

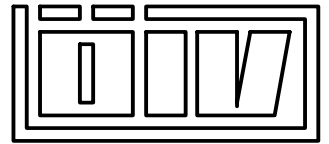
ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN

AN DER WIRTSCHAFTSUNIVERSITÄT WIEN

Versuchsanstalt und staatlich akkreditierte Prüfstelle

A 1090 WIEN, AUGASSE 2-6; Tel. +43/(0)1/317 82 44; ZVR-Zahl: 005600712

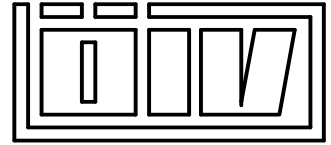
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TEST REPORT

No. 6330/10/07

Greiner Bio-One GmbH

Bad Haller Straße 32

A 4550 Kremsmünster

The results of the investigations carried out only concern the submitted samples.

The accreditation of the Testing House and this Test Report do not constitute an authorization of the test samples by the accreditation body.

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1 Submitted Samples

1.1 Name of the Client

Greiner Bio-One GmbH

Bad Haller Straße 32

A 4550 Kremsmünster

1.2 Description of the Packages

Primary receptacle

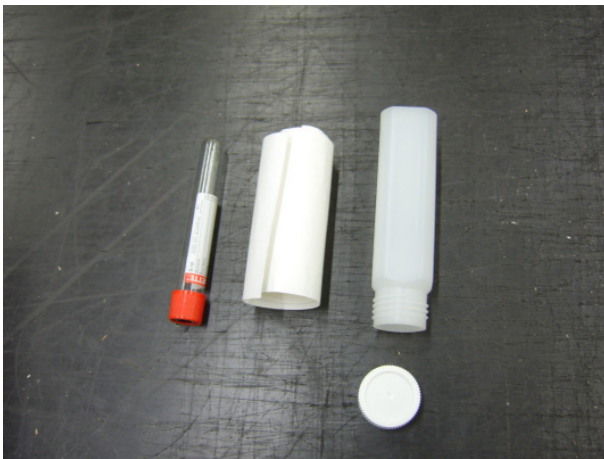
VACUETTE[®] Vacuum tubes made of PET (16 x 100 mm, 13 x 100 mm or 13 x 75 mm) with safety cap (rubber plug) with ring;

Secondary packaging

Rectangular can (cross section: 30 x 30 mm; height incl. closure: 117 mm) made of polyethylene with screw cap and absorbent insert (for the whole liquid);

Outer packaging

Air cushion envelope (approx. 200 x 175 mm) with self adhesive closure;



Picture 1



Picture 2

Gross mass of the filled and sealed packages: 46.7 - 47.5 g;

Original filling material: biological substances, category B (UN 3373);

For the tests a water/antifreeze mixture was used.

2 Requested Investigations

In accordance with the packaging provision P650 of chapter 4.1, laid down in enclosure A of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), the completed package shall be capable of successfully passing the drop test in 6.3.2.5 as specified in 6.3.2.2 to 6.3.2.4 at a height of 1.2 m.

Similar regulations are in force for the transport by train (RID) and by ship (IMDG-Code), whereby the test requirements regarding the packagings for carrying dangerous goods by the various transport operators have been largely harmonised, because of the acceptance of the UN-Recommendations ("Orange book", Recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods, fourteenth revised edition, 2005).

The submitted samples should be drop tested according to the packaging provision P650 to verify whether they fulfil this requirement.

The requirement that either the primary receptacle or the secondary packaging shall be capable of withstanding, without leakage, an internal pressure of 95 kPa (0.95 bar) will be proofed by the manufacturer of the primary receptacles (acknowledgments were shown).

3 Investigations Carried out - Results of Investigations

Receipt of test samples: 2007-10-12

The tests were done with VACUETTE[®] vacuum tubes made of PET (16 x 100 mm, 9 ml, Non-ridged) with safety cap (rubber plug) with ring.

The air-conditioning of the test samples was made under the standard climate condition 23 °C/ 50 % relative humidity till the achievement of constant weight. The tests were carried out under the same climatic conditions.

The drop of the packages was done with a drop tester, supplied by Lansmont Corporation, Model PDT-56E, the impact target was a steel plate.

The drop height was (according to packing provision P650) **1.2 m**.

Drop orientation:

- flat on the base
- flat on the top (closure)
- flat on the longest side (front side)
- flat on the shortest side
- on to a corner

3.1 Drop test after conditioning in an atmosphere of -18 °C

The samples were conditioned at least 24 hours in an atmosphere of -18 °C and tested immediately after taking out of the freezer.

None of the tested samples was leaking or showed any appreciable damage after the tests. After the drops, there was no leakage from the primary receptacles, which remained protected by the absorbent material in the secondary packaging.

Date of test: 2007-10-22

3.2 Drop test after water spray

Immediately before testing the samples were subjected for one hour to a water spray that simulates exposure to rainfall of approximately 5 cm per hour.

None of the tested samples was leaking or showed any appreciable damage after the tests. After the drops, there was no leakage from the primary receptacles, which remained protected by the absorbent material in the secondary packaging.

Date of test: 2007-10-24

The tested samples fulfil the requirements of the drop test according to the packing provision P650.

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN

Dir. Univ.-Lektor Th. Rieder
Head of Institute

Dipl.-Ing. (FH) M. Auer
Investigator

Wien, 2007-12-21

This Test Report No. 6330/10/07 consists of 5 pages.