

## Verification Report No.: SZXEC25001163001

Date: Apr 18, 2025

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Client Name: SHENZHEN BACTRIANUS MOTOR CO.,LTD.

Client Address: FLOOR 301, 401, BUILDING C, CHENGDEXUAN SCIENCE PARK, SECOND INDUSTRIAL ZONE, LISONGLANG COMMUNITY, GONGMING SUBDISTRICT, GUANGMING DISTRICT, SHENZHEN

Sample Name: Stepper Motor

Tested Basic Model No.: BKA30

The above sample(s) and information were provided by the client.

SGS Job No.: SZP25-016816

Sample Receiving Date: Apr 09, 2025

Verification Period: Apr 09, 2025 ~ Apr 18, 2025

Verification Requested: With reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Verification Method(s): Please refer to next page(s).

Verification Result(s): Please refer to next page(s).

### Test Result Summary:

Test Items	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

*Ford*

Ford Shi

Approved Signatory

Scan to see the report



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Photo of Submitted Sample



**Verification Method(s):**

1. With reference to IEC 62321-2:2021, disassembly and disjointment were performed for the submitted samples.
2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report.
  - (1) With reference to IEC 62321-3-1:2013, screening by EDXRF spectroscopy.
  - (2) Wet chemical test method: With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC 62321-7-1:2015, IEC 62321-7-2:2017, IEC 62321-12:2023, IEC 62321-6:2015 and IEC62321-8:2017 , analyzed by ICP-OES,UV-Vis and GC-MS.



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**Verification Part Description:**

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	SZX25-0011630-0001.C001	Black plastic shell
SN2	A2	SZX25-0011630-0001.C002	Dull silvery metal screw
SN3	A3	SZX25-0011630-0001.C003	Silvery metal shaft
SN4	A4	SZX25-0011630-0001.C004	Black plastic shell
SN5	A5	SZX25-0011630-0001.C005	Silvery metal plate
SN6	A6	SZX25-0011630-0001.C006	White plastic gear
SN7	A7	SZX25-0011630-0001.C007	White transparent plastic gear
SN8	A8	SZX25-0011630-0001.C008	White plastic gear
SN9	A9	SZX25-0011630-0001.C009	Silvery metal shaft
SN10	A10	SZX25-0011630-0001.C010	Copper metal part
SN11	A11	SZX25-0011630-0001.C011	Silvery metal pin
SN12	A12	SZX25-0011630-0001.C012	Silvery metal part
SN13	A13	SZX25-0011630-0001.C013	White plastic part
SN14	A14	SZX25-0011630-0001.C014	Copper enameled wire
SN15	A15	SZX25-0011630-0001.C015	Black plastic part
SN16	A16	SZX25-0011630-0001.C016	Silvery magnet



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**Verification Result(s):**

In accordance with the result of material risk assessment, the following disjointed parts in the submitted sample have been verified. (Unless otherwise specified, the unit is mg/kg).

Test Item(s)	A1	A2	A3	A4	A5	A6	A7	A8
Pb	BL	BL	BL	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL	BL
Cd	BL	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	BL	BL	ND	BL	BL	BL	BL	BL
PBB	BL	---	---	BL	---	BL	BL	BL
PBDE	BL	---	---	BL	---	BL	BL	BL
DEHP	BL	---	---	BL	---	BL	BL	BL
BBP	BL	---	---	BL	---	BL	BL	BL
DBP	BL	---	---	BL	---	BL	BL	BL
DIBP	BL	---	---	BL	---	BL	BL	BL
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Test Item(s)	A9	A10	A11	A12	A13	A14	A15	A16
Pb	BL	BL	BL	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL	BL
Cd	BL	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	ND	BL	BL	BL	BL	BL	BL	BL
PBB	---	---	---	---	BL	BL	BL	BL
PBDE	---	---	---	---	BL	BL	BL	BL
DEHP	---	---	---	---	BL	BL	BL	BL
BBP	---	---	---	---	BL	BL	BL	BL
DBP	---	---	---	---	BL	BL	BL	BL
DIBP	---	---	---	---	BL	BL	BL	BL
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS



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**Notes:**

(1) Interpretation of screening results by X-ray fluorescence spectrometry (XRF):

(a) Screening limits in mg/kg for regulated elements in various matrices according to IEC 62321-3-1:2013 Annex A as below table.

