

: L³ Y Ö • RoHS2.0

— Ñ, g, Ô μ% ñ f•x-0" Ò

2016 ñ1 \$6 Å K¹É-¶ÉÐ%Ë&X†h•Ë ~%Ë Š%Ë³•%Ë ÷ « %ËEQ!³•Ë Ü³L•
 8%Ë Å K ÊÿÑ, g, Ô μ% ñ f•x-0" ÒGf 32A=K%Ñ" ÒHK ñ 2016 ñ7 \$1 Å
 P ¶K 2006 ñ2 \$28 Å Ê Ñ, Ô¶Ë μÉ• f-0" ÒNÐ bì

O %	V) RoHS2.0	,g, Ô μ% ñ f•x-0"
o à Ð í	2013 ñ1 \$3 Å	2016 ñ7 \$1 Å
- 4%	1 È7 È x, gZ 2 È4 È x, gZ 3 È¶Ë~6- -/ly+Z 4 ÈV Üy+Z 5 ÈqÙy+Z 6 È, -, Ô ¹ %Z 7 È %ËSË- @y+Z 8 ÈÝ¥y+Z 9 È"=- fy+É ¹ Éx"=- fy+Z 10 È~@ë :Z 11. ÿ 1-10 Ü μo% , Ô, μK É ¹ 2u"\$ñE%Gì	1 È/¶y+ 2 Èøf, <y+ 3 È_a:"\$4" y+ 4 È x, g, Ôy+ 5 È, Ô@g@ë 6 È ¹ Éx, g, Ôy+ 7 È, @ ¹ % 8 ÈÝ¥, Ôy+"gÙ 9 ÈqÙ μ 10 È, Ô "É ¹ %Ës1- ì μ
% ñ	\$(Pb)Kš(Cd)KÆ(Hg)K HE (Cr6+)K 2 Å , (PBB)-2 Å , È (PBDE) u, €° G 2-òòÁH ² G DEHPH u, €° . ² G BBPH u, €° c. ² G DBPH u, €°). ² G DIBPH	\$" \$ÐK- Z Æ" \$ÐK- Z š" \$ÐK- Z HEÐK- Z 2 Å , (PBB)Z 2 Å , È (PBDE)Z
Ø	šY 0.01% G100ppm) Z \$ÈÆÈ HEK2 Å , K2 Å , ÈÈu, €° ² Y 0.1% (1000ppm) ì	• :ÿ \$4% ñ ì šY 0.01% G100ppm) Z \$ÈÆÈ HEK2 Å , K 2 Å , ÈY 0.1% (1000ppm) ì

- ,g, Ô μK"ÿ¹z, Ý/6, ÿ Sp 1500 Q ± È
6, ÿ Sp 1000 Q ± y+" R μ ì
-) ù•-0+G ,g, Ô μK F•K, g, Ô
μ% ñ f•x Ù5° • •MJàÉ•MK
Èq, g, Ô μ% ñ f•xK^a•ÿf à
-0ì

— Ñ, g, Ô μ% ñ f•xù•-0+GÒGf¶zH

Öç ž -•¹É-¶ËÐ%o v 2018 ñ f 15 A

工业和信息化部 2018-03-12

Ý Y ÿ Ñ, g, Ô μ% ñ f•x-0" ÒG¹É-¶ËÐ%o=f 32AHKá], g, Ô μ%
 ñ "<ÀRÙÐK¹É-¶ËÐ%oWN&X†h•Ë ~%Ë Š%Ë³•%Ë ÷ « %ËEQ!³•Ë Ü
³L7:ffÿÑ, g, Ô μ% ñ f•xù•-0+GGf¶zHÒ-Ñù•-0+G x ñ x'0
 Æiòì > vK ñ vçÅP¶ñP¶àì

GY

1: ,g, Ô μ% ñ f•xù•-0+GGf¶zH

ÿA	μO%	ÿA	μO%
1	, A•	7	[=:
2	F »ëg	8	, <:
3	#ç:	9	"<g
4	, V'g	10	qÈ_a:
5	iþ:	11	'@/¶cÆ:
6	, þG	12	, -ì:

2: ù•-0+G x ñ x'0 ÆiG 39%o H

x ÚZ% ~ \$LD''

x ÚZ% ~ \$LD''G EDXH

xka' 1Ø Z f 8 ~\$ka

§µ09

Éd % f
8 PE•_•§

¿Nka%n çŽx.

