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(54) **Title**: THE COMPOSITION OF MALODOR REMOVING AEROSOL FOR DAILY WORN OBJECTS OR ITEMS

(57) **Abstract**: This invention is related to the composition of bad smell remover on objects where bad smells are generated by microbes. It is composed of anti-bacteria, antioxidant, and perfumes, in the form of aerosol with hydrocarbon gas carrier. To remove foul odor resulted from oxidized fat, musk and ZnO are added. To produce natural fragrance, herb extract such as extract of *Hammamelis* and/or oil essence of *Taxus spp* is added. To strengthen the anti- bacteria in the formula, benzalkonium chloride is added, and to prevent dandruff, zinc pyrithion is added. To remove odor of cigarette, triethylene glycol and propylene glycol are added.

Description

THE COMPOSITION OF MALODOR REMOVING AEROSOL FOR DAILY WORN OBJECTS OR ITEMS

Field of the Invention

This invention is related to the formula and composition for removing bad odor in a particular product or item, such as safety helmets, jackets, or other malodorous objects, resulted from either foul-odor generating microbes or other causes, in the form of dry, waterless, environmentally friendly and glass house impact-free aerosol.

Background of the Invention

Perfumes and/or other cleaners of malodorous objects or material currently marketable such as Adler™, Carrera™, MTR™, Magnum™, Be Clean™, and Helmot™, are generally composed of perfumes and other ingredients, in the form of liquid or foams with water solvent and alcohol that turns wet on application, takes time to dry and produces stains.

Patent WO0200201860 entitled "Odor spray composition" can effectively remove fetid smell from the aldehyde compound such as aldehyde and formaldehyde. The other patent P00201000323 entitled "Composition of body odor remover" is composed of herbal mixture and organic ingredients that contain alum, betel leaves, aloe vera, and seaweed.

The cleaning tissue is another composition of safety helmet cleaner. This type of tissue can remove dirt attached on the helmet foam. The wet tissue contains cleaner and antiseptic to clean the inner part of a helmet, to lift up loose hair, and to free it from germs. This tissue is packed in a sachet. This product has weaknesses because it is wet, stainful, and sticky.

The complete care products should function fully as cleaner, perfume as well as bad odor remover at the inner and outer part of a safety helmet. Packed in practical aerosol packages, the cleaner should be safe and effective to clean up dust, dirt and oil. To stabilize the formula foam-type aerosol is used, despite its stain stimulation.

Other formula of existing cleaning/bad odor removing products are as follows:

Formula A.

Sodium lauryl Ether Sulphate

Di-ethanolamine
Propylene glycerol
Bromopol
Perfume
Odorless Liquid Petroleum Gas.
Water

Formula B.

Water
Alcohol
Perfume
Bromopol
Antioxidant

To overcome weaknesses of the previous cleaning/smell removing products, the inventor has conducted many experiments in developing new compositions by using disinfectant or bacteria killer combined with antioxidant and other active material, as well as "odorless natural gas", which is environmentally friendly and free from glass house effects. The formula contains anti-bacteria, anti-fungi, quickly dry ingredients combined with selected fragrance.

Brief Description of the Invention

In this type of invention, the composition of helmet spray should not irritate skull skin nor face skin. It should not generate dandruff nor stimulate skin infection. Spray should not develop dregs, vaporize quickly, and not leave any drop of liquid. The quickly dry helmet spray will largely minimize risks of irritation on the sensitive head skin. The ideal helmet spray is the one able to kill germs or malodor generating fungi. The perfume should be associated with the desired aroma.

Safely helmets, berets, fez, caps, headgears, headscarves, jackets, car air-conditioners, clothes and other objects will generate smelly odor after being worn for a considerable length of time because of microorganism or bacteria. To remove foul odor resulted from these microorganisms or bacteria, the inventor has developed an innovative formula containing

active substances to kill the bacteria in the form of aerosol, combined with perfumes, antioxidant, and 'odorless natural gas' propellant.