Element	Polymers	Metals	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	Not applicable	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(b) If the maximum allowed level restricts PBB/PBDE and Cr(VI) rather than Br and Cr, the exceptions are the XRF determinations of Br and Cr. If the quantitative results for the elements Br and/or Cr are higher than the limit (for Br calculated based on the stoichiometry of Br in the most common congeners of PBB/PBDE), the sample is "inconclusive".

(c) Results are obtained by EDXRF for primary screening, LOD = Limit of Detection, BL = Below Limit, OL= Over Limit, IN (The symbol X marks the region)=Inconclusive, where further investigation is necessary, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBB/PBDE) are recommended to be performed.

(d) The EDXRF screening test for elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

(2) Screening results of Phthalates (PHTH) below the limits are shown as "BL". Further chemical testing by GC-MS is to be performed if the results exceed limits.

Test Items	CAS No.
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7
Butyl benzyl phthalate (BBP)	85-68-7
Dibutyl phthalate (DBP)	84-74-2
Diisobutyl phthalate (DIBP)	84-69-5

(3) Interpretation of results by chemical tests:

(a) mg/kg = 0.0001%, MDL=Method detection Limit, ND = Not Detected (<MDL), --- = Not Applicable.

(b) Unit and MDL in wet chemical test

Test Items	Pb	Hg	Cd	DEHP	BBP	DBP	DIBP
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	10	10	10	100	100	100	100

The MDL for single compound of PBB and PBDE is 100 mg/kg,

MDL of Cr(VI) for polymer, composite and leather sample is 10 mg/kg.

MDL of Cr(VI) for metal sample is 0.10 µg/cm².

(c) ▼ =Metal sample

a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm². The sample coating is considered to contain Cr(VI).

b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-Cr(VI) based coating

c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive-unavoidable coating variations may influence the determination



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Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

- (4) Restricted substances and maximum concentration values tolerated by weight in homogeneous materials under RoHS Directive: Cd: 0.01%, Pb/Hg/Cr(VI)/PBB/PBDE/DEHP/BBP/DBP/DIBP: 0.1%. The limit is quoted from RoHS Directive (EU) 2015/863.
- (5) IEC 62321 series is equivalent to EN 62321 series.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule ( $w=0$ ) stated in ILAC-G8:09/2019.



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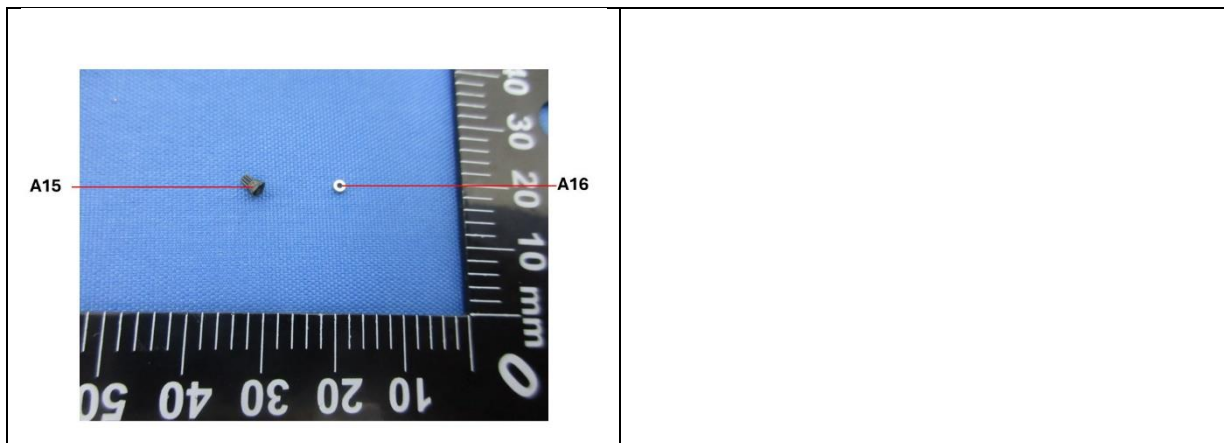
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