}x'z 2
ÿÛkaFf



	Sb	As	Ba	Cd	Cr	Pd	Hg	Se
žs	326	N.D	351	N.D	2697	5010	N.D	12.8
€½N T§	293	N.D	983	N.D	2013	7918	N.D	19.1
•_†E	351	N.D	51	N.D	29	77	N.D	N.D

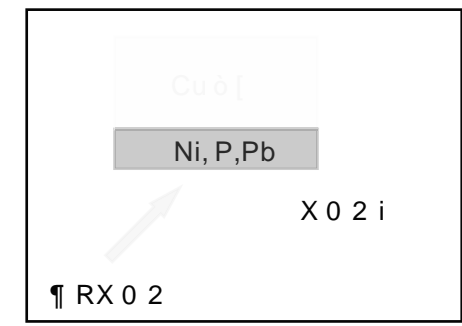
inY ppm NDÝÜb½ >½

ka !Y7

žsGT§ +•_†EH
€½N T§
•_†E

“Nka©^G EDXH

xka' 1ØPCB[“N=



§µŽç

NiĚPĚPb çŽ

EDX:x “N• šš kaì
 }x š FP ö:>á2Nš š
 kaK>”š • FkÿÛkaì



}x š FP ÿÛkaFf

xka' 2ØÚZGĚ g“N= G:2NH

xka' 2ØóµÖ x GI 0, 10, 30, 50ppm H

§µ09
(§µ g · šó5mL)

— EŽ§ — 10ppm — 30ppm — 50ppm

ka !Y7

æ6G6dKÚH“6“•

“6“•

x ÚZ% - ~\$LD''

ka' 6G%o kH

Ü~	f A	O%
:	EDX-002	%Ö% ~\$ka
"š	EDX-005	"N ka
:	EDX-006	hÖ8% ka
"š	EDX-008	•_ š š FkkaG 1H
"š	EDX-009	•_ š š FkkaG 2H
:	EDX-011	Z E § Ö C I Ě Br ka
"š	EDX-015	"d[ka
ÚZ	EDX-018	ÚZ Þ R Û "% ka
ÚZ	EDX-019	(Î μ % ka
ÚZ	EDX-021	Ö As Ě Pb ka
ÚZ	EDX-023	ÚZ ~\$ka
:	EDX-025	Z (PVC) E § Ö Cr Ě Hg Ě Br Ě Pb Ě Cd ka
:	EDX-026	ÚZ (æ6) E § Ö Cr Ě Pb Ě Cd ka
:	EDX-027	ÚZ Ā \$ \w Ö Pb ka
:	EDX-028	PEE § Ö Cr Ě Hg Ě Br Ě Pb Ě Cd ka
:	EDX-029	Z E § PE/ABS Ö Cr Ě Hg Ě Br Ě Pb Ě Cd ka
:	EDX-032	ÚZ (7 K Ú) E § Ö Pb Ě Cd ka
:	EDX-036	d K Ú Ö Pb Hg Cr Cd ka
ÚZ	EDX-037	\w Ö Cu Ag Ni ka
:	EDX-043	Z Ö Sb ka
:	EDX-044	Z Ö Sn ka

x A YO ì G%o kH

xYO%	@gĚA
• (, Û"UÖv	&%9
WcÄ²G†jH¹É% B	&%9
Vz G¼QH% B	&%9
øþ,ÔGĀwH% B	&%9
`gT§ Ö• % B	&%9
î É μ Û"UÛ	&%9
5\$-ìç ~Gû¶H% B	&%9
" Öb ,g "G% B	&%9
R¶Z½ x,g% B	&%9
7 Vz ,Ö% B	&%9
Å4, ,ÔGEÇH% B	&%9
ª!,gG, úH% B	&%9
ø¶ Û"UÛ=•B	&%9
†jÉ•Û(Û=Û Öv% B	&%9
†jÉ7•x³ ~% B	&%9
Z½¹ ¾ãv2,g ø¶ % B	&%9 -& QMVT
¼Q0 œ%oy+% B	&%9
(Qª!,g&J% B	&%9 -& QMVT
ø¶ø, _ÛÛ=&J% B	&%9 -& QMVT

x ÚZ% - ô.ÿÛLD''

ô:U Ç Z8"

