



3M™ Scotch-Weld™ Structural Adhesive Primer EW-5000AS

Environmental, Health, Safety and Regulatory Technical Bulletin

Technical Bulletin

May 2010

Introduction

3M™ Scotch-Weld™ Structural Adhesive Primer EW-5000AS is a sprayable, low VOC, heat curing, structural adhesive primer that contains a non-chromated, corrosion inhibiting package to provide protection against corrosive environments. Current and new environmental and worker safety rules and regulations are important factors in selecting the best adhesive bonding primer.

- Complies with South Coast AQMD Rule 1124(c)(1)(A) VOC limit for Primers.
- No Hexavalent Chromium
- No Hazardous Air Pollutants
- Saves time (fewer applications, faster drying time)
- Saves money (saves time, faster throughput, reduced PPE requirements, reduced emission controls procedures)
- Less hazardous waste

	Description	Scotch-Weld EW-5000AS Primer	Scotch-Weld EW-5000 Primer	Scotch-Weld EC-3960 Primer
Environmental	VOC in product (gm/L)	223	227	761
	VOC in emission from testing (mg/m ³)	7.2	10.6	263.2
	Chromium (HAP)	0	7939	4365
Health	Solvent (ppm)	0.0	0.0	2.7
	Chromium (μg/m ³)	ND	10	ND
Safety	Flash Point (°F)	100	100	6

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Environmental

- 3M™ Scotch-Weld™ Structural Adhesive Primer EW-5000AS complies with SCAQMD Rule 1124 VOC
- No hazardous air pollutants

Reduce hazardous waste (*Blasting grit will contain paint waste; therefore, cleanup and maintenance activities are also potential sources of exposure. Aircraft spray painting operations have the potential to generate overexposure to CR(VI). - reference OSHA letter*

Regulations are in place at the national, state, and local levels to maintain or improve the general air, water or land quality. Adhesive bonding primers (ABPs) are traditionally regulated because of their VOC and HAPs content. Now it is important to factor in HexChrome content. ABPs are primers that are applied to an aerospace component to increase adhesive bond strength and provide corrosion protection.

VOC – Volatile Organic Compound – is any volatile compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate and exempt compounds. Air regulations control VOCs to manage the air quality and smog in a particular area. Using water-based ABPs reduces the potential for these emissions.

HAP – Hazardous Air Pollutants – is a list of 187 compounds regulated by the US EPA for special control under the Clean Air Act. Included in HAPs are chromium compounds. The US EPA regulates these compounds using National Emission Standards for Hazardous Air Pollutants (NESHAP), also known as Maximum Achievable Control Technology (MACT) standard, by industry or activity. Using a non-chromated ABP, such as Scotch-Weld EW-5000AS Primer, helps to comply with MACT standards.

Disposal – Chromium containing materials are hazardous waste. The use of Scotch-Weld EW-5000AS Primer eliminates the chromium waste and reduces cost of disposal of chromium containing material, such as filters, grinding, and blasting residue.

Health

- Scotch-Weld EW-5000AS Primer eliminates worker exposure to chromium compounds
- Reduces worker exposure to solvent-borne primers

Worker exposure to chemicals such as solvents and chromium are regulated by US OSHA. OSHA requirements for Permissible Exposure Limits (PEL). 29 CFR 1910.1026 (General Industry) standard reduces a PEL of 5.0 micrograms of Cr(VI) per cubic meter of air. For further information, see HexChrome standard OSHA 29 CFR 1910.1026 (General Industry).

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Safety

- 3M™ Scotch-Weld™ Structural Adhesive Primer EW-5000AS has the highest flash point among competitive ABPs

Safe handling of primers also includes managing the fire potential. Products with flash points below 100°F (38°C) are considered flammable, and products with flash points from 100°F (38°C) to 200°F (93°C) are generally considered combustable. The higher the flash point, the fewer issues posed by the product.

Regulatory

Since Scotch-Weld EW-5000AS Primer is non-chromated, it helps meet other regulations, such as Proposition 65 in California, Restriction of Hazardous Substances (EU Directive 2002/95/EC) and Coalition of Northeastern Governors (CONEG). Using a non-chromated ABP, such as Scotch-Weld EW-5000AS Primer, may help meet these requirements.

Spray Test Description

The spray test was performed in a spray booth with about 30 square feet of filter surface area and a face velocity of 100 fpm. The team sprayed five different primers using the same spray gun for approximately 30 minutes. The gun was cleaned after each test. The operator covered 22 square feet of aluminum panels during each test. Each test started with fresh spray arrestor filters. An independent team sampled and analyzed the amount of VOC and chromium emission during each test. The chromium data includes both the amount of chromium that collected on the spray arrestors and the amount that passed through the arrestors. At the same time, the team collected personnel industrial hygiene samples for solvent and chromium to determine exposure to the operator while spraying each primer.

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Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, please visit www.3M.com/msds or call 1-800-364-3577 or (651) 737-6501.

For Additional Information

In the U.S., call toll free 1-800-235-2376, or fax 1-800-435-3082 or 651-737-2171. For U.S. Military, call 1-866-556-5714. If you are outside of the U.S., please contact your nearest 3M office or one of the following branches:

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Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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This product was manufactured under a 3M quality standard registered under AS9100 standards.



Aerospace and Aircraft Maintenance Department

3M Center, Building 223-1N-14
St. Paul, MN 55144-1000
1-800-235-2376
www.3M.com/aerospace

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