3M Company

3M(TM) Fastbond(TM) Pressure Sensitive Adhesive 4224NF

This product has been GREENGUARD Indoor Air Quality Certified® by the GREENGUARD Environmental Institute under the GREENGUARD Standard for Low Emitting Products.

Certification Details:

Certification No: A10Wb9002211-5

Certification Status: Certified

Certification Period(s): 07/2007- 07/2009

Certification Restrictions:

NONE

GREENGUARD Indoor Air Quality Standard for Low Emitting Products

GREENGUARD Indoor Air Quality Certified Products meet the following minimum emission requirements:

Category: Adhesives/Sealants

Emission Types	Standard	OEM
Individual VOCs	< 0.1 TLV	< 0.1 TLV
Formaldehyde	< 0.05 ppm	< 0.025 ppm
4-phenylcyclohexene	< 0.0065 mg/m³	< 0.0033 mg/m³
Styrene	< 0.07 mg/m³	< 0.035 mg/m³
Total VOCs	< 0.5 mg/m³	< 0.25 mg/m³
Total aldehydes	< 0.1 ppm	< 0.05 ppm

Listing of measured carcinogens and reproductive toxins as identified by California Proposition 65, the U.S. National Toxicology Program (NTP), and the International Agency on Research on Cancer (IARC) must be provided.

Any pollutant not listed must produce an air concentration level no greater than 1/10 the Threshold Limit Value (TLV) industrial work place standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, Cincinnati, Ohio 45211-4438.

Any pollutant regulated as a primary or secondary outdoor air pollutant must meet a concentration that will not generate an air concentration greater than that promulgated by the National Ambient Air Quality Standard (U.S. EPA, code of Federal Regulations, Title 40, Part 50).

For further product details, visit the product listing at www.greenguard.org. If you have any questions, contact the GREENGUARD Environmental Institute at 1.800.427.9681.

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3M(TM) Fastbond(TM) Pressure Sensitive Adhesive 4224NF

This product has been GREENGUARD Indoor Air Quality Certified® by the GREENGUARD Environmental Institute under the GREENGUARD for Children & Schools[SM] product certification program.

Certification Details:

Certification No:	A10Wb9002211-5
Certification Status:	Certified
Certification Period(s):	07/2007- 07/2009

Certification Restrictions:

NONE

GREENGUARD Product Emission Standard for Children & Schools

GREENGUARD Indoor Air Quality Certified Products meet the following minimum emission requirements:

Product Category: Adhesives/Sealants	**Product Sub Category: General Construction Adhesives**
Individual VOCs[1]	< 1/100 TLV and < ½ CA chronic REL
Formaldehyde[2]	< 0.0135 ppm/13.5 ppb
Total VOCs[3]	< 0.22 mg/m³
Total Aldehydes[4]	< 0.043 ppm/43 ppb
Total Phthalates[5]	< 0.01 mg/m³
Total Particles (< 10µm)[6]	< 0.02 mg/m³

[1]Any VOC not listed must produce an air concentration level no greater than 1/100 the Threshold Limit Value (TLV) industrial work place standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, Cincinnati, Ohio 45211-4438) and no greater than 1/2 the CA Chronic Reference Exposure Level (CREL) http://www.oehha.ca.gov/air/chronic_rels/AllChrels.html - (CRELs) Adopted by the State of California Office of Environmental Health Hazard Assessment (OEHHA), February 2005).

[2]Formaldehyde criteria established so that emission levels reach 0.014ppm (13.5 ppb) within 14 days of installation (meeting CA 1350 requirements).

[3]Defined to be the total response of measured VOCs falling within the $C_6 – C_{16}$ range, with responses calibrated to a toluene surrogate.

[4]Defined to be the total response of a specific target list of aldehydes (2-butenal; acetaldehyde; benzaldehyde; 2, 5-dimethylbenzaldehyde, 2-methylbenzaldehyde; 3-and/or 4-methylbenzaldehyde; butanal; 3-methylbutanal; formaldehyde; hexanal; pentanal; propanal), with each individually calibrated to a compound specific standard.

[5]Total phthalates include dibutyl (DBP), diethylhexyl (DEHD), diethyl (DEP), butylbenzyl (BBP), di-octyl (DOP), and dimethyl (DMP) phthalates.

[6]Particles applicable to fibrous, particle releasing products with exposed surface area.

Complies with California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers" 2004 (CA section 01350)

GREENGUARD Certification affirms that a product's emissions fall within the limits selected by GREENGUARD from reputable third-party risk based criteria, as identified above. GREENGUARD program testing is conducted consistent with a defined protocol and does not measure emissions under usage conditions other than those defined in the protocol and does not address potential environmental impact other than chemical emissions.

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