The composition of this invention has been able to eliminate weaknesses attached in the previous products, such as its ability to kill bacteria, not to leave stains, to dry quickly (not wet) and not to stimulate dandruff on the head skin.

Detailed Description of the Invention

The invention has been tested in the laboratory where it is concluded that bacteria generate odor as they are decomposing the existing organic substances, such as sweat, other remaining metabolism or food residue. The decomposition produces smelly gas or malodorous vaporizing compound. The conclusion is that in order to eliminate bad odor, bacteria should be killed.

The basic formulas in the invention to kill the bad odor generating bacteria are seen below:

Formula:

Ethanol

5-chloro-(2,4-dichlorophenoxy) phenol or Triclosan which can be replaced by 3,4,4'-trichlorocarbanilide or Triclocarban

[(2R)-2,5,7,8-Tetramethyl-2-{(4R,8R)-4,8,12-trimethyldecyl} chromane-6-il]acetate, or Tocoferol Acetate

Perfume

Propane

Butane

The formula is then further modified by adding some active ingredients to remove the bad smell from the desired objects. The active ingredients are, among others, musk, ZnO, benzalkonium chloride, other natural herbs such as extracts of *Hammamelis*, *Taxus spp*, other anti dandruff Zinc Pyrithion, and other active cigarette odor removers, the tryethylene glycol and Propylene Glycol.

Table 1: Formula used adjustable to need

	Percentage	Objects
Ethanol	95,00-98,00%	
Propane	30-70%	
Butane	30-70%	
Tocoferol Acetate	0,03-0,06%	
Triclosan or replaceable by Triclocarban or combined with appropriate ratio.	0,04-0,06%	
Perfume	3%	Helmet
Musk	0,1-0,3%	Jacket
ZnO	0,2-0,4%	Jacket
Benzalkonium Chloride	0,1-0,2%	Shoes
Hammamelis Extract	0,2-0,4%	Car Airconditioner
Essence Oil of *Taxus* spp.	0,2-0,4%	Car Airconditioner
Zinc Pyrithion	0,05-0,10%	Headscarves/Hijab
Triethylene Glycol and Propylene Glycol	0.1-5,0%	Removing indoor cigarette odor

The process of manufacturing odor remover

- Perfume solvent is added with etanol, solved equally and then tocoferol asetat is added, the tryclosan can be replaced by tryclocarban, or combined in an appropriate ratio, and mixed until it solves completely, left still and packed.

Example 1: Composition of helmet spray

The helmet spray formula with the above composition is used to spray a smelly helmet. The spraying should be done for duration of three seconds in a distance of 10 cm away. The bad smell will disappear in approximately 5-6 seconds, and the fragrant smell of the formula will provide the desired aroma.

Example 2: Composition of jacket spray

To this formula, the musk and ZnO are added, then sprayed for 3 seconds in a distance of 10 cm away on the smelly jacket. The smell will disappear in approximately 5-6 seconds, and the desired fragrant odor arises.

Example 3: Composition of shoe and sock spray

To this formula, active ingredient of Benzalkonium Chloride is added to spray the smelly inner part of shoes, or smelly socks for three seconds in a distance of 10 cm away. The Benzalkonium Chloride will strengthen the power of anti bacteria formula, so that the bad smell of inner part of shoes and socks will disappear in 5-6 seconds, and the desired fragrant odor arises.

Example 4: Composition of car air-conditioner spray

To this formula, herbal ingredients, preferably *Hammamelis* and *Taxus* essence oil are added and sprayed for 3 seconds in a distance of 10 cm away on the smelly car air conditioners. The sour smell of car air conditioner will rightly disappear in about 5-6 seconds, and desired fragrant smell arises. Fragrant smell of *Taxus* spp leaves, or hidrosol *Taxus* will provide comfort and relaxing atmosphere to the driver and passengers.

