Yi, and Huang Jingying. Technical Specification of Children Mask

1 Scope

China's national technical specification for children's masks. It specifies the terms and definitions, the classification and specifications, and the technical requirements. Published in May 2020, it addressed a gap that had become urgent: masks were being made and sold for children in enormous numbers, and almost all of them were scaled-down adult products designed against adult requirements. Children are not small adults for this purpose. Their faces are shaped differently, so an adult mask leaks around the edges and its filtration rating means nothing; their breathing resistance tolerance is lower, so a filter that an adult finds acceptable can be genuinely hard work for a child; and they are less able to report discomfort or to adjust a mask correctly. The specification therefore fixes sizes by age, sets a breathing resistance limit lower than the adult one, and covers the hazards specific to children - cords and small parts, and the materials that will be against skin and in the mouth.

This Standard specifies the terms and definitions, classification and specifications, technical requirements, test methods, inspection rules, packaging, marking, safety warnings, storage and transportation of children mask (hereinafter referred to as mask). This Standard is applicable to the masks worn by children 6 years old and above, 14 years old and below to filter particulate matter in the air, blocking microorganisms, pollen, spray, etc. This Standard is not applicable to mask containing electric air supply (exhaust) device.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 2912.1 Textiles - Determination of Formaldehyde - Part

3 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

3.1 Children protective mask The children mask that has strong protective performance, and prevents the inhalation of particles such as microorganisms, droplets, dust, pollen, etc.

3.2 Children hygiene mask The Children mask that has hygienic barrier performance, and blocks the spread of particles such as microorganisms, droplets, dust, pollen, etc.

3.3 Particle Solid, liquid or solid and liquid particulate matters that suspend in the air. NOTE. Such as dust, smoke, mist and microorganisms. [GB/T 12903-2008, definition 5.1.16]

3.4 Particle filtration efficiency The ability of the mask body to filter particulate matter under specified conditions. NOTE. It is expressed by a percentage.

3.5 Bacterial filtration efficiency The ability of mask body to filter particles containing bacteria under specified conditions. NOTE. It is expressed by a percentage.

4 Classification and Specifications

4.1 Classification According to the performance of masks, children masks are divided into child protective mask (F) and child hygiene mask (W).

5.1 Basic requirements

5.1.1 The mask shall be able to cover the mouth, nose and jaw safely and firmly without odor, and shall not significantly affect the visual field.

5.1.2 The raw materials of the mask shall not use recycled materials; materials known to cause skin irritation or other adverse reactions shall not use; and the materials shall not undergo chlorine bleaching treatment. The residual amount of other restricted substances shall meet the relevant requirements.

5.1.3 Masks shall not use tie-on mask; and adjustable mask straps should be used.

5.2 Requirements for appearance quality

5.2.1 The inner layer of the mask that directly contacts the skin shall not be printed or dyed.

5.2.2 There shall be no exposed metal objects on the mask; and there shall be no damage, oil stains, deformation and other obvious defects on the mask surface.

5.3 Intrinsic quality requirements The intrinsic quality requirements of the mask shall meet the requirements of Table 1.

6 Test Methods

6.1 Appearance inspection 10 masks are taken and visually inspected. The inspection light is subject to normal natural light; if illuminating with a fluorescent lamp, the illuminance is no

less than 400lx.

6.2 Color fastness to dry rubbing It shall be implemented according to the provisions of GB/T 29865; cut the sample at the printing or dyeing part of the mask.

6.4 pH value It shall be implemented according to the provisions of GB/T 7573; cut the sample at the contact layer between the mask and the human face.

6.6 Migratable optical brightener It shall be implemented according to FZ/T 01137; cut the sample at the contact layer between the mask and human face.

6.7 Residue of ethylene oxide It shall be implemented according to the provisions of Clause 9 in GB/T 14233.1-2008. Take a parallel sample to test; the sample is cut from the mask body. If the one test result is qualified and the other is unqualified, the average calculation shall not be performed.

6.8 Nose clip length Take 3 samples for testing; measure by general or special measuring tools with accuracy of 0.1cm.

6.11 Inhalation resistance It shall be implemented according to the provisions of

6.7 in GB/T 32610-2016.The test flow rate is (45±2) L/min; and the size of the head mold shall meet the requirements of Appendix A.

6.12 Exhalation resistance It shall be implemented according to the provisions of

6.8 in GB/T 32610-2016.The test flow rate is (45±2) L/min; and the size of the head mold shall meet the requirements of Appendix A.

6.14 Particle filtration efficiency

6.14.1 Child protective mask shall be implemented according to the provisions of Appendix A in GB/T 32610-2016.Take 10 samples, of which 5 are untreated samples and 5 are pre-treated samples according to provisions. the test medium uses NaCl particles; the mask is unfolded and fixed with appropriate fixtures during the test.

6.16 Air penetration resistance Test the filtration efficiency according to

6.14.2 as record the initial resistance value in Pa. Take the maximum value as the test result.

6.17 Flame retardant performance It shall be implemented according to the provisions of

5.8 in YY 0469-2011.The size of the head mold shall meet the requirements of Appendix A.

7 Inspection Rules

7.1 Sampling Products with the same variety and the same specification (model) according to the delivery batch number are regarded as inspection batches.