

# **Test Report**

Report No. : AGC05443240119-001

**SAMPLE NAME** : RPET bottle w/ SS lid

MODEL NAME : MO9940

**APPLICANT**: MID OCEAN BRANDS B.V

**STANDARD(S)** : Please refer to the following page(s).

**DATE OF ISSUE** : Jan. 31, 2024







MID OCEAN BRANDS B.V

Address 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong. 6/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community, Hangcheng Street, Test Site

Bao'an District, Shenzhen, Guangdong, China

Report on the submitted sample(s) said to be:

Sample Name RPET bottle w/ SS lid

Model MO9940 Vendor code 114276 Country of Origin **CHINA** Country of Destination **EUROPE** Sample Received Date Jan. 23, 2024

**Testing Period** Jan. 23, 2024 to Jan. 31, 2024

Test Requested Selected test(s) as requested by client.

**Test Requested:** Conclusion

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 63

- Lead(Pb) Content

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 23

-Cadmium(Cd) Content

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 51&52

- Phthalates Content

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 50

- Polycyclic-aromatic Hydrocarbons (PAHs) Content

DM-4B-COM-003-v01

-Volatile Organic Matter Pass - Peroxide value **Pass** Pass

- Specific Migration of Organotin (measured as Tin)

Regulation 1935/2004/EC, Regulation(EU) No 10/2011 and its amendment Regulation (EU) 2020/1245 and Regulation (EU) 2018/213 & Council of Europe Resolution AP(2004)5

- Overall migration

- Specific migration of Bisphenol A(BPA) - Bisphenol A(BPA) Content

- Specific migration of Primary aromatic amines

- Specific migration of Heavy metals

Approved by: Leon

Report No.: AGC05443240119-001

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

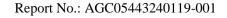
Suhongliang, Leon

**Technical Director** 



#### Report Revise Record

Report Version	Issued Date	Valid Version	Notes
/	Jan. 31, 2024	Valid	Initial release





The photo of the sample



The photo of AGC05443240119-001 is for use only with the original report.

## **Test Point Description**

Test point	Test point description
1-1+1-2+1-3	Dark blue plastic body+ Black PP cover+ Black PP neck hanger
1-4	Transparent silicone ring
1-5	Black TPR hanger
1-6	Metal cover
1-7	Metal nails
1-8	Dark blue plastic body
1-9	Black PP cover



Note: N.D.=Not Detected (less than method detection limit), MDL = Method Detection Limit, 1mg/kg=0.0001%

#### Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 63

#### - Lead(Pb) Content

Test Methods and Equipment: IEC 62321-5:2013; ICP-OES

Tost Itam(s)	I Init	Unit Limit	MDL	Test Result(s)		
Test Item(s)	Unit	Lillit	MIDL	1-1+1-2+1-3	1-4	1-5
Lead(Pb)	mg/kg	500	10	N.D.	N.D.	N.D.
Conclusion			Conformity	Conformity	Conformity	

Tost Itom(s)	Unit	Limit	MDL	Test Result(s)		
Test Item(s)	Unit	LIIIII	MIDL	1-6	1-7	
Lead(Pb)	mg/kg	500	10	N.D.	N.D.	
Conclusion				Conformity	Conformity	

#### Remark:

1. As specified by client, the submitted samples were mixed to test, the test points: 1-1+1-2+1-3

#### Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 23

#### -Cadmium(Cd) Content

Test Methods and Equipment: IEC 62321-5:2013; ICP-OES

Tost Itom(s)	Linit	Unit Limit	MDL	Test Result(s)		
Test Item(s)	Onit	Limit	MIDL	1-1+1-2+1-3	1-4	1-5
Cadmium(Cd)	mg/kg	100	10	N.D.	N.D.	N.D.
Conclusion			Conformity	Conformity	Conformity	

