**DANGEROUS GOODS PANEL**

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# INTRODUCTION OF A NEW PRODUCT OF CODELESS ION-GENERATING HAIR BEAUTY STYLER

(Presented by H. Nakagawa)

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## 1. OBJECTIVES

1.1 Upon development of a new product of codeless ion-generating hair beauty styler which will be soon on the market, we would like to have the ICAO Dangerous Goods Panel members' understanding that this product could be handled as an identical article with a hair curler which is permitted as a baggage prescribed in ICAO Technical Instructions. Part 8, 1.1.2 (k).

### 1.2 General description of the article

The article is a hair beauty style which has devices of producing plenty of ion by burning gases (using chemical cylinder). Incidentally, it can make users' hair dry, because it will generate warm air of 75°C if users remove shaving brush (curler) from the body. (Please refer to following pictures.)

### 1.3 Detailed explanation

1) This product of Re-tec Inc uses the same heat source as hair curler. The function of moving fan by using dry-cell battery as electric source was added and it makes users possible to arrange hair by sending warm air to the brush. The past hair curler, which is allowed to bring into aeroplanes, uses chemical cylinder as heat source and

it warms up curling iron by catalytic burning, which makes it possible for users to arrange hair.

2) Gas as heat source is consist of hydrocarbon gas (100% isobutane ($C_4H_{10}$). By burning this isobutane($C_4H_{10}$), it is combined with oxygen ($O_2$) in the air and generates $H_2O$ molecule. On the other hand it becomes smaller grain by sending warm air through fan and the grain is combined with electron, which leads to generating a great deal of ion.

3) As a result, this hair beauty style can make minus ion penetrate into hair than the past one. It also makes it easier to arrange hair and is hair-friendly.

1.4 **Comparison with the past hair curler**

| | **Past hair curler** | **Product of Re-tec Inc** |
|---|---|---|
| Heat source | Hydrocarbon gas | Hydrocarbon gas |
| Way of styling | By curling iron | By sending warm air |
| Security devices | None | Body<br>1 Temperature fuse<br>2 Thermistor<br>3 Control valve<br>4 Control electromagnetic valve<br>5 Microcomputer control<br><br>Gas cartridge<br>1. Blowout preventer<br>2 Built-in special sponge<br>3 Special lifting centre core (preventing from gas blowout in liquid form ) |

1.5 **Safety measures**

1) Basic structure The body is separated from gas cartridge. (Its structure prevents from unexpected accident before it happens by separating burning part from heat source.)

2) Chemical cylinder - under applying for patent

· Designed for blowing out not liquid gas but aerial gas by built-in special sponge.
· Designed for blowing out specific amount of gas by special lifting centre core.

3) Body Designed for blowing out specific amount of gas by control valve.

4) Body Designed for closing gas valve immediately by control electromagnetic valve.

5) Body Equipped with microcomputer control.

· Equipped with three sensors. Stopped in case of overheat.
· Stopped in case of running out of gas in the chemical cylinder.
· Stopped in case of running out of dry-cell battery.
· Stopped in case of mistake of ignition.
· Stopped automatically 5 minutes after continuous operation.

As above, all of the security devices are controlled by microcomputer. Incidentally, the past hair curler isn't equipped with microcomputer, so it won't stop working until switched off.

1.6 **Identity with a hair curler prescribed in the Technical Instructions**

1) It has the same heat source as the past hair curler.

2) It has the same function of arranging hair as a hair curler, although there is difference between curling-iron method by catalysis and warm-air method by using dry-cell battery as electric source.

In addition, it has dramatically more security system than the past one.

As mentioned above, we, Re-tec Inc, would like to obtain your understanding to this article.

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