HE Y ,ôÄ5m

ò4 0Y

- ,ôÄ5Ä HEvFNK-K v ā
- ñÄ»HE¿W% K* HE%\$, - &ãzxK™ 540nm % m...Ž

HE ,ôÄ5NK- m...Ž

UV-1280 ~ 6±AY

- ^4 à 190~1100nm • çr
- :x á: »μÿ-Û=-v• ā-ê ka
- 4°ÐÞ:´%x =ÿ©^K:•x USBÚ ñgÀ'œõ
- •xŠ' \$ K ā QKŠ¤\$@g U) œõ6ÿ-
- / =ÿ• DNA/k ÿÛÌ μ UV/VISka15 R-ÿKÉ¹ 27kÿÛ
- x :\$ Gx[I ¿N xI°
- :mG-ìç£\$-÷ \$ •xĐÍKxYÿ/Û%o:·ÿ\$ ð †/

0:8k _ UVmini-1280

=ÿ' Y

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nsKzÿ =šµì

1%ok =šµ
šµĚK=iF

xUVmini-1280J' =ÿ
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x(® `0Đá•B]v
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»kþPK1=ÿ
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ÇbK21&ā Ān
k4£P šµĚ
ā=ÿl

™25ml =šµÖ
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2 ā=ÿl

þ¶ÿ ĐÍP\$
C -@ìçì



x ÚZ% - ô·ÿ ÛLD´´

s(Ô m...k _ AA-6880

AA-6880 P5±AY

- :g&2 µ KpX- ¶e A
- -@ 8\$\$\$ KÄ:) 3-^Fvú\\$
- 6Á çÛ -@\$,K³ 0.1nm\3kñ Û
- »d x-\$ K QK·³!fka 6ÿ-
- 3œ HÐgH K§µVL:/ §
- Ä} 3&• , .~6K·³ ppb ~ = Û
- @g µª&2 KpX-A
- ^Ð- -/ ÄGKqzæ!

AA-6880

x ka'Ø ZG PVCH ÖPb&Cd =ÿ

§µM+YM·%(0.2g §µKª 6ml²°K 2ml\$-´Kq VL KpÛKÿ - 25mlK·x AA-6880, .ka

kaMG

MG	\$	§
Á G nm H	283.3	228.8
Ø Š G nm H	0.7	0.7
\$,6 G mA H	10	8
§ Û (µL)	20	20
m ?ÿ´/	BGC-D2	BGC-D2
¶A*0´/	Ž 3	Ž 3

Pb¹z 2

ka Á Gnm H	§ µ f A	WT-11-0043-2			
		ë ä & B			
% +	% Û Û g	=ÿ C Gµg/LH	§ µ d Û Gmg/Kg H	RSDG% H	
Pb 283.3	F f	0.2018	7.8272	0.9697	1.18
Cd 228.8			0.0747	0.00925	1.55

Cd¹z 2

ž ZG17\$HÖ\$-šk~Ý - QQNK o :ÿ5° - QQN Ôm... % +kaFfM·Ëx -]Kø x[:5° ~6±A

, øK· Ô & 0 ç @ ICP-9800

ICP-9800P5~6±AY

- x± =F K:=F 0ÛG <200nm H &·ç2K:> SÆP
- U) RF&vgK·x¹É@ G 99.95% H:a] dÆ· Ö9Kòœi6ÿ kaFf
- .x · 49-KŠ·M9-ë 40% @ Ks(x³ ICP-9800 y_Eco4/
- § Q}x ÇÖœ / §KÄI·xÖ@ Kkaœõ% % a]Á/6ÿ-
- x± CËN-Arç2çc´/K:M·ÿn/ 167~800nm4%.]%ç2K:>M· àÿ-ka- çïw {±
- ÄG ç22ù 110000 MZxY:l Šª-ÿæ ÁKI ¨%2M+\$ç2Ë:ªxYfÿç2Ë# Uç2-@\$,

•x ICP=ÿ=ÿ §Ö ÿÛ½ - òW ÿÛ

§Ö ÿÛ½ G µg/LH

	Cd	Pb	Cr	Hg	As
KP-AES	0.1	1	0.2	0.5	1
KP-MS	0.003	0.0001	0.001	0.001	0.001
AAS, .	0.05	0.1	0.001*	0.001*	0.1