#### Remark:

1. As specified by client, the submitted samples were mixed to test, the test points: 1-1+1-2+1-3

## Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 51&52

#### - Phthalates Content

Test Methods and Equipment: IEC 62321-8:2017; GC-MS

Toot Itom(a)	Unit Limit	MDL	Test Result(s)			
Test Item(s)	Onit	Liiiiit	MDL	1-1+1-2+1-3	1-4	1-5
Diisobutyl phthalate (DIBP) CAS:84-69-5	%	0.1	0.005	N.D.	N.D.	N.D.
Dibutyl phthalate (DBP) CAS:84-74-2	%	0.1	0.005	N.D.	N.D.	N.D.
Butylbenzyl phthalate (BBP) CAS:85-68-7	%	0.1	0.005	N.D.	N.D.	N.D.
Di-(2-ethylhexyl) Phthalate (DEHP) CAS:117-81-7	%	0.1	0.005	N.D.	N.D.	N.D.
Di-n-octyl phthalate (DNOP) CAS:117-84-0	%	/	0.005	N.D.	N.D.	N.D.
Di-isononyl phthalate (DINP) CAS:28553-12-0, 68515-48-0	%	/	0.005	N.D.	N.D.	N.D.
Di-isodecyl phthalate(DIDP) CAS:26761-40-0, 68515-49-1	%	/	0.005	N.D.	N.D.	N.D.
Sum of DIBP +DBP+BBP+DEHP	%	0.1	/	N.D.	N.D.	N.D.
Sum of DNOP+DINP+DIDP	%	0.1	/	N.D.	N.D.	N.D.
Con	clusion		·	Conformity	Conformity	Conformity

#### Remark:

1. As specified by client, the submitted samples were mixed to test, the test points: 1-1+1-2+1-3

#### Limit requirements of Phthalates

•	
Toys and childcare articles	Each of DEHP, DBP, BBP, DIBP is less than 0.1% or the sum of DEHP+DBP+BBP+DIBP is less than 0.1%
Toys and childcare articles which can be placed in the mouth by children	The sum of DINP+DIDP+DNOP is less than 0.1%

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 50

#### - Polycyclic-aromatic Hydrocarbons (PAHs) Content

Test Methods and Equipment: Afps GS 2019:01 PAK; GC-MS

Tost Itom(s)	Unit Li	Limit	MDL	Test Result(s)		
Test Item(s)	Ullit	LIIIII	MDL	1-1+1-2+1-3	1-4	1-5
Benzo[a]pyrene(BaP)	mg/kg	1	0.1	N.D.	N.D.	N.D.
Benzo[e]pyrene(BeP)	mg/kg	1	0.1	N.D.	N.D.	N.D.
Benzo[a]anthracene(BaA)	mg/kg	1	0.1	N.D.	N.D.	N.D.
Benzo[b]fluoranthene(BbF)	mg/kg	1	0.1	N.D.	N.D.	N.D.
Benzo[j]fluoranthene(BjFA)	mg/kg	1	0.1	N.D.	N.D.	N.D.
Benzo[k]fluoranthene(BkF)	mg/kg	1	0.1	N.D.	N.D.	N.D.
Chrysene(CHR)	mg/kg	1	0.1	N.D.	N.D.	N.D.
Dibenzo[a,h]anthracene(DBA)	mg/kg	1	0.1	N.D.	N.D.	N.D.
Con	clusion			Conformity	Conformity	Conformity

#### Remark:

1. As specified by client, the submitted samples were mixed to test, the test points: 1-1+1-2+1-3

Limit requirements of Polycyclic-aromatic Hydrocarbons (PAHs) (Unit: mg/kg)

Items	CAS No.	Extender oils or used for the production of tyres or parts of tyres	Any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity	Toys, including activity toys, and childcare articles, any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity
Benzo[a]pyrene(BaP)	50-32-8	≤ 1	≤ 1	≤ 0.5
Benzo[e]pyrene(BeP)	192-97-2	/	≤ 1	≤ 0.5
Benzo[a]anthracene(BaA)	56-55-3	/	≤ 1	≤ 0.5
Benzo[b]fluoranthene(BbF)	205-99-2	/	≤ 1	≤ 0.5
Benzo[j]fluoranthene(BjFA)	205-82-3	/	≤ 1	≤ 0.5
Benzo[k]fluoranthene(BkF)	207-08-9	/	≤ 1	≤ 0.5
Chrysene(CHR)	218-01-9	/	≤ 1	≤ 0.5
Dibenzo[a,h]anthracene(DBA)	53-70-3	/	≤ 1	≤ 0.5
Sum of BaP+ BeP+ BaA+ BbF+ BjFA+ BkF+ CHR+ DBA	/	≤ 10	/	/

