

Tested For:	Rebecca Johnson	Phone:	(651) 282-4485	Received:	1/26/2021
	3M Company	Fax:		Completed:	2/25/2021
	3M Center Bldg 230-BE-16	Mobile:		Code:	A
	Maplewood, MN 55144	PO#:	3501090188	Test Report:	3-42295-0
	USA	Email:			

Key Test: BSS 7239 Gas Toxicity

1838

Client's Identification:

Lot No.: LA-D100-2874-7. Style: DP8610NS. Composition: 2K Acrylic Adhesive. Product End Use: Rail Applications for Structural Adhesive. [Adhesive sandwich between 2 pieces of IRC cement board]. Adhesive thickness: 0.01".

Category: Gas Toxicity Specifier: Boeing LE 1988; V 01/19 PC: 24H /dl

TEST PERFORMED: Boeing Test Method BSS 7239 Rev-A - Analysis of the products of combustion using the NBS smoke chamber and gas detector tubes to determine presence of specific products of combustion

APPROXIMATE THICKNESS OF MATERIAL (as measured by SGS North America): 0.554 inches

APPROXIMATE WEIGHT OF SPECIMEN (as weighed by SGS North America): 99.89 grams

BRIEF DESCRIPTION OF TEST: The basic procedure is described by BSS 7238 - Boeing Specification Support Standard, Test Method for Smoke Generation by Materials on Combustion

Two separate tests are conducted on multiple specimens. In one test the face of each specimen is exposed to a radiant heat source of 2.5 W/cm² (non flaming mode). In a second test completely new specimens are subjected to both the radiant heat source and 6 small igniting flames (flaming mode).

Analytical techniques are gas specific and as follows:

I. Hydrogen Cyanide and Hydrogen Chloride: Four minutes after the start of the test the combustion product is collected in a gas detector tube, used in combination with a Draeger "Accuro" Gas Extraction Pump, Model 6400000. As the combustion product is drawn through the detector tube, a reagent inside the tube stains and indicates the concentration of a specific gas produced during combustion.

II. Carbon Monoxide, Sulphur Dioxide and Nitrous Oxide(s): At the four-minute mark, the amounts (ppm) of these non-reactive gases are determined using a Testo 350 Flue Gas Analyzer taking values at least once per second. When values have stabilized, the data is recorded.

III. Hydrogen Fluoride: Hydrogen Fluoride is assessed using Potentiometry. At the four minute mark, 1000 ml of the chamber gases are drawn at a maximum rate of 200 ml per minute into an impinger bottle containing the absorption solution. The contents of the impinger bottle are then transferred to a measuring flask and renormalized to 100ml with distilled water and an Ionic Strength Adjuster (ISA). Concentrations are read by instrumentation. Values are recorded.

The results contained in this report relate only to the item(s) tested. The test report shall not be reproduced except in full, without written approval from SGS North America.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/terms-e-document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for a maximum of 45 days only.

Tested For: Rebecca Johnson
3M Company
3M Center Bldg 230-BE-16
Maplewood, MN 55144
USA

Phone: (651) 282-4485
Fax:
Mobile:
PO#: 3501090188
Email:

Received: 1/26/2021
Completed: 2/25/2021
Code: A
Test Report: 3-42295-0

Key Test: BSS 7239 Gas Toxicity

1838

RESULTS and ACCEPTANCE CRITERIA:

		<u>Flaming Mode at 4 Minutes</u>			<u>Suggested Maximum Limits at 4 Minutes (ppm)</u>
<u>Combustion By Product</u>		<u>Specimen 1 (ppm)</u>	<u>Specimen 2 (ppm)</u>	<u>Average (ppm)</u>	
CO	Carbon Monoxide	3.0	4.0	3.5	3500
HF	Hydrogen Fluoride	LT 2.0	LT 2.0	LT 2.0	200
HCl	Hydrogen Chloride	LT 1.0	LT 1.0	LT 1.0	500
HCN	Hydrogen Cyanide	LT 0.5	LT 0.5	LT 0.5	150
SO ₂	Sulphur Dioxide	1.0	1.0	1.0	100
NO, NO ₂	Nitrous Gases	0.2	0.3	0.3	100

CONCLUSION #1 (FLAMING MODE): The above results for specimens tested in the Flaming Mode:

- ☒ Do not exceed the Suggested Maximum Limits
☐ Exceed the Suggested Maximum Limits

		<u>Non-Flaming Mode at 4 Minutes</u>			<u>Suggested Maximum Limits at 4 Minutes (ppm)</u>
<u>Combustion By Product</u>		<u>Specimen 1 (ppm)</u>	<u>Specimen 2 (ppm)</u>	<u>Average (ppm)</u>	
CO	Carbon Monoxide	0.0	0.0	0.0	3500
HF	Hydrogen Fluoride	LT 2.0	LT 2.0	LT 2.0	200
HCl	Hydrogen Chloride	LT 1.0	LT 1.0	LT 1.0	500
HCN	Hydrogen Cyanide	LT 0.5	LT 0.5	LT 0.5	150
SO ₂	Sulphur Dioxide	1.0	1.0	1.0	100
NO, NO ₂	Nitrous Gases	0.2	0.2	0.2	100

CONCLUSION #2 (NON-FLAMING MODE): The above results for specimens tested in the Non-Flaming Mode:

- ☒ Do not exceed the Suggested Maximum Limits
☐ Exceed the Suggested Maximum Limits

The results contained in this report relate only to the item(s) tested. The test report shall not be reproduced except in full, without written approval from SGS North America.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/terms-e-document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for a maximum of 45 days only.

Tested For: Rebecca Johnson
3M Company
3M Center Bldg 230-BE-16
Maplewood, MN 55144
USA

Phone: (651) 282-4485
Fax:
Mobile:
PO#: 3501090188
Email:

Received: 1/26/2021
Completed: 2/25/2021
Code: A
Test Report: 3-42295-0

Key Test: BSS 7239 Gas Toxicity

1838

ABBREVIATIONS WHICH MAY BE USED:

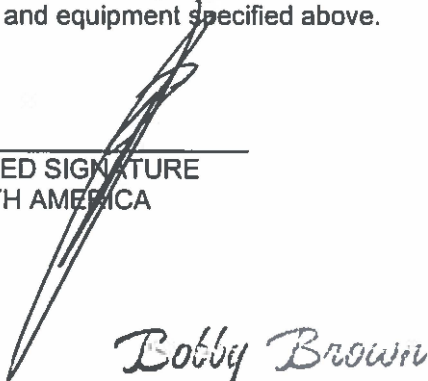
M = Minimum detectable concentration
LT = Less Than

REMARKS: None.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified above.

AUTHORIZED SIGNATURE
SGS NORTH AMERICA

/jab /gb



Test Technician: Ajaz Mehdi



MAR 19 2021

The results contained in this report relate only to the item(s) tested. The test report shall not be reproduced except in full, without written approval from SGS North America.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/terms-e-document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for a maximum of 45 days only.