* ð

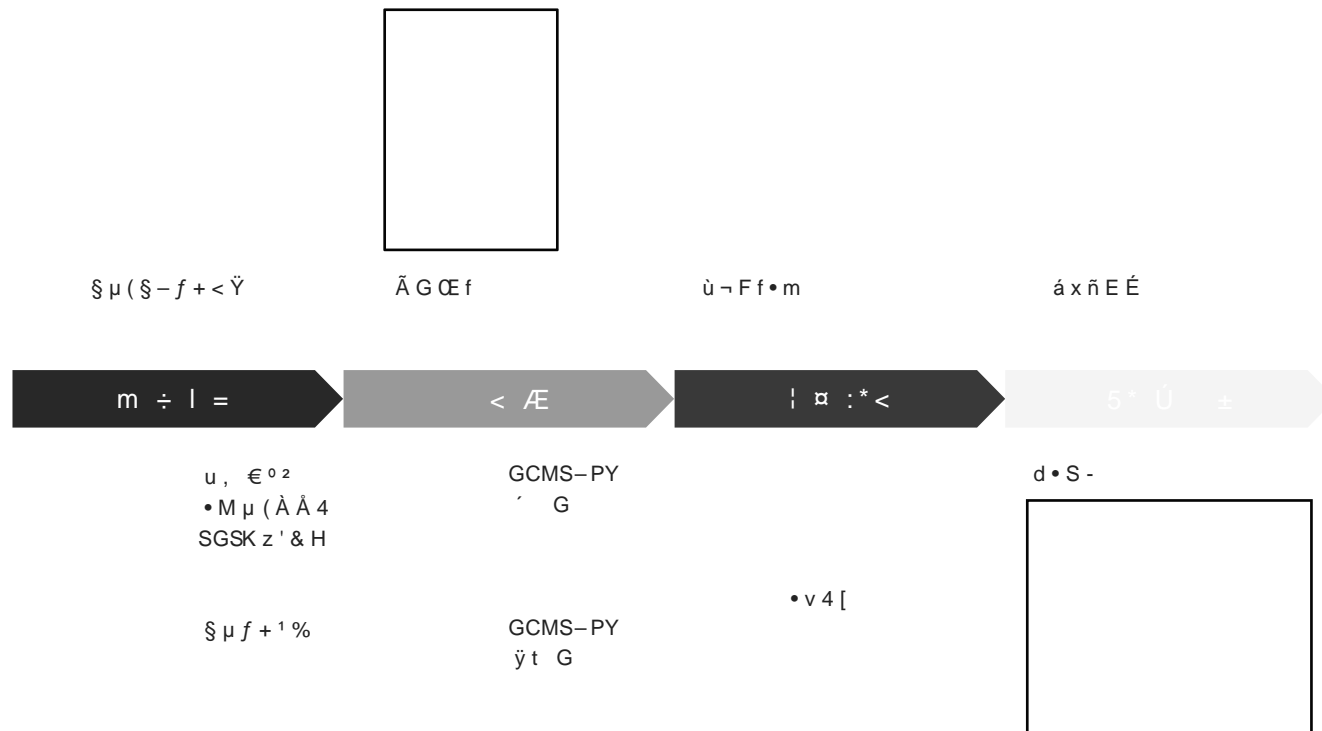
òW ÿÛ'G µg/g H

Ž §	BCR680			BCR681		
'*0	ĩ/%Ð Ø6ù b Ø EN1122A			ĩ/%Ð Ø6ù b Ø EN1122A		
Cd	140	140	140.8	21.0	21.4	21.7
Pb	105	<1	107.6	13.1	<1	13.8
Cr	105	112	114.6	16.2	17.2	17.7
Hg	<0.5	24.0	25.3	<0.5	4.3	4.5
AS	27.7	31.0	30.9	3.6	4.1	3.93

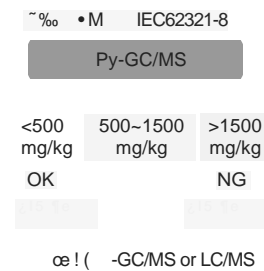
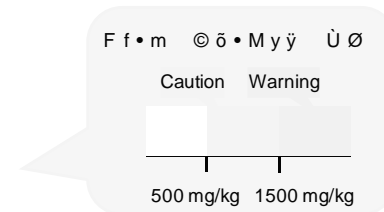
oø · — ĩ/%Ð Ö HgYØ&
— Ø6ù Ö PbY´Ð\$Ûr

