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Report No. : 251161.4393

SUBJECT

Evaluation of "Wood Charcoal" Sample for Self-Heating Substance Test

MANUFACTURER / SHIPPER

DATE OF PRODUCTION

11 August 2025

DATE OF SAMPLING

28 August 2025

LOCATION OF SAMPLING

DESCRIPTION & TYPE OF SAMPLE

Wood Charcoal, Lump, Size (> 50 mm)

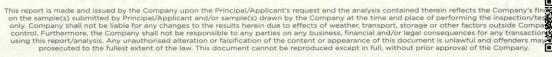
DATE OF TESTING

28 August 2025 up to 29 August 2025

PRODUCTION BATCH NO.

11 August 2025

The analysis results are based on representative samples which are sampled by trained staff based on applied standard (Ref SNI 19-0428-1998 Petunjuk Pengambilan Contoh Padatan) during the inspection (or audit). This particular cargo as stated in this certificate has been performed cooling and weathering process as declared by the shipper in the weathering certificate. The certificate is valid for 90 days from the date of testing in particular shipment with the production batch/lot number as mentioned in this certificate.







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METHOD OF TEST

The self heating substances test was performed according to United Nations "Recommendations on the Transport Dangerous Good, Manual of Test and Criteria" (33.4.3.3.1) as per revised UN test manual 7th edition 2019. Self heating substances, using method of UN 33.4.6 "Test N.4: Test method self-heating substances".

A consignment of carbon if it passes the tests for self-heating substances as reflected in the United Nations Manual of Tests and Criteria (see 33.4.3.3.1), and is accompanied by a certificate from a laboratory accredited by the competent authority, stating that the product to be loaded has been correctly sampled by trained staff from that laboratory and that the sample was correctly tested and has passed the test.

The sample was placed into a 100 mm cubic mesh sample container made of stainless steel. The container was then hung at the centre of the oven. The oven temperature was slowly raised to 140° C and kept constant for 24 hours. The temperature at the centre of the sample and temperature between the container and oven were recorded continuously.

RESULT

Table 1: Analysis result for "Wood Charcoal" sample

Sample Oven Temperature (°C)		Cube Size (mm)	Maximum Temperature Reached (°C)	Result	
Wood Charcoal	140	100	220.3	Positive	
Wood Charcoal	140	25	143.8	Negative	
Wood Charcoal	120	100	124.9	Negative	

The above result showed that the "Wood Charcoal" sample shall not be classified in self heating substances and the substance is to be contained in packages of not more than 3 m3.

Remark

The temperature profiles were enclosed in next pages for your references. T1 represented temperature in the center of the sample. T2 represented temperature between the container and the oven wall.

Gresik, 29 August 2025 **PT. CARSURIN Tbk.**

Abdillah Faiz Naim

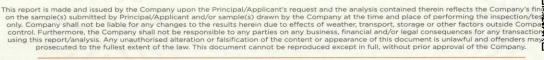
Head of Laboratory

PT. CARSURIN TOK.

Amran Lesmana

Head of Charcoal Division

For verification of authenticity of certificate or reports, scan the secure QR code using the Validator App or visit verify carsurin.com







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Temperature Profile "Wood Charcoal" at 140° C (100mm cube)

 Start Time
 : 28-Aug-25
 6:00:00

 Stop Time
 : 28-Aug-25
 8:30:00

Elapsed Time : 2:30:00 Interval : 0:30:00

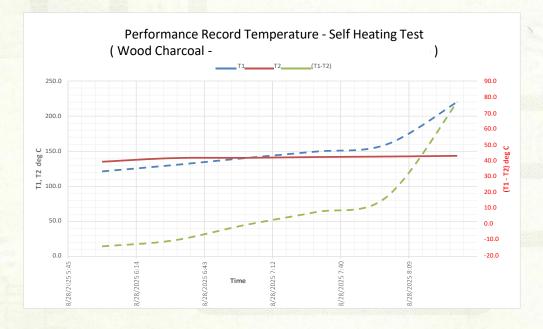
Total Readings : 6 Thermocouple Type : K

Scaling : (None)

Temperature	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/28/2025 8:30	220.3	153.5	121.4	8/28/2025 6:00
T2	8/28/2025 8:30	143.4	140.5	135.0	8/28/2025 6:30
T1-T2	8/28/2025 8:30	76.9	13.0	-13.6	8/28/2025 6:00

Remark:

T1 represented temperature in the centre of the sample. T2 represented temperature between the container and the oven wall.









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24 Hours Temperature Profile "Wood Charcoal" at 140° C (25mm cube)

 Start Time
 : 28-Aug-25
 9:00:00

 Stop Time
 : 29-Aug-25
 9:00:00

: K

Elapsed Time : 24:00:00 Interval : 0:30:00 Total Readings : 49

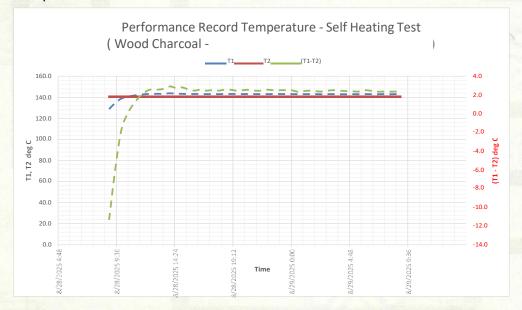
Scaling : (None)

Thermocouple Type

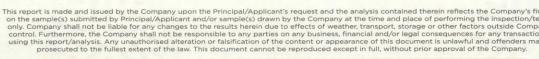
Temperature	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/28/2025 14:00	143.8	142.4	128.8	8/28/2025 9:00
T2	8/28/2025 14:00	140.9	140.6	140.2	8/28/2025 9:00
T1-T2	8/28/2025 14:00	2.9	1.8	-11.4	8/28/2025 9:00

Remark:

T1 represented temperature in the centre of the sample. T2 represented temperature between the container and the oven wall.











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24 Hours Temperature Profile "Wood Charcoal" at 120° C (100mm cube)

 Start Time
 : 28-Aug-25
 9:00:00

 Stop Time
 : 29-Aug-25
 9:00:00

Elapsed Time : 24:00:00 Interval : 0:30:00 Total Readings : 49

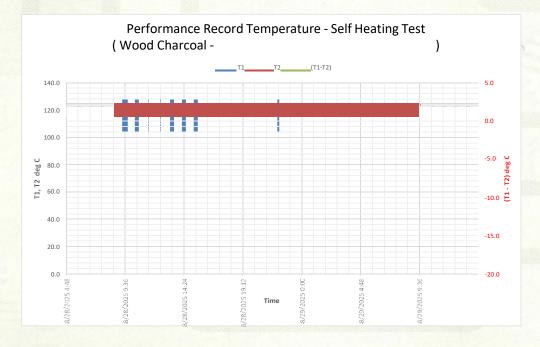
Thermocouple Type : K

Scaling : (None)

Temperature	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/28/2025 13:30	124.9	121.4	104.1	8/28/2025 9:00
T2	8/28/2025 13:30	121.5	120.8	119.8	8/28/2025 9:00
T1-T2	8/28/2025 13:30	3.5	0.6	-15.7	8/28/2025 9:00

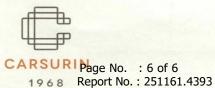
Remark:

T1 represented temperature in the centre of the sample. T2 represented temperature between the container and the oven wall.









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