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Report No.: AGC05443240119-001



Unit: %

Tost itam(s)	Test Condition	MDL	Result(s)	I imit
Test item(s)	Test Condition	MIDL	1-4	Limit
Volatile Organic Matter		0.1	0.35	0.5
Conclusion	200°C, 4h	/	Conformity	/

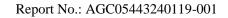
#### - Peroxide value

Unit: %

Test Item	MDL	Result(s) 1-4	Limit
Peroxide value	0.2	N.D.	Absent
Conclusion	/	Conformity	/

#### - Specific Migration of Organotin (measured as Tin)

	Test Result		
Test point	Specific Migration of Organotin (measured as Tin)/ (mg/kg)	Conclusion	
	3% Acetic acid, 70°C,2h		
1-4	N.D.	Conformity	
Limit	0.1	/	
MDL	0.01	/	





	Test			
Test point	Overall migra	Conclusion		
	3% Acetic acid, 70°C,2h	50% Ethanol, 70°C,2h		
1-4	N.D.	N.D.	Conformity	
Limit	10	10	/	
MDL	5	5	/	

		Test r		
Test point		Overall migrat	Conclusion	
		3% Acetic acid, 70°C,2h	50% Ethanol, 70°C,2h	
	1 <sup>st</sup> migration	N.D.	N.D.	
1-8	2 <sup>nd</sup> migration	N.D.	N.D.	Conformity
3 <sup>rd</sup> migration		N.D.	N.D.	
	1 <sup>st</sup> migration	N.D.	N.D.	
1-9	2 <sup>nd</sup> migration	N.D.	N.D.	Conformity
3 <sup>rd</sup> migration		N.D.	N.D.	
	Limit	10	10	/
MDL		5	5	/



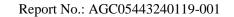


-specific inigration of displicitor is		
	Test Result	
Test point	Specific migration of Bisphenol A(BPA)/ (mg/kg)	Conclusion
	3% Acetic acid, 70°C,2h	
1-4	N.D.	Conformity
Limit(Client's Requirement)	0.05	/
MDL	0.02	/

## -Bisphenol A(BPA) content

Test Item	Bisphenol A (BPA)		
Limit (mg/kg)	Absent		
MDL(mg/kg)	0.1		
Test Method/ Instrument	EPA 3540C:1996& EPA 8321B:2007/ LC-MS-MS		

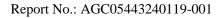
Tost maint	Test Result (mg/kg)	Conclusion
Test point	Bisphenol A (BPA)	Conclusion
1-4	N.D.	Conformity
1-8	N.D.	Conformity
1-9	N.D.	Conformity





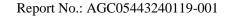
## -Specific migration of Primary aromatic amines

Test Item(s)	MDL (mg/kg)	Limit (mg/kg)	
4-Aminobiphenyl	0.002	N.D.	
Benzidine	0.002	N.D.	
4-Chloro-o-Toluidine	0.002	N.D.	
2-Naphthylamine	0.002	N.D.	
4-amino-2',3-dimethylazobenzene	0.002	N.D.	
5-Nitro-o-toluidine	0.002	N.D.	
4-Chloroaniline	0.002	N.D.	
4-Methoxy-m-phenylenediamine	0.002	N.D.	
4,4'-Diaminodiphenylmethane	0.002	N.D.	
3,3'-Dichlorobenzidine	0.002	N.D.	
3,3'-Dimethoxybenzidine	0.002	N.D.	
3,3'-Dimethybenzidine	0.002	N.D.	
4,4'-Methylenedi-o-toluidine	0.002	N.D.	
6-methoxy-m-toluidine	0.002	N.D.	
4,4'-methylenebis[2-chloroaniline]	0.002	N.D.	
4,4'-Oxydianiline	0.002	N.D.	
4,4'-Thiodianiline	0.002	N.D.	
2-Aminotoluene	0.002	N.D.	
4-methyl-m-phenylenediamine	0.002	N.D.	
2,4,5-Trimethylaniline	0.002	N.D.	
2-Methoxyaniline	0.002	N.D.	
4-Aminoazobenzene	0.002	N.D.	
1,3 phenylenediamine	0.002	N.D.	
Total of other primary aromatic amines	0.01	0.01	