PY-Screener (3~%, Ô, g E § Ö u, €⁰² Ü Ð K -

!~•KV) IEC : 5⁰øž Ü=LD''



- ©ø §µ %§Ü_ adÜ ĀG-@_ ai
- ù-Ff•mKkaFf¶+ÿhì



GCMS-QP2020P 5 ± A Y

- Þ6 µÖ=F Q# A
\$ / ; @ / = F Q G 200L/s+200L/sH
- Ñ \$, # 2
He, H2, N2
- r 3 # <
20000amu/sec+ASSPÄ } ~6 ASSPÄ } ~6³ | 33r ½ ç Ž
M. - - Ü = & •
- kaOE # 3
œ ¼ á + • - N Ð ka³ | & •

GCMS-QP2020

ka' 6 G %o k H

x e	@ g Ē A
PY-Screener™ u, € ⁰² Ü = Ö x	PY-Screener
PY-Screener™ u, € ⁰² Ü = Ö x	PY-Screener
Py-Screener %o Q Ü = u, € ⁰² - Ā Ð ý † •	PY-Screener
H CrM · ý Ü ka	UV-1800
PbKHg KCdM · ý Ü ka	AASKICP
u, € ⁰² M · ý Ü ka	GCMS-QP2020
Ā Ð ý † • PBBKPBDEM · ý Ü ka	GCMS-QP2020

x A YO i G %o k H

x YO %	@ g Ē A
1 ¶ %o • M Ð • B	PY-Screener
V z G ¼ Q H	PY-Screener
V z , Ô %o G († i)	PY-Screener
Z ½ p ó , g (¼ Q)	PY-Screener
R ¶ Z ½ ð ù	PY-Screener
Z ½ 1 ¾ ä v 2 , g G ø ¶ H	PY-Screener
Z ½ , Ô %o µ (Ç Ā)	PY-Screener
^ s Z ½ , Ô %o µ G³ / Ü H	PY-Screener
Z ½ ÷ < , Ô G ¶ H	PY-Screener
¶ Z ½ æ - s	PY-Screener
Ē ù a	PY-Screener
L } Ó » • B	PY-Screener
x ~ Ó » • B	PY-Screener
" 6 f	PY-Screener
† i ç =	PY-Screener

PY-Screener < 3 ~ %, Ö, g E § Ö u, € ° ² Ü Ð K -

ka MG

0 ä ç M G		ç M G	
@ g Ę A	GCMS-QP2020 + PY-3030D	/ •	320
ã ç Ž	Ultra ALLOY-PBDE (Length 15 m, 0.25 mm I.D., df = 0.05 Hm)	Ö , •	230
§ / •	320	Ü = 4 /	FASST (ScanSIMN Ð Ü =)
Ž • - Ÿ	80 (20 /min) 300 (5min)	r 4 ‰	m/z 50-1000
§ ' /	k 6 §	V L M G	V L M G
Ñ	He	L •	200 (20 /min) 300 (5 /min) 340 (1min)
Ñ f 4 /	¼ 2 3 (52.1cm/sec)	/ •	300
k 6 Š	1:50		

u, € ° ² Ð K - Ü = x - - Ü b F f

	i n (mg/kg)							%RSD	MDL (mg/kg)
	1st	2st	3st	4st	5st	6st	7st		
DIBP	104.1	102.9	98.6	95.2	103.2	109.3	101.5	4.4	14.0
DBP	107.0	105.2	100.7	98.7	105.9	113.8	106.6	4.6	15.3
BBP	95.5	94.3	91.0	87.9	96.3	100.1	95.1	4.1	12.3
DEHP	110.7	108.5	101.1	101.5	111.2	115.3	108.4	4.8	16.3
DOP	101.2	101.9	93.9	90.3	99.3	103.9	99.1	4.8	15.0
DINP	94.3	95.7	87.4	84.8	92.8	96.8	92.5	4.8	13.7
DIDP	93.3	94.2	83.1	80.9	89.2	91.6	87.3	5.7	15.9

x ¶ ã Ÿ Ü • M -

ã x (§ ¹ %

u, € ° ² • M µ Y
(P/N: S225-31003-91)