Example 5: Composition of headscarf spray

To this formula, the anti- dandruff, Zinc Pyrithion, is sprayed for three seconds, in a distance of 10 cm away on the smelly headscarf. The sour smell will rightly disappear after 5-6 seconds, and the desired fragrant smell arises.

Example 6: Composition of car/indoor cigarette spray

To this formula, a 0,1-5,0% triethylene glycol ingredient and propylene glycol, are added. The cigarette smell will disappear in approximately 8-15 seconds, and the desired fragrant smell arises.

Table 2

Testing data on the usage of formulae 1-5, respectively for safety helmet, jacket, shoe, car air-conditioner, headscarf and cigarette odors

	Safety Helmet (Formula 1)	Jacket (Formula 2)	Shoes (Formula 3)	Car AC (Formula 4)	Headscarf (Formula 5)	Indoor cigarette Odor
Time to dry	3-5 seconds	3-5 seconds	3-5 seconds	3-5 seconds	3-5 seconds	3-5 seconds
Time for sour smell to disappear	5-6 seconds	5-6 seconds	5-6 seconds	5-6 seconds	5-6 seconds	7-15 seconds
Stains	No Stains	No Stains	No Stains	No Stains	No Stains	No Stains
Time for fragrant smell to arise	7-8 seconds	7-8 seconds	7-8 seconds	7-8 seconds	7-8 seconds	7-15 seconds

Applicable in the Industry

From the result of invention where compositions have been modified by adding active ingredients such as musk, ZnO, benzalkonium chloride, natural herbal ingredients such as *Hammamelis* extract and extract and essence oil of *Taxus spp* and anti dandruff Zinc Pyrithion, and also other active ingredients such as tryethylene, propylene glycols, as the remover of cigarette odor, the inventor can understand clearly that this composition can be applied in the industry by suggesting attached claims based on the invention.

Claims:

1. Composition of odor remover comprises of:
   - Ethanol 95.00-98.00;
   - Perfume 3,00%;
   - 5-chloro-(2,4-dichlorophenoksi) phenol or triclosan, which can be replaceable by 3,4,4'- trichlorocarbanilide or triclocarban in an appropriate combination 0.04-0.06%;.
   - [(2R)-2,5,7,8-Tetramethyl-2-{(4R,8R)-4,8,12-trimethyldescyl}chroman-6-il]acetate or Tocoferol acetate 0.03-0.06%;.
   - Propane
   - Butane

   The composition of odor remover is applicable for jackets, shoes and socks, safety helmets, car air-conditioners, headscarves or indoor cigarette odor with addition of certain composition.

2. The composition of odor remover as claimed in Claim 1, where jacket smell can be removed by adding composition of active ingredient percentage: 0.1-0.3% musk, 0.2-0.4%. Zinc Oxide (ZnO).

3. The composition of odor remover as claimed in Claim 1, where composition is added with percentage of active ingredients: 0.1-0.2% benzalkonium chloride to remove the foul sour odor of inner part of shoes or socks.

4. The composition of odor remover as claimed in Claim 1, where composition of active ingredients: 0.2-0.4% extract *Hammamelis* and/or 0.2-0.4% oil essence of *Taxus spp* leaves are added to remove the foul sour smell of car air conditioners as well as functioning as perfume.

5. The composition of odor remover as claimed in Claim 1, where percentage of active ingredients : the compound of 0.05-0.10% Zinc Pyrithion is added to remove the smell of headscarves and safety helmets and also to prevent the appearance of dandruff.

6. The composition of odor spray as claimed in Claim 1 by adding percentage of active ingredients: compound of 0,1-5% Triethylene Glycol and Propylene Glycol depending on the size of room to remove the odor of cigarette in a particular object or inside the room.

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A. CLASSIFICATION OF SUBJECT MATTER
INV. A01N31/14 A01N47/30 A61L9/01
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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