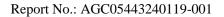


	Test Result (mg/kg)						
		1-8		1-9			
Test Item(s)	1 <sup>st</sup> migration	2 <sup>nd</sup> migration	3 <sup>rd</sup> migration	1 <sup>st</sup> migration	2 <sup>nd</sup> migration	3 <sup>rd</sup> migration	
	3% A	cetic acid, 70	°C, 2h	3% A	cetic acid, 70	°C, 2h	
4-Aminobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Benzidine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4-Chloro-o-Toluidine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
2-Naphthylamine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4-amino-2',3-dimethylazobenzene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
5-Nitro-o-toluidine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4-Chloroaniline	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4-Methoxy-m-phenylenediamine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4,4'-Diaminodiphenylmethane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
3,3'-Dichlorobenzidine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
3,3'-Dimethoxybenzidine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
3,3'-Dimethybenzidine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4,4'-Methylenedi-o-toluidine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
6-methoxy-m-toluidine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4,4'-methylenebis[2-chloroaniline]	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4,4'-Oxydianiline	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4,4'-Thiodianiline	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
2-Aminotoluene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4-methyl-m-phenylenediamine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
2,4,5-Trimethylaniline	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
2-Methoxyaniline	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
4-Aminoazobenzene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
1,3 phenylenediamine	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Total of other primary aromatic amines	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Conclusion	Conformity			Conformity			



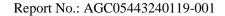


	Test condition/ Equipment	MDL (mg/kg)		Limit		
Test Item(s)			1 <sup>st</sup> migration	1-8 2 <sup>nd</sup> migration	3 <sup>rd</sup> migration	(mg/kg)
Barium (Ba)		0.1	N.D.	N.D.	N.D.	1
Cobalt (Co)		0.01	N.D.	N.D.	N.D.	0.05
Copper (Cu)		0.25	N.D.	N.D.	N.D.	5
Iron (Fe)		0.25	N.D.	N.D.	N.D.	48
Lithium (Li)		0.1	N.D.	N.D.	N.D.	0.6
Manganese (Mn)		0.1	N.D.	N.D.	N.D.	0.6
Zinc (Zn)		0.25	N.D.	N.D.	N.D.	5
Aluminum (Al)		0.1	N.D.	N.D.	N.D.	1
Europium (Eu)		0.01	N.D.	N.D.	N.D.	/
Gadolinium (Gd)		0.01	N.D.	N.D.	N.D.	/
Lanthanum (La)		0.01	N.D.	N.D.	N.D.	/
Terbium (Tb)		0.01	N.D.	N.D.	N.D.	/
Sum(Eu+Gd+La+Tb)	3% Acetic acid/	/	N.D.	N.D.	N.D.	0.05
Antimony (Sb)	70°C, 2h/ ICP-OES/ IC	0.01	0.014	N.D.	0.014	0.04
Arsenic (As)		0.01	0.024	0.023	0.013	N.D.
Cadmium (Cd)		0.002	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)		0.01	N.D.	N.D.	N.D.	N.D.
Lead (Pb)		0.01	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)		0.01	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)		0.01	N.D.	N.D.	N.D.	0.02
Conclusion		/		Conformity	<u> </u>	/
Ammonium (NH <sub>4</sub> <sup>+</sup> )		0.10	N.D.	N.D.	N.D.	/
Calcium (Ca)		0.01	0.328	0.561	0.124	/
Magnesium (Mg)		0.01	0.016	0.015	N.D.	/
Potassium (K)		0.01	0.047	0.011	N.D.	/
Sodium (Na)		0.01	0.044	0.025	N.D.	/