7 u, € ° ² • M µ Y
DIBP, DBP, BBP, DEHP, DNOP,
DINP, and DIDP

3 Ö ž NC Y
F K 100 mg/kg K1000 mg/kg

(§ ¹ % É Y GP/N: PY1-K101H
q Ę i x g Y 5 Ó
Ø [Y 2 Ó
, Ö Y 3 Ó
g ž Y 2 Ó
œ g Y 1 •

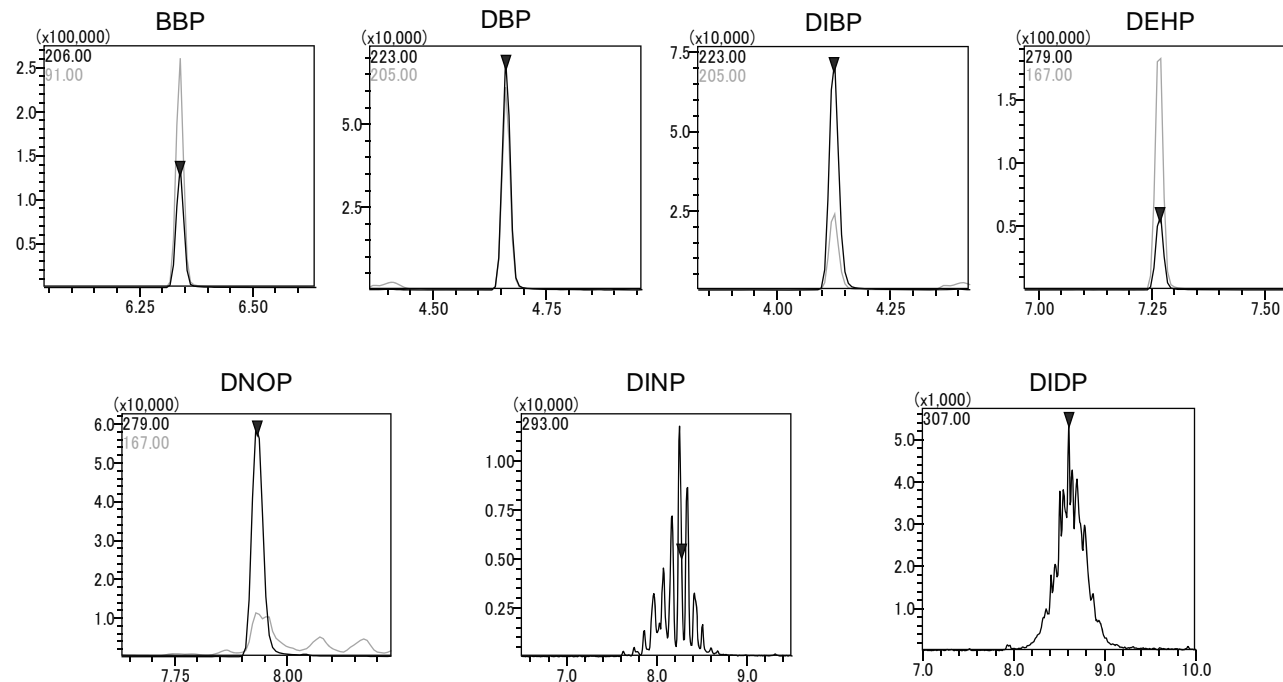
• x CRM113-03-006 • M - | PY-Screener Ü = u, € ° ² Ð K - M • -

	Quantitation Results Gmg/kg H	Certified Values Gmg/kg H	Yield(%)with the Certified Values as Reference
DBP	1059	972	972
BBP	894	962	962
DEHP	1015	989	989
DNOP	993	967	967

, u, € ° ² Ü Ð K - Ü = ç Ž Y

/ p • M - | PY-Screener Ę , Ö, g Ö u, € ° ² Ð K - M • K ø x [IEC : 5 ° ĩ

PVC, 2 § µ u, € ° ² ~ ‰ F f Y



/ p PY-Screener Ę K < 3 & ž z § µ Ö » u, € ° ² G

DEHPKINP-DIDPH Ð x S • ĩ

PY-Screener N Đ < 3 ~ ‰ , Ô , g E § Ö
u , € ° ² – ã Đ ý † •

/p PY-Screener ‰ K < 3 & ž z § μ Ö ã Đ ý † • G Deca-BDEH Đ x S • ï