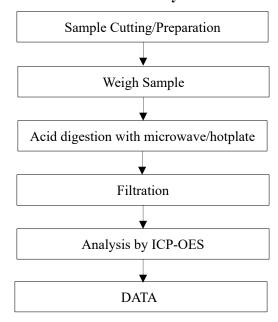


	Test condition/ Equipment	MDL (mg/kg)		Limit (mg/kg)		
Test Item(s)			1-9			
			1 <sup>st</sup> migration	2 <sup>nd</sup> migration	3 <sup>rd</sup> migration	
Barium (Ba)		0.1	N.D.	N.D.	N.D.	1
Cobalt (Co)		0.01	N.D.	N.D.	N.D.	0.05
Copper (Cu)		0.25	N.D.	N.D.	N.D.	5
Iron (Fe)		0.25	N.D.	N.D.	N.D.	48
Lithium (Li)		0.1	N.D.	N.D.	N.D.	0.6
Manganese (Mn)		0.1	N.D.	N.D.	N.D.	0.6
Zinc (Zn)		0.25	N.D.	N.D.	N.D.	5
Aluminum (Al)		0.1	0.138	N.D.	N.D.	1
Europium (Eu)		0.01	N.D.	N.D.	N.D.	/
Gadolinium (Gd)		0.01	N.D.	N.D.	N.D.	/
Lanthanum (La)		0.01	N.D.	N.D.	N.D.	/
Terbium (Tb)		0.01	N.D.	N.D.	N.D.	/
Sum(Eu+Gd+La+Tb)	3% Acetic acid/ 70°C, 2h/	/	N.D.	N.D.	N.D.	0.05
Antimony (Sb)	ICP-OES/ IC	0.01	N.D.	0.013	N.D.	0.04
Arsenic (As)		0.01	0.018	0.015	0.018	N.D.
Cadmium (Cd)		0.002	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)		0.01	N.D.	N.D.	N.D.	N.D.
Lead (Pb)		0.01	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)		0.01	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)		0.01	N.D.	N.D.	N.D.	0.02
Conclusion		/		Conformity		/
Ammonium (NH <sub>4</sub> <sup>+</sup> )		0.10	N.D.	N.D.	N.D.	/
Calcium (Ca)		0.01	0.552	0.628	0.278	/
Magnesium (Mg)		0.01	0.028	0.016	N.D.	/
Potassium (K)		0.01	0.061	0.011	N.D.	/
Sodium (Na)		0.01	0.052	0.023	N.D.	/

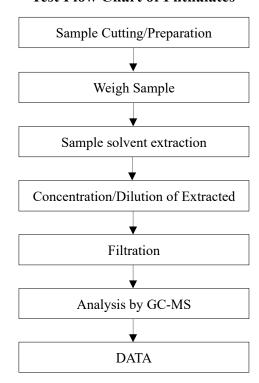


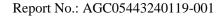


## **Test Flow Chart of Heavy Metal Content**



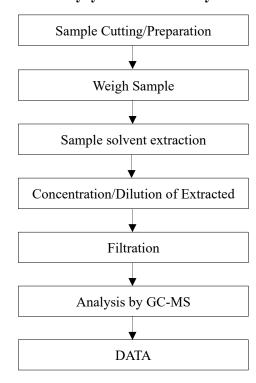
## **Test Flow Chart of Phthalates**







# Test Flow Chart of Polycyclic-aromatic Hydrocarbons (PAHs)





# Conditions of Issuance of Test Reports

- 1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Std & Tech Co., Ltd. (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").
- 2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
- 3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
- 4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
- 5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
- 6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations. 7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
- 8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
- 9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

\*\*\* End of Report \*\*\*